Crashing the Archive:
A Research-Creation Intervention into the SAW Video Mediatheque

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Abstract

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Concordia University, 2012

Video Cache is a research creation intervention emerging from my doctoral research into defunct and crashed online archives, in the context of Canadian video art, which has a rich history of self-preservation and of documenting itself as an art movement. From major art galleries to personal collections; Canada has long privileged video as a tool for creative resistance, expression, and experimentation. Video Cache serves to track the SAW Video Mediatheque (based in Ottawa), from its launch to its crash and back online again, by updating its context and addressing in a practical way what it means to 'activate' the online archive. Much of my intervention occurred after the crash and during the two years the site was offline. It involved varied methodological entry points including in depth interviews with SAW Video staff and media archaeology to locate digital traces of the site. Key here is Video Cache's success in simultaneously documenting the project and intervening to address archival loss: while it was the 'cache' that made the Mediatheque's traces visible and re-visit-able, it was the 'crash' that signalled its ongoing archival value.

Video Cache was created in collaboration with Penny McCann, Director of SAW Video in Ottawa, Groupe intervention video (GIV) in Montreal, and Nikki Forrest at wayward.ca.

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I would also extend my gratitude to the editors of FlowTV for validating my project early on, and to Rachel Somers Miles and Geert Lovink for the support offered at Video Vortex 6 Amsterdam. I also thank Corina MacDonald for the Art Engine interview, which helped put Video Cache on the art map.

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For the effort and commitment put into this project, I dedicate my thesis to Lucienne St-Pierre and Mavis Wall... avec tout l'admiration du monde.

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Introduction: The Crash and the Cache

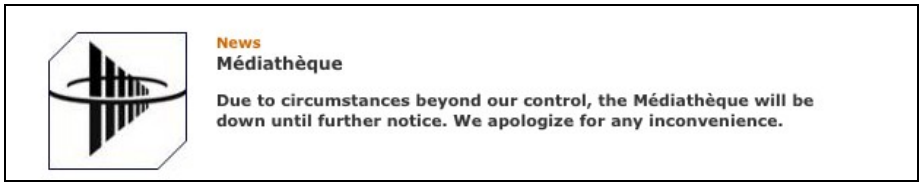

Figure 1 Placeholder Image on SAW Video Site After the Mediatheque Crash

'Crash' is a harsh word that implies, if not conveys in a phonosemantic manner, the breaking of things by way of a rapid and unpredicted collision. So it is peculiar that 'the crash' has also become a popular phrase to depict the failures of our computers, which are more often than not perceived as frozen, hanging, silent, and invisible breakages.[1] In both instances however, 'the crash' eventually symbolizes the total impasse or the non-recuperable. This indeterminacy is the new 'click of death' as software and social networks become bigger storage concerns than hardware (Festa 1998).[2] The crash, then, perhaps best connotes the affective quality and the intensity of loss that not only rekindles our attachment to digital ephemera, but also communicates the impossible task of personally recalling what terabytes of storage space hold.

The notion of the crash becomes especially important for the online archive, as the underlying purpose of the archive is necessarily to restore, conserve, and preserve (Bordwell 2012).[3] As such, the crash of the online archive becomes not only an opportunity to draw meaning from digital detritus, but to investigate the modes by which

[1] And in this sense, more like a stock market crash than a car crash.
[2] A collection of hard drive sounds – their 'clicks of death' can be found here: http://datacent.com/hard_drive_sounds.php
[3] A good description of these terms can be found here: http://www.davidbordwell.net/blog/2012/02/13/pandoras-digital-box-pix-and-pixels/

traces linger online and are recovered by the same medium, through the Web's memory store: the cache.

The cache is pivotal to understanding the potential and limitations of the online archive as concept and apparatus. According to the *Oxford Dictionary*, the noun 'cache' is a place for safekeeping and concealment of valuables defined as "a collection of items of the same type stored in a hidden or inaccessible place."[4] Cache memory, is a data store, and in computing language, refers to an "auxiliary memory from which high-speed retrieval is possible" (Oxford 2011, online). The cache is therefore, by definition, both a place of concealment and a place of instant access; a contradiction that is illustrated if not elucidated by numerous approaches by which to track iterations of the Web through the Web.

The cache is the mode by which data is temporarily stored, and made more readily accessible than if drawn from the original source. For the purposes of this project, the cache becomes an important concept for understanding Web culture as layered and iterative, and as a medium with an enduring ephemerality (Chun 2006). It is through these layers, which represent access as moments in space and moments in time, that discovery and recovery are made possible (Ellis 2006). What is recovered, however, is not always the intended or the desirable, but often the random and indiscriminate instead. The importance of the cache is therefore mostly conceptual, not in what it offers but in how it allows and limits access to the past.

The crash and the cache have become two key concepts in my research: both resurface often; both are implied throughout. In my doctoral work, I use the crash and the

[4] http://oxforddictionaries.com/definition/cache

cache as two perspectives rather than as binary opposites. To understand the flows of data in the online archive, I argue, is a matter of understanding the degree to which recuperation is possible by way of media archaeology, and the extent to which evidence is surrendered to technology.

I named my research creation intervention 'Video Cache' because it emphasized the potential for locating traces, and was in response to the crashing of the SAW Video Mediatheque. Opting for research creation as intervention, this project also allowed for collaboration and exchange with those most involved and invested in this topic: working with SAW Video afforded me insights that my Web gleanings alone could not. Video Cache is foremost creation *as* research, and as an iterative intervention, it is part of the process rather than the output of mediated manifestation of research findings.

The Mediatheque, which I explain in great detail in this thesis, was an important Canadian online archival initiative, for which nothing remained prior to my intervention. The Mediatheque served as a case study and point of departure; it was a video archive that launched in 2003, crashed in 2009, and was launched anew in 2011. As the Mediatheque remained offline, a new conceptual framework emerged around its possible recreation, but its recreation also in some ways effaced the possible knowledges that continued to inform the online archive, as discourse and invaluable historical resource. Video Cache was my doctoral intervention at this particular juncture in the Mediatheque's trajectory, highlighting the crash as an important conceptual moment for the online archive and its aura.

As a point of departure, the Mediatheque became a site of inquiry and point of methodological reflection. Defunct for the greater part of my research at SAW Video, the

archive remained without coherent documentation or context until my intervention. This lack spoke directly to the research questions that underpinned my doctoral work:

> How have Web technologies changed definitions of access, preservation and distribution, and more importantly, their relationship to one another? In what ways do the specificities of independent online video portals inform this triadic dynamic?

By looking—however consequentially—at the crashed archive—and similar (failed) projects in Canada (see Annexe 1-3), these questions hold special weight as the markers of the research trajectory, and more specifically how the beginning is laced with assumptions that become apparent within the questions themselves. The research questions, which were formulated at an early stage of the research process, in some ways connote the limits of their own potential. This perspective necessarily changed throughout the course of research, and as such, the questions became more focused, refined, and increasingly self-reflexive.

Other questions were formulated throughout the research process. I took special care in answering one of my supervisor's (Dr. Matt Soar) first questions. Soar asked: "What steps will YOU take to protect the works you rescue?" While it would be personally difficult to conceive of my project in terms of 'protecting' and 'rescuing', the question remains pertinent. There is an element of salvaging that is fitting to Video Cache that speaks to the centrality of preservation in the archive. To claim that this research has no salvaging effect would be a mistake—this project is most certainly generating new discussions and ideas of preservation in the digital online realm, and doing so through

research and creation, all the while documenting, analyzing, and reflecting on the processes and their methodological implications. Using the SAW Video Mediatheque as a case study, each of these elements serves to revive the project through engagement with those who created the original repository and those involved in shaping its future uses. The time in between is most significant: it marks a time in the Canadian landscape where many online projects risked suffering a similar fate.

When I began my doctoral research, I could not have imagined that there would be so many defunct repositories. In fact, nearly every project that fit within the parameters of the online video art archive was 'down' in 2009, if not born just a year or so prior. No project that was intended to function as an archive showed signs of lasting more than half a decade. Few, if any, remained online consistently throughout those years, with the Mediatheque lasting only six years, and being revived again after two years offline. This too seemed a rare occurrence: the revival of the archive (and the very notion of revival being possible).

Like much of 'new' media, the online archive is a moving target of research. Using a site of inquiry that has 'crashed' demands even further probing into the questions themselves, into the working definitions within, and into the limitations and parameters that inform the key terms of preservation, access, and distribution within the case study, and in contrast to the always evolving archival discourse. The type of research intervention facilitated through Video Cache also begs the question of just what the limits of the online realm are imagined to be by users; how memory, time and space are conceived; what potential the Web holds for preservation; and whether this triad (preservation/access/distribution) is in fact representative and useful for conceiving of the

online repository as an archive. Formulated differently, the foundational concepts of archival value are contrasted to a growing but rather undefined notion of digital value: where notions of scarcity, context (provenance) and authenticity are largely constitutive of the philosophical and political underpinnings of the archive, but understood only in conjunction with technology. As such, the interplay between preservation, access and distribution online is very much framed by value—how it is defined, maintained, and made manifest. This, as connected to the already rich and complex art history of video in Canada, became fertile grounds for exploring the politics of the archive as always already embedded within shifting notions of value.

SAW Video's Mediatheque was the ideal site for my research because of its media archaeology potential, but also due to the willingness and openness of Penny McCann, SAW Video Director. By the time I came to SAW Video, the Mediatheque had been offline for almost one year, after being online for more than six years. Its crash in 2009 remained a mysterious if not somewhat delicate topic. The Mediatheque was of particular interest to me, as it allowed me to focus on the dynamics of online archive and decipher value through the relationships between preservation, access, and distribution. As a site that did not mirror a physical archive, and one that was constructed before YouTube, the Mediatheque afforded multiple entry points into the subject of the archive at the intersection of the Web.

While other initiatives itemized alongside the SAW Video Mediatheque would likely provide sufficient material for a thesis of their own, the Mediatheque's very early beginnings allowed for a particular vantage point in documenting the online video art archive in Canada. Needless to say, given the limited scope of a PhD project, there are

numerous other examples of online archives and sites for video art distribution that I could not account for in as much detail as they are surely due—and many more are emerging as I complete my project. However, the delays and failures of the various sites I did manage to 'dig' into have become essential to an emergent Canadian archival discourse that accounts for the Web rather than placing it as external or alternate to the material repository.

The unstable statuses of these sites also made this research more pressing. The defunct nature of the Mediatheque meant that much of my research would consist of patching up stories from remnants, offline and online, cached and updated. In discussing and analyzing something that is 'not there' or 'no longer there,' the writing process, as project, is inherently speculative and in some ways exploratory and experimental; it relies in great part on the memory of those working for the archive and through particular archival concepts.

Essentially, this project is positioned as both pragmatic and hopeful, but suggests that online video art repositories disrupt the overarching utopian discourse surrounding new media and the Internet, yet present new and important modalities for thinking about preservation, distribution, and access.[5] To be sure, the potential of the Web to transform distribution and allow widespread access is incontestable. However, what is offered here is a view that acknowledges the potential of participatory media, of user-generated content, of folksonomic classification, and of the democratic promise of open formats and coding. This acknowledgement is pinned against the political history of the medium (Web

[5] Utopia, as 'utopos', if understood to mean simultaneously the good place and the place that cannot be, seems a fitting definition for the archive. http://www.youtube.com/watch?v=eO-dsETUy6I

and video), the construction of the artist category in and through copyright law, issues of funding, institutional support (or lack of) and of government expectations in shaping and preserving Canadian video art history and culture. Together these elements complicate the Web as intrinsically free and inherently democratic and also, conversely, resistance to emergent technologies in ways that offer little insight into the inevitable transformation of the circulation of culture.

As the written component of my research-creation intervention Video Cache, the following includes three chapters that situate the project. Chapter 1 contains a review of the literature about the online archive, focusing on role of the researcher as media archaeologist. This approach is explained in detail in the following chapter, which outlines research-creation and methodological concerns. The second chapter also locates the specificities of video art within the online archive, and the military, activist and artistic appropriations that shaped its early notions of preservation and access. Following these two chapters is the detailed documentation of the SAW Video Mediatheque, as extrapolated from, and contributing to, the research intervention at large. Together these three chapters constitute my doctoral research-creation thesis. Finally, given the relative novelty of the research-creation option at the PhD, it is probably worth stating outright that the Video Cache component is—in purely quantifiable terms—intended to be the equivalent of 50 to 75 pages, and not as a replacement for, or substitute of, a more traditional dissertation.[6] As such, the Video Cache screening, online exhibit, and

[6] "The traditional research thesis is ideally no less than 225 pages and no longer than 350 pages. It must be written in an acceptable literary form and represent a contribution to theoretical or empirical knowledge in the field of communication. Students also have the possibility to produce a *research–creation thesis* which is to meet the same standards of rigour as the traditional research thesis. The research-creation thesis includes a practical component of creation or innovative production in the field of media/communications or digital/computerized communications, as well as a written component of approximately 150 pages demonstrating the

multimodal documentation, constitute an essential 'chapter' within this research-creation project.

contribution to the advancement of knowledge in the field."
http://graduatestudies.concordia.ca/publications/graduatecalendar/current/fasc/coms.php

Chapter 1: Literature Review

This literature review is intended to draw out provocative themes that situate Communication and Media Studies methodologies within media archaeological and archival frameworks. Given the vastness of the literature about archives, and the number of possible entry points into the subject, my focus on methodology is intended to guide the reader's attention to possible interactions with and within the archive. How can the media researcher (and more specifically, the media archaeologist) use the archive, and in turn, how does its use define and challenge the archive's conceptual and philosophical foundations?

My main intention is to prepare the reader for the specificity of the SAW Video's Mediatheque as a case study, through which I engage with the notion of archival activation. By activating the archive I not only assess modes of impermanence, recovery, and retrieval, but also use archival tactics rooted in a media archaeology approach, such as documenting process, generating records of my research trajectory for the archive, and most importantly perhaps, embedding postcolonial, queer, and feminist critiques of the archive in a self-reflexive manner, as research-creation. Media archaeology also underlies the unconventional presentation of the literature, a selective review that not only accentuates the case study at hand, but also situates my work, approach, and politic, within an emergent field and among emergent voices that privilege the failed, defunct, and broken aspects of media technologies (Sterling 1995; Acland 2007; Parikka 2010).

Using this approach, this research-creation thesis is a collaboratively generated assemblage in which both human and media memory—their limitations, contradictions,

and ambiguities—do not obstruct the flow of, but rather illustrate the gaps and failures of, the archive as generative and productive to archival theory. While my case study intentionally plays with various meanings of the online archive, the following literature rejects the often used distinction between online and offline archive, or the material and the immaterial, for example, as a means to chronicle the development of the archive through technology. Rather, my focus is on the relationship between the various politics of access and their impact on theories of preservation. These are useful and important to researching the archive as a continually evolving concept, which challenges the researcher to complicate the way they understand their own unstable/shifting/transitory position, in and against time and space.

I present the central preoccupations of the literature about the online archive through a series of novel keywords and metaphors, specifically the Archive as: Subject, Living, Database, Volatile, Dumpster and Time Machine. As a broad concept, the 'online archive' includes the material archive mirrored for the Web, the digital archive itself, and the Web's own attempts to self-archive (Brügger 2005). I begin by situating the archive as subject in order to lay the groundwork for the project, which is at its heart an exploration of the site and concept of the archive rather than of its contents and collections. As part of a research-creation thesis, it is also an opportunity for experimentation through media, where making the traces or fissures of the assemblage—and the intervention—visible is both desirable and also helps to conceive of (human and technological) failure as generative to research.

From there, I explore the Living archive, which in part anthropomorphizes memory and in part dissolves it into digital data flows. Data flows, which emerge from—

and rest in—databases, have largely become synonymous with the online archive. This conceptualization of the database has created tension between dominant cultural forms (such as the narrative), and how these circulate within and beyond the archive. This seemingly boundary-less online archive invites questions about the expanse and fabric of virtual space, including its relationship to time.

Framing the archive as Volatile, I draw from the literature that emphasizes its fleeting if not threatening qualities, but suggest a volatility that is complicated by an enduring and palimpsestic nature. As a Dumpster, the online archive is unappraised, a catchall repository, invariably replacing traditional ideals of value shaped by the archivist's interpretation of historical worth, and more specifically through the base notions of scarcity, originality, integrity, and authenticity (Duranti 1994). The Dumpster is a powerful allegory: theorists and media makers alike (Blinder's *Dumpster Drive* 2011; Lovink 2010;[7] Mayer-Schönberger 2009;[8] Kalhe in Van Vechten 2008;[9] for example) have adopted it to challenge the foundational concepts of the archive, only to conclude that the archive is somehow made more valuable by and through the ever expanding pools of digital ephemera, as its potentiality is great for what it can reveal by way of careful examination of interconnections and hyperlinks. This also necessarily raises questions of pollution, contamination, and digital detritus, generally subsumed under the idea of the 'viral' proliferation of data.[10]

[7] Geert Lovink uses the work "pollution" to refer specifically to the Google Suggestions, "coming up with useless and predictable search outcomes." http://networkcultures.org/wpmu/geert/2010/06/26/back-from-gent-notes-on-memories-of-the-future/

[8] In *Delete: The Virtue of Forgetting in the Digital Age* (2009), Viktor Mayer-Schönberger proposes that 'expiration dates' be put on or inserted into information to (re)enable forgetting.

[9] Brewster Kahle makes the claims that everything can and should be collected via the Web. http://www.flypmedia.com/content/know-it-all

[10] i.e. Something small that spreads quickly through social interactions.

The Dumpster and Database both suggest an endless space for growth, while the archive as Time Machine calls on the possibility and desire to retrieve and recover accurate space through time. Together these speak to an intervention into the archive that leans on media archaeology, open to layers of interpretation.

The Archive as Subject

> *The preservation of archives is a highly political work of memory (Moore & Pell 2010).*

As this quote by West Vancouver archivists Shauna Moore and Susan Pell (2010) suggests, the archive is a provocative site of inquiry.[11] As a topic, apparatus, concept, institution, or theoretical discipline, the archive remains an uncomfortable subject. Those most invested in the archive's traditions seem discouraged if not oppressed by emergent technologies, which not only render the task to archive literally impossible, but also put into question their long-standing role as archivists, and as experts (Prelinger 2007). While within the critique of the archive also lies an implied nod toward archivists' contributions and the discipline's substantial body of work—theoretical and practical—it seems apparent that in the current networked media environment, there is an urge to reclaim notions of history (and memory) from the archival apparatus, and a desire to question its authority and meaning (Appadurai 2003).

The archive is also an uncomfortable subject because, within the proliferation of meanings produced by those who appropriate the archive as playground and site of experimentation, there is an almost knee-jerk reaction among leading theorists to

[11] http://memorybc.ca/west-vancouver-archives-2;isdiah

compare and contrast the archive, as pre- or post-Web. Often, this is done with a superficial understanding of the trajectory of the archive as unified theory and concept, historically impacted by—and adapted to—numerous challenges brought on by emergent technologies. While the Web radically alters the concept of the archive, in its reconceptualization it remains attached to the base ideal of preservation, including the threat of loss, and in turn, the importance of storing memory for future access. Because of preservation, evidence is possible. Preservation is also deemed a solution to the limited capacity of the human mind to individually and collectively remember the past. But the discomfort may not only be in these pragmatic considerations; instead, I contend that any endeavour that deals with memory, and the threat of loss, is necessarily an affective project; an endeavour at once personal and collective, that triggers not only new modalities and methods for thinking about storage and retrieval, but also new attitudes and desires to curate both histories and their contexts for perusal and display (Rogers 2009; Massumi 2002; Cvetkovich 2003). Our collective need and reliance on records attest to a past and serve as witness to human atrocities and miracles.[12]

Over the course of the last decade, there has been a significant amount of scholarship dedicated to the concerns of the archive in the digital era and to so-called 'new media' preservation more generally (Chun & Keenan 2006). This research has concretized, on the one hand, into hands-on strategies for media preservation, by developing systems for classification and implementing metadata, optimizing retrieval,

[12] As evidenced by projects such as IsumaTV, The Truth and Reconciliation Commission of Canada documents from Library Archives Canada, Queer Zine Archive Project, The Act Up NYC Oral History Archives, Canadian Women's Movement Archives, Matricules, *Forbidden Love: The Unashamed Stories of Lesbian Lives* (1998), CBC Archives, UbuWeb, the Steven Spielberg Holocaust Archive, The Internet Archive, and so on.

curating content, standardizing and managing formats for digital files, and developing repository systems. Examples range from Stanford University Libraries' LOCKSS (Lots of Copies Keep Stuff Safe), Java-based Heritrix[13] serving numerous archives worldwide, in Japan, Latvia, Spain and (Library Archives) Canada; the collaboratively produced Vancouver-based Archimatica digital preservation system and FedoraCommons in P.E.I;[14] the customizable "out of the box" solution called DSpace (DuraSpace);[15] Lucene in Croatia and Taiwan, ManifestMaker from the National Archives of Australia;[16] RODA in Portugal;[17] Rosetta in New Zealand[18] and OCLC worldwide, and so on.[19] Interestingly, while scholarship has contributed to the developments of these projects—many emerge from universities in collaboration with developers—little exists reflecting on these projects as comparative case studies, or as part of the archival theory literature. Instead, the archive online (and the online archive) reinstates the archive as source and highlights the preservation of content as the priority.

On the other hand, before and beyond the materialisation of such endeavours, scholarly explorations focused on the archive as a concept, teasing out the policy-driven, from the philosophical idea about preservation. As I mentioned before, these were not always with tangible examples or in-depth case studies available for comparison. Instead, conceptualising the archive, since the emergence of the Web, has been partially an

[13] http://en.wikipedia.org/wiki/Heritrix
[14] Archimatica http://archivematica.org/wiki/index.php?title=Main_Page and FedoraCommons: http://www.fedora-commons.org/about/examples
[15] http://www.duraspace.org/
[16] http://manifestmaker.sourceforge.net/
[17] http://redmine.keep.pt/projects/roda-public
[18] http://www.exlibrisgroup.com/category/RosettaOverview
[19] These examples serve different ends, from content management of assets to a system overlay to CMS, which work to manage metadata and assess risks, such as bit-rot. Thank you to Karen Estlund, Head Archivist at University of Oregon, for these insights.

extrapolation of its discursive powers, often as predictive metaphor and often in dystopic/futuristic scenarios dealing most straightforwardly with issues of control over ownership, strict copyright, limited access, and locked measures for so-called digital preservation (Manovich 2001; Prelinger 2011; Gitelman 2006; Murray & Trosow 2007).[20] Together, these archival musings have been attempts—often successful and insightful—to situate new media archives within a history of networked communication, largely by way of historiographies of obsolete and ubiquitous technologies (Gitelman 2006; Benkler 2006; Sterne 2006; Castells 1996). Important theoretical interventions have also engaged with the narrative of Web history itself, challenging its political and technological origins and, in turn, shaping the online archive as inherently free, participatory, and open source (Powell 2011; Chun 2008; moore 2007; Lovink 2003).

As demonstrated by these vast but intersecting preoccupations with what constitutes the possibilities of and for the archive, it can be argued that archival theory is not merely a corpus reserved for the day-to-day practicalities of archivists. Rather, as a conceptual apparatus, it is also deeply implicated in the practices of media researchers: those who make use of the archives and those who question it. It is this relationship between (media) researcher and archive that becomes central to an understanding of the archive *as subject*, as long intimated by postcolonial, feminist, and queer theorists dealing with issues of access and preservation. These issues of power may resonate but too often remain disconnected from larger technological discourses.

A result of theorizing the archive in this way—adjoining political voices with

[20] Attention to copyright has been a central issue to the online archive, as access to media, including the capacity to reproduce and distribute has undergone a paradigm shift, dismantling scarcity as the dominant model of valuation.

technological practicalities—has been my development of an increasingly self-reflexive approach that accounts for the documentation of my research processes and academic deliverables, as not only integral to methodology but as elemental to rigorous scholarly output (Juhasz 2006; Scalar).[21] Determining the bounds of the archive *as subject* is therefore inextricably linked to the possible knowledges produced about it, and the legitimacy (of voices, histories, testimonies) it enables. It is also, however, about what falls out and fails, and what these perceived failures reveal about a researcher's subject-position *vis-à-vis* the archive (Spivak 1992). Together, these address a preoccupation with the archive that has been felt since the early 1990s: a gaze inward, an archival turn.

The archival turn within the humanities, as identified by anthropologist Ann Laura Stoler more than ten years ago,[22] emerges from the idea that the archive has been "the supreme technology of the late nineteenth-century imperial state, a repository of codified beliefs that clustered (and bore witness to) connections between secrecy, the law, and power" (2002, 87). Having drawn needed attention to this archival turn, away from the perceived objectivity of the archive-as-*source*, Stoler is oft-quoted for proposing a reading 'against the archival grain,' which she explains through the idea that a: "Focus on the politics of knowledge is a methodological commitment to how history's exclusions are secured and made" (2010, 45). This mode of reading—one that repudiates the Eurocentricism of history—is now so pervasive among post-colonial, queer and feminist academics (and artists, and activists), that to do archival research without accounting for the limitations of the concept and practice, is to negate the voices and agency of those

[21] http://www.scalar.ca/
[22] The 'archival turn' has been employed in post-colonial research since the 1990s. (Evans-Pritchard, 1962)

most affected (and denied) by its regulatory powers (Spivak 1992; Dirlik 1994; Ra'ad 1999; Cvetkovich 2003; Stoler 2010, 2011; Burton 2003; Arondekar 2005, 2009; Shilton & Srinivasan 2007; Takahashi 2009; Anderson 2010). Post-colonial theory has insisted on the importance of naming the archive—etymologically as well as in everyday interventions—as a means of anchoring the definition into the practices of narrativization and history-building that reveal the very systems of power and control that they aim to deconstruct:

> The archive—far from just a static location where records go to live out the rest of their existence—was a central player in what can be seen as the most important global phenomenon of the industrial age. Its legacy is far-reaching and cannot be understated (Karambinos 2008, 12).

The tension within archival research is partially imparted by the fact that the archive becomes subject without, also, relinquishing its roles to store, safeguard, appraise, assess, value, organize, curate, program, facilitate research, describe, contextualize, promote, document, classify, and administer its contents. In this way, exploring the theoretical implications of the archive, *as subject* (of research), does not negate the archive's role as source, including the duties of the archivist in research collaborations (McKellar 1992). It can be reasonably argued, also, that the archive of historians is never quite the same object of study as the representational Archive of humanities and cultural studies, evoked by Jacques Derrida's theorization in *Archive Fever* (1996); but *as subject*, where disciplinary boundaries blur (Eichhorn 2008; Stoler 2010).[23] The fixing or affixing of the slippery subjectivity of the archive is neither

[23] And I maintain the small 'a' of archive throughout to de-emphasize the archive's authority over

intended nor desired here; instead, framing research methods around the uncertain bounds of the archive becomes in itself part of the invaluable intervention and contribution to the undoing of the subject.

Thinking of the archive *as subject* turns strict attention away from the singularity of archival content under analysis, toward an intersectionality: of concept/method/institution/discursive positioning, within particular socio-historical (and, in turn, political, cultural and technological) contexts. Thus, the turn towards the archive *as subject* is not relegated to the margins of theory; Walter Benjamin (2008), Jacques Derrida (1996) and Michel Foucault (1972) together painted the archive as a failed, sprawling, and traumatized endeavour. In each case, the archive is incapable of laying down the enunciative foundation on which (its) history is built. And yet, as now widely understood, it is this very instability in attempts to preserve (or the lack of permanence, beyond the word itself) that drives the archival yearning—the feverish impulse activated by the death of memory (Derrida 1996, 2002; Steedman 2002).

To question the archive's intentions, then, is also to make a statement about its perceived authority (not to mention anthropomorphology), anchoring it anew as a site of privilege, and increasingly, as a site of algorithmic automation (Cook and Schwartz 2002). As noted by artists and scholars like Walid Ra'ad (in Gilbert 2002) and Anjali Arondekar (2009), among others, despite attempts by postcolonial thinkers to shift if not topple the power invested in the archive by foregrounding its analytical limitations, little can be done to disconnect the archive from the possibilities of recovery, of a Past. According to both Ra'ad and Arondekar, the critiques emerging from the archive *as*

history.

subject do not do enough to challenge the prospects of the archive; the archival turn still "coheres around a temporally ordered seduction of access, which stretches from the evidentiary promise of the past into the narrative possibilities of the future" (Arondekar 2005, 5). In other words, despite the potentially fictive status of the archive, its empirical and evidentiary statuses remain (Lal 2011).

To continue 'turning', then, requires a more practical framework consisting of a transparent approach that demands that researchers situate themselves within their research and locate their findings (Gardener 2011; Cook 2001). As already stated, this includes engaging with, rather than passively acknowledging, the limitations of the archive as a conceptual apparatus, by mapping out tensions on the one hand, and addressing paradoxes as generative failures on the other. And, as Arondekar seems to be proposing, it includes thinking beyond chronology and linearity as means to 'assemble' historical narratives, wherein the 'assemblage' approach embodies the creative intervention, and where fragments have the potential to speak differently depending on their configuration (Stoler 2010). The suggestion, then, is toward reflexivity, by "confounding our understanding of how and why we do archival work" (Arondekar 2005, 12) and in turn, the way in which we approach the archive comes to define it; or as Foucault would have it, define its enunciative field (1972). In practical terms, framing the archive *as subject* asks researchers to document their research trajectory, and to include this documentation within media-historical analyses.

As such, including the archive *as subject*, as inherent to feminist methodology, casually undoes the pillars of the archive—trust in provenance, authenticity, and

integrity.[24] However, it is not sufficient to undo the archive without carefully tending to the particularities of its base concepts. Provenance is defined by the *Dublin Core Metadata Group* as "a statement of any changes in the ownership and custody of the resource that are significant for its authenticity, integrity or interpretation."[25] The principle of provenance, however, dates back to the 1930s and is often credited to German archivist Adolf Brenneke, as an expansion of the 'respect des fonds' idea,[26] itself in place since 1841 (UNESCO; Gilliland-Swetland 2000).[27] For Brenneke, two *fonds* could not be identical, and as such, archives had to be mirrors of these distinctions—the very difference that constituted their value, which according to him were, "as varied as life" (Menne-Haritz 2004, 192).[28]

However, as noted by Indigenous intellectual property scholar Jane Anderson (2009), it remains true that *provenance* privileges authorship by determining ownership, and thus demonstrates how the documenter, not the documented, claims ownership of the media it collects, and in turn, is likely to control its context and circulation. In this way, archival collections are integral to colonial processes that reinforce the documenter's point of view, endorse such power relations, and determine who is entitled to legal rights (and who is not).[29] One of the burning questions is whether technology and the online

[24] InterPARES – International Research on Permanent Authentic Records in Electronic Systems. See http://www.interpares.org/.
[25] http://www.ukoln.ac.uk/metadata/dcmi/collection-provenance
[26] The idea of provenance was understood differently for the French than for the British/German archivists. French archivists had been applying what was known as the principle of pertinence and rearranging records according to their subject content (Gilliland-Swetland 2000).
[27] http://www.unesco.org/Webworld/ramp/html/r9211e/r9211e07.htm
[28] While this early conceptualisation of provenance centered on information regarding origins, custody, and ownership of a collection, the application of the concept, or use as a guide for arrangement, was critiqued for its forced hierarchy based on the creator's mandate (Duranti 1998) and determined value based on the context of creation, which in turn organised content according to purpose and function (Henson 1993).
[29] For Anderson, the question of the colonial archive may become a question of human rights. These power relations are clearly evidenced in copyright law, to which the archive is bound.

archive—potential or activated—can or have changed these dynamics.

While some examples demonstrate a complete subscription to the idea of an open and free (counter-) archive facilitated by open source software and a 'low barrier entry' (Benkler 2006) (IsumaTV; Matricules; UbuWeb; SAW Video's Mediatheque; QZAP[30]), other archival initiatives online emerge from this very discourse of archival subjectivity, and thereby question the politics of free culture as inherently queer, feminist or postcolonial (Srinivasan 2010). One notable example is the Mukurtu archive operating on the basis of a granular protocol-based access control (built in Drupal CMS), which "allows communities to define how their materials circulate and are shared between community members, to other museums, libraries and archives and to the public" (http://www.mukurtuarchive.org). Another example of post-colonial applications that do more than simply equate 'free' with 'political' and 'liberated' for the online archive is Ramesh Srinivasan's notion of 'rewrite databases.' As a challenge to the fixity of code, and as a "post-colonial act with the aim to empower local agendas and bring out marginalized voices," (2010b) Srinivasan questions the structure of the database by acknowledging the potentiality of multiple states that do not cohere to the database's discrete and binary logic. Despite the potential for the Web to allow variable archives like the Mukurtu, it also allows for more traditional models—business models—to shape the archive online through hybridization. Seemingly, there are no contradictions in having a project use open source coding to generate a pay-on-demand service or storefront (such

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Copyright law shapes the archive's collection policies, including delimiting access for preservation ends. These policies change over time, of course, as the archive continues to grow and adapt to cultural and technological transformations and challenges, but nevertheless mark the archive's trajectory and ongoing intellectual and practical challenges as crucial elements of the archival turn.

[30] http://www.qzap.org/

as Vithèque.com), nor is it unusual for for-profit and freely user-generated content to merge, (such as YouTube, Facebook, and Pinterest).

Within Media and Communication Studies, the archive, also arguably a subject of technology, is further analysed as medium and mediation tool, highlighting the favoured means of communication at a particular juncture. Thus, to define the archive is to describe the ideal future of a given society, differently emphasizing notions of time and space, in different 'now' moments, as afforded by the materiality of the medium (Innis 1995). And, this holds true despite becoming more complex in the digital era (Sawchuk 2007; Manoff 2004). Needless to say, the interplay of concerns (*les 'enjeux'*) of the archive are vast; as a unified concept it becomes important for what it highlights and reduces to the problematic relationship between preservation and access, conceived largely around the volatility of memory and the (feverish) desire to counter loss. If Stoler's 'archival turn' was a turn toward the archive as site of investigation rather than source for research, the online archive turns to the question of if and how these two—source and subject—are made distinct and whether such a distinction is proven desirable or productive (Hogan 2011).[31]

The Archive as Living

> *The idea that information is alive in its own right is a metaphysical claim made by people who hope to become immortal by being uploaded into a computer someday (Lanier 2010).*

> *...there will be different ways to hack into these digital*

[31] Or, whether it is just a matter of finding the material archive's logic within the digital online realm http://artengine.ca/blog/?p=2365

> *memories since the digital archives, once online, are not separated from the "present" any more. In a way, of course, this means the disappearance of the emphatic notion of the "archive"; it dissolves into electronic circuits, data flow (Ernst in Lovink 2003).*

Artists and curators have been central in working with the archive and particularly in highlighting archival limitations, both pragmatic and political (Takahashi 2007). As mentioned in previous sections, the effects of this attention have been to push the bounds of accountability of the researcher making use of archival sources, while also reinstating the importance of the archive itself. The 'living' archive is thus configured through the tracking processes of both its content and discourse: what has been preserved, what has been made accessible to researchers, and what this reveals about value at a particular juncture.

To borrow a definition from LIFT (London International Festival of Theatre), the 'living' archive's aim is not to bury the past in boxes or databases for posterity, but to "unearth fresh forms of thinking from what has gone before" (2010, online). The 'living' component of this archival framework is thus twofold: on the one hand it is about access as it encourages researchers to make connections between materials and to map out their own archival journeys in hopes of "revealing new ways of looking at the future by examining the past" (LIFT 2010, online).[32] On the other hand, it is also about survival, in opposition to death, loss, and destruction, by way of engaging with the traces and remnants that live on.[33] But just what constitutes digital traces online and how traces are retrieved remains one of the dominant conundrums of the online archive.

[32] http://www.liftfestival.com/living-archive
[33] http://www.thelivingarchive.org

The online archive—framed as living—calls for a media archaeology approach to locate traces and unearth the structures of power embedded in the process of collecting, sorting, and preserving. For this reason, the living archive's active component lies in its discursive power, which simultaneously reveals the idea of the 'digital trace' and puts it into question: who created the file, for what purposes, and by which means does it circulate? To intercept a digital file—a version of it—is to acknowledge the continuity of the life of a work, often separated from context, creator, and intention.[34]

For Eric Kluitenberg (2010), the imagined discrepancy between the living archive, and the closed system that constitutes the idea of the traditional archive, is summed up as a binary opposition—not with the Web as archival medium, but with life itself:[35]

> A static archive is a completely closed thing, in contrast to the multiple, dispersed discourses of present, living culture… there are dominant forces that try to control this dispersal and order it in a particular way, making the archive immutable (Kluitenberg 2010, online).[36]

Despite not acknowledging the varied approaches to 'offline' archiving, nor addressing the potential dynamism of the traditional archive, Kluitenberg's point about the control of the archive is important. Discursively, the notion of control over the circulation of data online is central to reframing the archive; it is an explicit attempt to coordinate if not replicate the human mind to the preservation of humanity itself, a storage that would necessarily be mobile: a moving memory (Chun 2008). Similarly, for Net Critic

[34] Wikileaks, for example.
[35] Both are theoretical models as opposed to concrete examples.
[36] http://networkcultures.org/wpmu/Weblog/2010/09/09/towards-a-radical-archive-de-balies-eric-kluitenberg/

Josephine Bosma (2010):

> It is hard to say how a ghost from the past will fit in the future present. Nevertheless, many of us would, despite obvious uncertainties, like to somehow put our mark on the development of history. What part of our heritage remains or continues can never be completely controlled and predicted, however. This is one thing we can say with certainty.

For Kluitenberg and Bosma, control over the circulation of memories—and often their interpretation and narrativization—becomes testament to the 'ungraspability' of the time and space of memory: stored, retrieved or lost, human or machine. However, while the connection between the living archive and life itself seems to be a natural one, for media scholar Geert Lovink (in conversation with Wolfgang Ernst, 2003), what is embodied is no more alive or dead in terms of the ability to trigger memory:

> the popular management discourse of 'knowledge management' has no explicit references to archives (…) according to certain business gurus, knowledge is stored in people, in organizations, ever transforming networks, 'living' entities rather than dead documents." He concludes that "in this hegemonic ideology knowledge only exists if it is up-to-date and can operate strategically, not hidden somewhere in a database (Ernst in Lovink 2003 online).

The living in contrast to the dead suggests that memories can lie dormant and sometimes be resurrected. Stasis thus becomes part of remembering (Brouwer & Mulder 2003).

While there may be no definitive end points to digital flows circulating through

the Web, the interception of particular nodes, as moments of interruption, can in itself serve to frame the online archive, as a moving memory (Chun 2008). In fact, much of the functioning of the Internet Wayback Machine (IWM) relies on arbitrary screen captures of Websites—not documenting those Websites' particular shifts or important updates by its community of users, but rather rendering highly self-reflexive the process of archiving itself, by placing the moments (nodes) of capture as predominant entry points into the Web's past. This makes the archiving process, and the paths generated by it, the foremost layer of the recorded Web (again emphasizing automation for key moments of robot crawls.)[37]

The IWM may be the best example of the archive of the Web, but the online archive also draws attention to the ways the database shapes the possibilities for storing memory, for potential (re)activation. On this, jake moore (2006) reflects and extends the prospects of this process by explaining that it is the effect and affect of a moment that is to be reiterated in the creation of an archive and retrieval system, "not to replay a moment again and again in a panicked reassertion of the now." For moore, the life of the archive is in its assertion of the "possibility of placing oneself in the picture, of learning and discovery, of letting each other know we *can* and *will* do" (Matricules 2006 online).

Framed this way, the living component is not reserved to the online archive, but it re-emerges there with a particular point of emphasis: permanent exchange between nodes, rather than storage (Ernst 2003).[38] For the great majority of online initiatives, the claim is made that exchange helps to determine archival value. As, Mark Wigley, Dean of

[37] Robot crawls refer to computer programs that browses and index the Web in an orderly and automated fashion, which by default created access to the Web's past following findings based on this order and frequency.
[38] http://geertlovink.org/interviews/interview-with-wolfgang-ernst/

the GSAPP (2005),[39] suggests, access and use demonstrate a new potential for the archive:

> This leads to the parallel claim from the side of archives, that an unused archive is not an archive. An archive is only an archive when it is entered, or, more precisely, when things come out. When we think of an archive, we tend to think of it as a place to which material has been brought to be protected. However, the act of archiving really happens when the archive emerges through the voice of a particular individual or character. Thus, the archiving gesture protects documents by projecting them rather than concealing them.[40]

The living archive is therefore best conceived as a theory built on the notion of an archive of movement and transmission, which, according to Kluitenberg (2010), is itself instituted from the problem that most traditional archives are organized through selection: inclusion and exclusion. In this regard, the counter-archive is one that allows and encourages open participation, by way of free access to content and, while perhaps more idealized than easily implemented, admission also to its structure and organization. The living archive, if it were possible to examine on a case-by-case basis, would likely not reveal a unified application of the concept. It is perhaps best envisaged as an archive of life layers, where 'life' has become a substitute word for participation through access, and where access depends heavily on levels of materiality, to establish value.

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[39] "Dean's Statement: The Future of the Architect" (no date) http://www.arch.columbia.edu/school/deans-statement-future-architect

[40] This article ("Unleashing the Archive") is part of an informal talk delivered by Mark Wigley at Columbia University on September 19, 2005 at the launch of *The Living Archive Project*, a major collaboration between the Columbia Graduate School of Architecture Planning and Preservation (GSAPP) and the Canadian Centre for Architecture (CCA) to bring archival documents and artworks to life in contemporary design discourse. http://www.mendeley.com/research/unleashing-archive/

Wikipedia is claimed to be the single best example of the online living archive by two prolific archival theorists, Roy Rosenzweig (2006) and Eric Kluitenberg (2010). For them, the living is demonstrated through the fact that users are invited to play an editorial role and that, in turn, this participation shapes the conceptual framework of the project, beyond the content it delivers. Wikipedia is a project that highlights the Web as a tool for collaboration because of its procedures and processes. It does this by relinquishing modalities of authorship and ownership (of ideas), while carefully documenting the hierarchy of roles and contributions over time, as part of the archive. Countless online archives serve the 'living' component differently, but Wikipedia remains one of the best demonstrable examples of the iterativeness of collective memory.

Studio XX's Matricules archive of feminist new media art, as another example, offers a quilt of key themes from the collection, which changes over time according to the contents of its database (Matricules 2006). The Matricules project, according to the press release, is one of the world's largest online archives of women's digital art. It was created based on the digitization of its material archive and serves as a "documentary register of the history of Studio XX" (Matricules Guide 2010). It uses traditional archiving classification systems and archival formats for the standardization of video, audio and other media. To maintain the quality and control of the collection, it is not open to public participation but invites the public to consume its contents for research and inspiration. Here, as Wigley (2005) outlines, it is what 'comes out' of the archive that makes it alive.

A third example, UbuWeb, hosts a vast archive of online avant-garde media, and claims to have been doing so since 1996.[41] They are now widely known for their

[41] I have not been able to confirm through the IWM that Goldsmith's Ubu archive has been online since 1996 as he claims. Prior to ubu.com, the site was located at ubuWeb.com, which begins in

incredible collection of rare and out-of-print materials, as well as for the challenge (or threat) the site (and their boisterous attitude about art) poses to copyright (The Guardian 2007). Framed as a living archive by Kenneth Goldsmith, the discourse of UbuWeb is very much anchored in a circulation strategy, or as Goldsmith presents it, it is an "ethical stance" that is "embodied in its distributive attitude" (in Jourden 2007, online). For UbuWeb, the living component of the archive is in the circulation of texts, rather than in the quest for totality (Zheng 2005). It is also about transforming the notion of circulation to always procure an alternative access point to (what it deems to be) overpriced, under-accessible works of art: "if something is in print, yet absurdly priced or insanely hard to procure, we'll take a chance on it (and therefore, 'you should too')" (Ubu.com FAQ, online). Encouraging each user to make copies and redistribute at will (as a Commons), is very much the 'life' of the archive that Goldsmith imagines as ideal, and that the Web makes technologically possible (Anderson 2012*).* In thinking of the archive as living lies our collective desire to not only preserve but also activate memory. Projects such as those mentioned in this section demand a rethinking of the political motivation of access, if the goal is in fact to preserve by way of keeping stories alive.

The Archive as Database

The database is perhaps the most popular depiction of, and 'buzz word' for, the emerging archive online. Its definition pivots around a general notion of an organized store of *data*, and of a computerized record-keeping system, as the *base* (Stalbaum 2010; Paul 2007). A

1997 and appears to be a Web design company (Ubu Web's Internet Design Solutions) under Goldsmith's name, though perhaps he was building a site for clients to freely distribute literary and musical works. See: http://Web.archive.org/Web/19970207021541/http://www.ubuWeb.com/page2.html

computerized database is essentially structured to organise collections of records and make data readily retrievable.[42] The database can take on a number of models, from hierarchical, networked, relational, client/server-oriented to object-oriented (Manovich 2001). It can also be differently understood based on these models; either tree-like in structure, (or) with sets that establish many-to-many relationships, (or) with unique identifiers, etc. Each of these models necessarily makes implicit statements about access to, direction of, and control over flow (i.e. 'many-to-many' as a promise of liberation from the server, for example, versus the one-sided 'client to server' which limits circulation.)

The language that shapes the database, based on collections, records, and storage, resonates with the archive, and, arguably, explains the growing instances and application of the term. Emails are deleted or 'archived' when read; content is 'archived' monthly on most database-driven blogs; and even databases themselves are backed-up by savvier users, as 'archives.' The database as archive, however, as argued by Media and Cultural Studies professor Mirko Tobias Schäfer, "could be better characterised as perpetual transmission than as permanent storage" (2009, 276). Regardless, while the current uses and depictions of the database are more firmly tied to the computer and its networked potential online, the idea of data is neither new nor explicitly dependent on the computer, software, or Web.

The etymological roots of *data* can be traced back to the mid 17th Century and suggest that the word stems from 'thing given' or 'to give' as linked to the time and place of transmission, as a marker of the moment of exchange. According to this same source

[42] Tech FQA. What is a Database? http://www.tech-faq.com/what-is-a-database.html

(www.etymonline.com), only since 1946 has the meaning shifted to specify "transmittable and storable computer information," in most instantiations (Online Etymology Dictionary, no date). The link between archive and database is not only the end result of organized storage, but also about the very flows that constitute data transmission, as Schäfer suggests.[43]

As Selena Sol points out in *Introduction to Databases for the Web*, the "data storehouses of the oral cultures of the past were the elders who would pass down information from generation to generation" (1998, online). How data is circulated, transferred, and shared, and in turn, adapted, maintained and preserved, inform specific notions of access, bringing us back to the etymological roots that emphasize the intersections (or moments of exchange) rather than the means (or technologies) by which the exchange is made. That being said, the means by which exchanges are made online render the process exponentially quicker than its analogue component, and as a result, dramatically increase the volume of data. This also explains the growing number of scholars paying attention to data visualisation and dataset aesthetics, as ways to not only organise content but to render visual the flows of data (Manovich 2001).

In particular, Lev Manovich (2001) has been highly influential in the field of software studies and widely referenced as a new media theorist, with particular attention paid to his conceptualisation of the database as 'symbolic form,' the correlate of cinema and the novel in the digital age (2008). Manovich explains that with the advent of the Web, stories have been altogether replaced by the database and the logic of collection

[43] However, as Christina Paul explains, every container of information ultimately constitutes "a dataspace and information architecture of its own, even though its characteristics are quite different from the virtual, dynamic dataspace" (2007, 305). The concept of the archive as database is therefore important to this pairing; it is neither necessarily digital nor networked.

(versus narrativizing). For Manovich, the "database can be thought of as a new cultural form in a society where a subject deals with huge amounts of information, which constantly keep changing," making its magnitude beyond a "human scale" (Manovich in Palmer 2001). Concurring with this, though in a more inquisitive if not ironic tone, Lovink writes, in his introduction to *Video Vortex Reader: Responses to YouTube* (2009), "We no longer watch films or TV; we watch databases" (2009, 9), implying not only that the modes of viewership and interaction have changed, but also the rate and volume surrounding access. Together, these views suggest that the last ten years of the Web's development has impacted not only the way data is organized online through the database, but also (necessarily) the very modes of operation from which we work to collect and archive, and how these translate into different relationships to access.

The database is—like the narrative has been—central to the basic organizing of human experience or at the very least the modes by which it reflects itself onto itself (Paul 2007). For Manovich, the database is becoming the new privileged form of cultural expression, which is countering the place and dominance of the narrative. Many new media objects do not *tell* stories; they do not have a beginning or end; in fact, they do not have any development, thematically, formally, or otherwise that would organize their elements into a linear sequence. Some popular examples that illustrate this include Google Maps which allows users to search directions or locate various points traceable via GPS, for example; or MySpace, as a user-generated music repository that calls on people to upload and listen to music without pre-determined sequence. The GPS node and the audio track are "collections of individual items, with every item possessing the same significance as any other" (Manovich 2001, 218).

While the idea that the database has supplanted the narrative rather than contributed to its diverse formations is highly debatable, the point of contrasting the narrative and database does provide an important entry point into archival research, very much enhanced by (though by no means novel to the Web (Chatman 1980). These contrasting cultural forms—the narrative and database—arguably dominate new media, but perhaps increasingly at each other's expense.

For Manovich, digital materialism is an acknowledgement that 'underneath' the interface, the database is all encompassing. The narrative, on the other hand, is defined by action and narration containing, in Manovich's viewpoint (borrowed from Bal 1985), text, story and fibula propelled by connected events emerging from the actor's experience, as made prevalent through literature and cinema. He writes: "The novel, and subsequently cinema, privileged narrative as the key form of cultural expression of the modern age, [whereas] the computer age introduces its correlate—the database" (2001, 218). Following this argument, the collection is favoured over the sequence (or cause-and-effect path) as means of organizing meaning (and meaningful events). However, Manovich's definition of narrative may prove more restrictive than necessary, and for the sake of contrast to the database, risk oversimplifying important details. For example, Manovich conceives of the narrative as potentially working against conventions, "which treats all choices as equally valid," and anti-narratives, which question "narrative logic" (Chatman 1980, 57). As such, a narrative is defined not only by trajectories, but also by movement and flow along a certain (or uncertain) path. For this reason, the newfound centrality of the online database is becoming increasingly important as is its equally newly complicated connection and interrelation to narrative. This is especially the case if

we consider the significance of the cultural shift that ensues from the centrality of the database, as proposed by Manovich (2001), Chun (2006), and Lovink (2009). The database, as concept, offers up a moment of reappraisal about current conceptions about the way culture circulates, is told, and is preserved. Ironically, it is the narrative of the database itself that reinstates and ensures its place in the discourses of new media.

In conversation with Lovink, Ramesh Srinivasan (2010) questions this narrative of the database as the dominant mode to store and retrieve information. Instead of framing the database as Manovich does, defined by hierarchical forms and a binary logic, Srinivasan suggests an organization of the Web that accounts for predominantly non-Western ways of recognizing the existence of concurrent knowledges within multiple states of time. The presumed shared and unified temporality generated by the space of the Web may shape a present(ness) that follows, according to Lisa Gitelman, "a logic less atemporal than it is antitemporal" (2006, 145), demanding not only a 'moving memory' as proposed by Chun (2008), but also a mobile archive of sorts.[44]

Coded in this archival dream is the prospect of time travel.

The Archive as Volatile

> *What is surprising is not that digital media fades but rather that it stays at all (Chun 2008).*
>
> *To write in a digital age is to write in the archive, but do we also write for and even like the archive? (Eichhorn 2008)*

[44] And for Paul Virilio, this demonstrates, rather, that history has reached a worldwide time, and where, with live transmission and real time, real space is conquered, producing what he calls a 'time accident'; an accident with no equal (Weg 2004). If, for Virillio, each technology has its integral accident, the failure of the database is the Web's integral accident. The integral but unforeseen nature of 'the accident'—the database crash—interrupts the Web's temporality, and in turn, its synchronicity to worldwide time (Crogan 1999).

Life increasingly becomes lived in the shadow of the archive
(Featherstone 2006).

In 2001, in a keynote for *Preserving the Immaterial: A Conference on Variable Media* at the Solomon R. Guggenheim Museum, Bruce Sterling said, "We have no way to archive bits that we know will be readable in even fifty years. Tape demagnetizes. CDs delaminate. Networks go down (…) When a piece of software decays, it doesn't degrade like a painting, slowly and nostalgically. When software fails it crashes; it means the Blue Screen of Death." What Sterling argued then remains part of the dominant discourse about the Web's failed potential for preservation: it now seems largely accepted that a sudden loss is more dramatic than a slow fade. The emphasis on speed and movement, and the (in)ability to control time both have a part to play in the conceptualization of the archive as inherently volatile.[45]

With more than twenty years of broad public access to the Web, we can now effectively reflect on the promises of the Web to store, share, and contain media. It can be argued from this reflection that the Web's own archival conscience grew out of the first signs of its decay, which were rapid and for which loss now appears permanent. Decay, after all, is a threat to memory, to history, to community, and to the knowledge of self that the archive generally attempts to preserve.

Referring to this fleeting circulation of digital media, Diane Vogt-O'Connor argued in 1999 that "since this data is our cumulative memory as a species, the situation is dire" (21). Stewart Brand declared in 2003 that the "health of civilization is understood

[45] Despite its lasting resonance, what Sterling's argument fails to comment on however, is the difference between the digital and the material archive, not in terms of im/materiality, but rather in the way the infrastructure of the Internet is fundamentally a network—and its archive, one of transmission (Rhizome 2008) http://rhizome.org/announce/opportunities/51046/view/

to be at stake" by the ephemerality of digital media (46). Cohen and Rozenweig echoed this in 2005, saying that "technological change has indeed become a troubling constant in our world, and one that greatly erodes the reliability and durability of the data and documents on which we rely as both historians and modern human beings" (2005, 243). More dramatically still, Mike Featherstone concludes that, analogous to a historical 'cancer,' the danger "of unperceived degradation (…) will develop within the digital archive, as dissociated cellular elements are re-associated into linear distributions and one cell's identifying code is transcribed into others in a generative chain" (2006, 595).[46] The volatility of the Web is therefore in its viral, palimpsestic and rhizomatic nature: the lack of fixity, integrity, and authenticity, which have come to shape evidence, and a general trust in the archive as a system for organising narratives, are challenged by the sprawling and ungraspable originating points and/or finality of digital creations (Deleuze & Guattari 1980). Notably, the very coding that allows the easy duplication and quick sprawl of digital content online is also an important element of the paradox constituted by the possible structures of the archive:

> in an odd way, their perfection is also their imperfection: they are encoded in a precise fashion that allows for unlimited perfect copies (unlike, say, photocopied paper documents), but any loss of their perfection can mean disaster (Cohen & Rosenzweig 2005).

[46] And in 2011, perhaps more than ever in the course of the Web's brief historical trajectory, we see applied responses to the threat of mediated loss, with self-defined avant-garde art archive projects like UbuWeb, and Archive Team's incredible work to salvage contents from GeoCities, Friendster and Google Video, among other recently defunct hosts of largely ephemeral user-generated ephemera. Digital efforts to contain and preserve the past through emergent media offer a response to this; they become part of the conversation but also intrinsically linked to the problem.

Digital and networked archival disasters are a matter of illegibility and irretrievability—that the content can be 'there' in some manner, but also inaccessible because of the broken relationship between, or the obsolescence of, software and hardware.

Digital archiving began in the late 1980s when institutions opted to shift offline documents (hard copies) to computerized formats. The urgency and responsiveness around Web archiving, however, began with the advent and seemingly instant growth of the Web, when many documents 'born digital' became a challenge to established archival modalities, in the 1990s.[47] The Web, in the 1990s, was not what it is now. Most people used dial-up Internet connections with speeds in the range of 28.8Kbps to 33.6Kbps, 1994 saw the emergence of the first Web crawler/search engine, and in January 1996 there were only 100 000 Websites, compared to the hundreds of millions that emerged in the decade that followed (Manjoo 2009; Pingdom 2008).[48] It is also estimated that the average time spent on the Web then was a mere 30 minutes a month (in the US), up to nearly 30 hours a month in 2009, according to the same source (Semuels 2009). Consequently, the Web can be imagined as a continuum, or a continually evolving medium, such that writing about the Web today will necessarily point to a different set of issues when read against the concept of the Web's past, and its future. This overarching context—what defines the Web at any given juncture—is difficult to preserve, as its network entails flows of data that are challenging to arrest, contain, and preserve outside of, or independently from, the system's subactivities in which it grows.

The transforming archival landscape of the last 30 years has also inspired the

[47] The Web in 1996: MSU. No date. Internet '96. https://www.msu.edu/~karjalae/internet96.htm?hoho

[48] List of 3039 WWW servers as of July 1, 1994 http://robot-club.com/lti/lycos/servers.html

development of archival tools to best respond to the rapid changes and growing complexities of digital objects and flows. In particular, 'Web harvesting' programs began to emerge, and have become a means to index and ultimately archive large amounts of data circulating through the Web.[49] Much of the programming behind these technologies was coded to capture 'as much' as possible of the Web—without pausing to effectively appraise or consider the organization or links between sites during this initial response. Arguably, the haste was justified by the urgency to counter rapid and unpredictable online flows, and to accommodate increasingly volatile visions of the past, rooted in the "randomization and recombination" of digital technology (Anderson *Forthcoming*).

In particular, efforts by the Royal (National) Library of Sweden;[50] the Pandora Project of the National Library of Australia;[51] and, the Internet Archive in the United States, emerged almost simultaneously between 1995 and 1996. These entities have grown to different ends over the last decade. The Pandora Project, for example, has been selecting 'specialized sites' from Australia, and hosting them with the goal of long-term preservation (Hopman 2011). The National Library of Sweden, on the other hand, "signs agreements with publishers and actors to deliver digital material on a voluntary basis," though they are also anticipating and preparing for large-scale deposits, for which no definitive archival workflow has been established.[52] The Internet Archive does not have an explicitly nationalistic mandate; instead it functions to scan the Web, prioritizing content from the most highly ranked sites (by way of its partner site, alexa.com), using

[49] Again, the emphasis was (and remains) on content—as audio-visual archives have long arranged content according to medium—by collecting Websites as distinct entities or projects, though often with hyperlinks and embedded media, having left traces or implied connections that are not necessarily collected.
[50] http://www.kb.se/english/
[51] http:/ www.nla.gov.au/policy/plan/pandora.html
[52] http://www.kb.se/english/about/deposit/

sophisticated and automated Web crawlers. The IWM (Internet Archive Wayback Machine) is perhaps the most ambitious if not excessive attempt to capture everything Web-based and digital, as "a total repository of human knowledge" (Kahle 2008) and as made manifest through, and reduced to, data.

That no singular or central entity owns or manages the Web makes it anybody's query whose responsibility it is to archive the Web's memory, and which archival guidelines, if any, should be followed in the process. Nonetheless, what these varied efforts demonstrate is an agreement that online culture is highly fleeting, ephemeral, unpredictable, unstable, volatile—and needs to be preserved by disparate measures, even if appraisal processes, guidelines, and format standards lag behind the various and diverse intentions to define online archiving. As IWM founder, Brewster Kahle, writes "Whatever the precise figure, and whatever its rate of change, change itself is a paradoxically consistent feature of the World Wide Web" (in Gitelman 2006, 132). The question of online archiving, then, addresses how to reconcile continual change with the archive, and how to deal with the volatility of memory when framed this way.

The consensus for online archival initiatives thus far points to a priority in acquisition—what Leslie Johnston of digitalpreservation.org calls the "low-hanging fruit" (save it now and worry about access later because it is a "low investment in time, resources and staff").[53] In favour of mass collection, this approach temporarily overlooks the tasks of rendering collections accessible; its related curatorial and contextual elements; issues of ownership and custodianship, and so on. It may very well be that in the next ten years we see sizeable collections appearing online—those being collected

[53] Twitter: October 21, 2011.

now—but that also risk overwhelming their custodians, as no entity as of yet is well equipped to deal with the sheer volume and scope and range of digital materials online (Fodden 2011).

As addressed in the following case study, the anxiety that surrounds the volatility of online flows has, in some cases, made hoarders of its more attuned users, (Scott 2009, online) turning the archive into a catchall container: and this, because technologies of storage and retrieval permit it, rather than because it has been deemed appropriate beyond those technical affordances. In this way, volatility—both the acknowledgement of it and the desire to control its consequences—has come to define a new kind of archival fever. The Web constantly overwrites itself, but unlike the palimpsest, past iterations are cached in layers, rather than made practically visible underneath its current iteration, if at all retrievable (Lucas 2010).[54] The volatility of media is often equated to the volatility of memory itself, and in turn, of history as a deeply political enterprise of preservation and loss (Fasolt 2003; Jenkins 2009). In this way, Wendy Hui Kyong Chun's (2008) conceptualization of the 'enduring ephemeral,' which proposes a kind of volatility that is in itself sustainable, becomes an important paradox to consider. Chun explains that in trying to grasp "a present that is always degenerating, we must analyse the ways in which ephemerality is made to endure […]" (Chun 2008, 168). The concept of the enduring ephemeral understands the notion of volatility as a dynamic with the potential of recuperation and recovery, rather than an inherent threat to preservation.[55] However, what

[54] The palimpsest, originally a manuscript typically of papyrus or parchment that has been written on repeatedly, and for which the earlier writing incompletely erased and often legible, is a decent metaphor for the Web, encapsulating both processes of inscription and erasure.
[55] If digital artefacts can in fact be conceived of as objects, and only momentarily, these objects remain bits. Bits have the built-in binary system of two values: on/off, 0/1, true/false, present/absent, etc.

stays, what is restored, what is made into memory, and how, requires further nuancing in order to grasp the complexities of networked flows through which the online archive exists.

The Archive as Dumpster

> *What can we expect from 21st century archive theory, beyond digitization and database architectures? Will the elites establish safeguarded 'islands in the Net' where essential knowledge is stored, leaving the wired billions floating in their own data trash? (Lovink 2003 online).*

> *...the archive as the repository of material which has only been loosely classified, material whose status is as yet indeterminate and stands between rubbish, junk and significance; material which has not been read and researched" (Featherstone 2006, 594).*

In *Le goût de l'archive*, Arlette Farge explains that "the archival operation first of all consists of separating the documents. The question is to know what to keep and what to abandon" (in Ernst 2006, 418).[56] The decision of what to keep, which is partially accomplished through acquisition, as a first level filter, and appraisal as a second filter, are core archival functions because they enact value by sorting out what is worth keeping based first and foremost on long-term historical value. Undoubtedly, in traditional archives, these decisions are necessary, in part as a result of the limited space of the physical repository as well as the costs of conservation. To protect artefacts against rapid deterioration based on environmental, human and technological factors is a costly endeavour. But as established Canadian archival theorists Joan M. Schwartz and Terry

[56] Quote translated by Ernst 2006.

Cook point out, there are also obvious errors of appraisal in archival theory that have silenced and denied certain kinds of histories—as well as instances of tampering with the records (to various political ends)—thwarting the objective and evidentiary potential of the archive (2002). Human intervention is therefore always part of the archival apparatus.

Despite decades of archival theory upon which to build, the role of the archive is made increasingly difficult to define and assess, given that its definition now ranges from physical repositories to databases, from .tar to .zip file extensions, from collections of digital ephemera to a mere hyperlinked button (to render an email message temporarily invisible, for example). The archive online is also the Web itself—what Appadurai might define as an anthropological or living archive—and the archive of the Web, the IWM. What brings all of these examples together is not what the archive attempts, but what its attempts reveal about the layers of the archival process: if one recognizes that documentation is a form of intervention and archives are collections of documents, then archives are always a meta intervention (Appadurai 2003).[57]

The archive, when configured as computerized database and repository, relies on storage space for containing as well as organizing its contents. However, the capacity of media storage has increased rapidly and exponentially: from the punch card, to analogue, to digital, to solid state, to cloud 'space' (Silverman 2011). The capacity and manner of storage is now largely understood to be ever-expandable, to the point where the online archive solves one of the concerns of appraisal, by allowing that no digital artefact be thrown away, discarded, or deleted.[58] The prevailing idea has been in the possibility (and

[57] http://rightathand.com/html/toolkit.html

[58] http://europe.nokia.com/support/product-support/nokia-photos This has corresponded to trends such as 'Life Caching' and Facebook's *Timeline* feature (among other less overtly coded as digital collecting activities, such as blogging and synching calendars, photos and videos to personal

excitement) of collecting 'everything'—with little attention directed toward the assessment of long-term value—and this is as true for organised initiatives such as the IWM, as it is for personal collections growing through social media, and collections that amount to so-called digital hoarding.[59] Unlike the conventional archive where storage limitations impact archival processes, the rubric of the online archive has been totalizing.[60]

Despite serious issues of excess, comparatively, the Web can store more data and information; make access global rather than local; and make its management plural rather than authoritative (Fritzsche 2005). However, in the last thirty years, the literature about the archive has deployed oversimplified binaries that make it seem as though traditional repositories are static and conservative while the online counterpart offers a free and open version of the same thing.

By this logic, not only are material objects more 'real,' but the minimalism of binary code renders the digital less 'real,' and in turn, not as precious, evocative or haunting (Cvetkovich 2011). And yet materiality itself is not fully grasped in this context. For example, as made evident by recent innovations in cloud storage, access to a digital copy is denied through streaming and content-'lending' (iTunes Store, Amazon, Netflix) (Richwine 2011). In contrast to what is offered by 'the cloud,' the possibility to copy and retain control over the circulation of that copy, and ultimately storing it 'locally' or within one's personal archive renders the file more accessible and therefore 'more' material

mobile devices, etc.)

[59] See: Cyborg Anthropology. No date. Digital Hoarding. http://cyborganthropology.com/Digital_Hoarding

[60] There are applications which now allow you to archive even the files you delete! See: Tempo, Backing Up Your Trash. http://www.yankodesign.com/2007/08/24/backing-up-your-trash/

(perhaps only in so far as the potential of the user or researcher to make a personal copy and share it). The paradox of this binary—the source itself and the content it holds—is that archivists working in pre-Web archives have long made available information (data or metadata) about various artefacts, for example, extracted from their source as a means of protecting the (authentic and integral) original (from human error, decay, etc.), and thus rendering the source devoid or at least independent of the materiality/material object archived (Manoff 2004). As such, the question of materiality remains important for the archive, but as the sole point of distinction, it becomes a flawed and facile means to escape the complexities of circulation on the Web as well as offline (Straw 2010). In building an argument toward the use of the dumpster metaphor in archival literature, the importance here is in understanding the potential of the Web to store at varying 'levels' of access, but without exercising discrimination over the content.

Unlike the physical repository, the argument made for storing and sorting content online to determine what is worth keeping from what is not is not an issue of containment. As Sven Spieker (2000) notes, "Archives are less concerned with memory than with the necessity to discard, erase, eliminate" (YouTube)[61] presumably to make room, on an ongoing basis, for newer acquisitions, but also possibly, older (and more historically valuable) collections. This in itself reveals that archival selection is always already in process, shaped by the technologies in place that facilitate storage first, and access to content second.[62] However, due to the lack of triage online—a ranking of

[61] http://www.youtube.com/watch?v=lGVIBWnq038

[62] That said, the online archive is not free of political confinements. The politics of software and code, at the base, largely determines the possibilities of the online archive, though these tend to be made invisible for two main reasons: one is that these politics are programmed in parallel to utopic ideals of the Web's openness and democratic potential, and two, that they are of a present moment that makes the inward gaze and standpoint more difficult, as we are inhabiting and embodying the politics that shape the technologies that surround us.

priorities—the Web, as a whole, bypasses the archivist's appraisal, which then usurps traditional notions of value that derive from a familiar or traditional workflow: fixity, provenance, and scarcity, etc., and also supplants authenticity and integrity as base concepts.[63] Put more simply, archival theory, its workflow, and its politics are interconnected, and without one, nothing and everything may be of value, since value—regardless of its shifting definition and scope—is the underlying incentive for preservation.

The idea of the valueless has been taken on by scholarly practitioners such as DMI (the Digital Methods Initiative, in Amsterdam)[64] who, among other initiatives, created the website deletefrominternet.com, inviting people to nominate websites "unworthy of the Internet" for deletion, to help "clean up the Web."[65] The project attempts the discursive democratization of appraisal, where the failure to achieve this goal becomes an important commentary about Web culture. Another project in this vein, by Les liens invisibles, is the online *Musée des ordures* (2011) which addresses the "the daily overproduction of user generated content and the continuous political solicitation to which we are subjected," from which it has become "ever more difficult to make sense of the sheer number of objects circulating on the internet" (http://www.ordure.org).[66] Similarly, but with a more pragmatic end goal than simply showcasing Web '*ordure*,'

[63] The archive privileges preservation for long-term access, embedded in the definition of posterity. Posterity is about future access, with a focus on generations and kinship for succession into the future. Because an archive cannot house all unpublished artefacts ever created, the archivist appraises the value of what is deposited by individuals or groups, or bid on by the archival establishment. Generally, older and scarcer artefacts hold (and generate) more value. Assessing originality, integrity, and authenticity form the core of the archivist's appraisal process. Because a selection is necessary, determining what is kept and what constitutes a valuable good becomes embedded in the archival process itself. So too the residuals of archival appraisal.
[64] https://wiki.digitalmethods.net/Dmi/DmiAbout
[65] http://deletefrominternet.com
[66] http://www.ordure.org/about-the-museum/mission/

American programmer Justin Blinder created *Dumpster Drive* as a means for Web users to recycle and repurpose each other's digital files. Because the "drag-drop-delete process of deleting data from our computers prevents them from ever reaching others," the project Website explains, "Dumpster Drive makes your trash social within the context of your desktop, allowing you to dumpster dive through the discarded files of others" (dumpsterdrive.com).[67] Taken together, these projects remain tongue-in-cheek comments on the circulation of digital ephemera (or the capacity for consensus over digital value, or the ability to effectively remove anything permanently from the Web), but the questions they raise remain extremely pertinent.

Eric Kluitenberg (2010) argues that collections of ephemera online become a challenge to the power system of archiving that determines the structure and discourse of historical worthiness. As he explains, distinguishing what has (historical or economic) value from that which can be discarded, more often than not shows the extent of what is not valued: "Ephemera are considered noise, irrelevant, and as a result, a large aspect of living culture is often excluded" from traditional repositories (Kluitenberg 2010, online).[68] But as Katharine Mieszkowski (2001) points out in a *Salon* article about 'dumpster diving' the Web: "it's just such banal ephemera that counts, if you have enough of it." For social media sites, and large-scale collaboration projects, the banal comes to constitute an important slice of Web culture, the kind of daily ephemera largely bypassed by traditional archival collections. As Mieszkowski also suggests, value is a matter of collection itself, and more precisely, the size of it, and the value of the network or

[67] http://dumpsterdrive.com/about/
[68] http://foucaultnews.wordpress.com/2010/09/13/eric-kluitenberg-foucault-and-the-living-archive/

relationship between items in a collection. This is a point also reinforced by Richard J. Cox (2009) in his exploration of the personal archive generated by the Web, and their growth in society's conception of historical value. Cox suggests that "We are on the cusp of seeing a new kind of archival future, and whether this is good or bad depends on how well archivists equip citizen archivists" (Cox 2009). Presumably, the value of the personal archive online also requires individuals to be archivist of their own lives, and hence, implies recognition of one's worth and historical value within and beyond a collective. It also to some extent implies that the archive is built into the collective, and that such connectivity builds memories at least as much as it preserves them (Appadurai 2003b).

The online archive thus offers a new mode of self-appraisal and exclusion, based on an understanding of the value of the archive. However, despite the established—yet ever evolving—concepts that determine archival value, the online realm—free of such referents—is without clear determinants of importance, worth, or usefulness. Not because this content is without value, but because we (still) do not know how to collectively assign value to content online, nor how to best organize large amounts of data within a framework that is about more than the moment of search (and hence antithetical to long term visions.)[69] This is made most evident by the large scale 'dumping' of early Web histories by user-generated content sites, such as GeoCities,[70] Friendster,[71] and more recently Google Video and other services, in contrast to the seemingly unassailable

[69] Online, value tends to take shape through social media and the network itself, informed by the capacity to expose ads on the company side, while sharing content on the user side: a lot of content, in a continuous flow. To date, this seems to be the magical formula for profiting from the Web.
[70] See: http://latimesblogs.latimes.com/technology/2009/10/geocities-closing.html and http://ascii.textfiles.com/archives/1961
[71] See: http://latimesblogs.latimes.com/technology/2009/07/friendster.html

position of Google as a search engine, or of Facebook as social media network today (Descary 2011). Thus, as a large unsorted store, is the Web, without assessment of its content, communities, and cultures of use, closer to a dumpster than an 'archive'? Given the sheer amount of ephemera online—albeit informal and quotidian—does archival value only come into play when content risks being deleted? Is archival value online an afterthought, in effect on a case-by-case basis, as a means of dealing with loss, as it is happening? Are these important questions any longer, if, as IWM founder Brewster Khale and others assert, there is no need to throw anything away? Even if we have endless space for storage, does it make sense to assume we have endless time archived as well?

With the rapid development of Web technologies, requiring constant upgrades for content management systems, and constant refreshing of content to keep social systems vibrant, and formats valid, how do networks age in the living archive? Is the Web archive, at least in part, also an archive of its fissures, a trail of broken links and faulty links and 404 errors,[72] missing plugins, and lapsed domains, which reveal the network's 'wear and tear'? (Hogan 2011b). If the average 'life' of a Website is (only) one hundred days, as David Womack (2003) reports, how can an archive online be seriously conceived? If, as Catherine Hobbs of Library Archives conservatively estimates,[73] only 3% (of anything) is archived in the traditional (and legally mandated) repository, is time the new space of the archive?

Or, if we do not accept the failure of Web projects as finite—they are not finite in

[72] 404 errors are a standard http response to a query, which has reached the server but failed to fulfill the request of locating a specific link.
[73] Archivist Catherine Hobbs presented at 'Archive + Feminism' hosted by Prof. Maryanne Dever a scholar-in-residence at the Institute for Gender, Sexuality and Feminist Studies, February 3, 2012. Hobbs suggested that 3% was a percentage that circulated often among archivists, and is not a claim that originates with her.

creation, so how could they be in abandonment? (McLeod 2011)—do we look to crashed and defunct projects as accessible, in their current state, in the context of the cache? If so, what does a crash reveal about the way the database caches data? Should Websites and their artefacts always be recovered? Should the online archive be one of revisitable multiple iterations? How does this affect the record, the testimony, or evidence? (Shouse 2005) Are they dissolved conceptually, alongside the archive? (Ra'ad in Menick 2002)[74] What replaces it? What kinds of narratives, if any, does the online archive allow? How does an archive's interface—the Web, the IWM, the defunct Mediatheque, for example—express a bias towards dis/continuities?[75] And finally, in which ways can database crashes, access errors, and failures of technology be theorized as 'living' or at the very least theoretically generative?[76]

The Archive as Time Machine[77]

> *[U]nlike other well-known media, the Internet does not simply exist in a form suited to being archived, but rather is first formed as an object of study in the archiving, and it is formed differently depending on who does the archiving, when, and for what purpose (Brügger, 2005).*

In archival discourses, the scepticism that surrounds the failed promise of digitization is now commonly referenced as the 'digital dark ages' (Kuny 1997; Hillis 1998) where

[74] http://www.johnmenick.com/writing/imagined-testimonies-an-interview-with-walid-raad and http://www.bidoun.org/magazine/02-we-are-old/profile-walid-raad-the-atlas-group-opens-its-archives-by-kaelen-wilson-goldie/

[75] Thank you Dr. Matt Soar and Dr. Monika Kin Gagnon for this into feedback on my proposal for the DNA symposium (May 2011).

[76] Thank you Dr. Kim Sawchuk for raising this issue at Andrea Zeffiro's Ph.D. defense and within her own continued explorations dealing with new media/mobile media.

[77] The Archive as Time Machine is a metaphor borrowed and only slightly modified from: Ketelaar, Eric. 2002. "The Archive as a Time Machine", Proceedings of the DLM-Forum 2002: @ccess and Preservation of Electronic Information: Best Practices and Solutions, Barcelona, 6–8 May 2002, INSAR European Archives News, Supplement VII (Luxembourg 2002) 576–581.

collective suffering is said to be caused by and result in 'digital decay' (Sterling 2001, 2003). Decay is gradual loss; and, according to Bruce Sterling (2010), speaks to the materiality of archival artefacts, and more specifically, to the materiality of the immateriality assumed of the digital: "Very little materiality, is very, very far from no materiality at all" (Sterling 2010, online). It is through materiality that we witness change, or in Sterling's words, "delamination, disintegration, deterioration, degeneration, decomposition, and doddering decline" (Sterling 2010, online). These states are all testament to the passing of time, against which humanity's track record is measured and compared (Manoff 2006).

Decay underlies the relationship between humanity and its potential for enhancement—to bring things back to what they once were, before deterioration—as the powers to redress the present rest in the prospect of harvesting the past to evidence wrongdoings. As Anthony Smith (1990) argues "the only guarantee of preservation of some form of identity is in the appeal to 'posterity,' to the future generations. . . only the appeal to a collective posterity offers hope of deliverance from oblivion" (182). The potential of the future is always constructed from memories of the past, projected forward. Understanding the past therefore allows us to make sense of the 'self' and form an identity: time and memory shape who we are, both individually and collectively (ActUp Oral History Project). As we attempt to remember the past and to preserve our connections to earlier times, we seek mnemonic devices of recall or means of recording and fixing the past to (relatively) unchanging structures (Jimerson 2009). As such, preservation allows conversations triggered by memory, across generations (time) and geographies (space). Its promise is huge: "memory of past atrocities holds the key to

preventing their repetition" (Jimerson, 2009). The archive is positioned as the means to retain and keep intact that which surpasses the human capacity for memory.

Theoretically, for the archive, the past and future are core concepts rooted in the unfeasibility of undoing time, of rewriting or righting the wrongs of history (McKemmish, Gilliland-Swetland and Ketelaar 2005; Anderson 2009). Online, there has been a surge of content, presenting old alongside new, as attested by the YouTube video of *Anne Frank, seen from window*[78] and Kenneth Goldsmith's impressive archive of avant-garde art at UbuWeb.[79] Ultimately, time travel in the digital realm is conceptualized differently—in a different space, through 'portals', disembodied and repeated—and calls for a framework for analysis different from material archival storage solutions. Online, data travels through time, while our bodies stay in the moment of search: we access the past in a continuous present (Chun 2006). In this sense, the archive is mobile and moving in search, while we remain static, waiting for the database to surrender.

Perhaps the most flagrant example of the concept and practice of online time travel is the Internet Archive project, and in particular, the IWM as a means of accessing Web sites as they appeared in 1996, and onward. Brewster Kahle (founder) and the IWM team created the Wayback Machine based on the WABAC machine of *The Rocky and Bullwinkle Show.* While the original goal of the cartoon characters Mr. Peabody and Sherman traveling in the WABAC machine was to rectify important historical events by altering the past, the IWM is, unlike the original WABAC, a tool for witnessing if not recording the past as a series of iterations, removed from the embodied experience of

[78] "Anne Frank, seen from window" YouTube Online: http://www.youtube.com/watch?v=kEXuviihrrs
[79] UbuWeb Online: http://www.ubuWeb.com/

time travel, or its immediate potential to overwrite history (Ashton 2002). The basis of how we organize history into narrative(s) and in turn, how these shape our ideas of time and space is unravelled by framing the archive as a time machine.

The fictional world of time-travel is based on popular theories of time that in the West emerge from Einstein's theories of general relativity and include, among other ideas, notions of time as fixed and immutable, or as splintering or parallel timelines, or as replaceable and retractable moments. In fictional and virtual accounts, time travel is arguably unconstrained by the laws of physics but nevertheless serves to decipher underlying cultural assumptions, principles, and ideals about memory and preservation, present also in the very archival discourses and tactics that seek to preserve the culture from which they emanate. Time travel is culturally significant for the ways it allows considerations of possibilities—the 'what ifs' of history—fictional, imagined, or lived.[80] While in fiction, the backward and forward movements of time travel are defined in similar terms, in time travel, the 'past' and the 'future' create vastly different philosophical and theoretical conundrums for scientist and archivist alike. But because science and the scientific method rely on observable evidence from replicable experiments, archivists using the IWM are somewhat freer to explore and experiment

[80] Prior to the WABAC Machine, *The Time Machine*, a novel written in 1895 by H. G. Wells, was instrumental in placing the idea of time travel in the western public imagination, drawing from the Newtonian idea of time as staunchly linear; "a three-dimensional Euclidean spatial manifold that changes along an inexorable arrow of time" (Hunter 2004, online). By the early to mid-20th century, the main ideas of time travel shifted from Newtonian theories to Einsteinian ones. The Einsteinian universe was one described as a "four-dimensional spacetime continuum that curves and in which time has the character of a spatial dimension" (Hunter 2004, online) which, according to Paul Virilio (1999), uses relativity as a central concept, and is crucial to any study of speed and acceleration in relation to technology. From this, more recent time travel theories emerge from quantum theory; phenomena such as superposition and entanglement suggest the possibility of parallel or numerous universes, histories, and memories. H. G. Wells' 1965 model of time travel introduced technology—the time travel *machine*—as a means of accessing the past and future, from which the IWM builds.

with the concept of time travel from a philosophical point of view.[81]

The IWM is growing exponentially and has been since its beginnings in 1996. When Kahle, the IWM's founder, first imagined the possibilities of archiving the Internet, there were 'only' 50 million or so URLs, according to *Slate* writer Paul Boutin (2005). Kahle's intention in 1996 was to "build a library of everything" and to offer "universal access to all of human knowledge" (Khale and Koman 2002, online).[82]

The WABAC and IWM each identify the necessity for a past and a future as 'spaces,' 'places,' and 'destinations' of time. As Ketelaar outlines in *The Archive as Time Machine* (2002): "archiving - all the activities from creation and management to use of records and archives - has always been directed towards transmitting human activity and experience through time and, secondly, through space" (3). In almost every Western conceptualization of time travel, time is iterative and nodal; i.e. moments (nodes) in space. According to Mark Joseph Young (2009): "This concept that all of time exists as if it were space is fundamental for any notion that someone could travel to it." In other words, to travel *in* time, time is conceived of as space—where there is a place to arrive to, and depart from.

Online, these 'places' of time are marked as hyperlinks in the IWM, for example, as iterations of 'where' the time machine landed is recorded and indexed even though the basis or regularity of these landings remains unexamined. The iterativeness of time travel and the intervals it creates, rather than records in the database, is overlooked in favour of what the traces reveal, confirm, or highlight of particular versions located at very specific

[81] Internet Encyclopaedia of Philosophy: Entry for Time Travel http://www.iep.utm.edu/timetrav/
[82] Richard Koman interviews Brewster Kahle: http://www.oreillynet.com/Webservices/2002/01/18/brewster.html

URLs.

Often premised on righting the wrongs of history, science fiction has long focused on 'going back' in time to alter a course of actions. This would change the future. However, time-travel, even from within the purview of time being fixed and immutable, never quite explains the consequences of time on who or what travels. In most fictional cases, a character returns to the present or becomes part of a simultaneous and parallel universe where she exists as a double/twin or as multiple versions of her other self(ves). This duplication (of actors) in time travel speaks volumes to online flows and Web harvesting, where databases regenerate content, duplicating, versioning, and copying in indiscriminate sequences. In other time travel theories, parallel universes cross, where a time-traveler can witness his 'other self' in another context. This is based on a theory of multiple universes proposed in 1954 by mathematician and quantum physicist Hugh Everett III, a Princeton University doctoral candidate.[83] The idea that there can be more than one simultaneous but identical universes is the one that Doc Brown in *Back to the Future* claimed "could destroy the universe," but more importantly here, it serves to introduce if not illustrate what has come to be understood as the non-rival consumption of digital goods. Non-scarcity in consumption simply means that 'copies' (i.e. multiple parallel data) counter scarcity. This has posed a grave threat to business models that rely on demand; a rate which is itself influenced and set by supply (Murray & Trosow 2007; Overthinking It 2009).

As a third and final analogy for digital circulation, the notion that one timeline can be replaced or overwritten by another (a newer) one, suggests that if history is linear,

[83] http://www.scientificamerican.com/article.cfm?id=hugh-everett-biography

going to the past invariably overwrites everything along that line, as it moves forward anew. In this scenario, the future is 'reset,' erased, and replaced (hence, palimpsestic).[84] The reason these different depictions of time—and the possibilities to revisit the past or access the future—are important to the conversation of the archive lies in the notion of a continuum of memory, and of its records (Ketelaar 2005). For Ketelaar (2002; 2005), the metaphor of archive as time machine demands that we rethink if not altogether remove the distinction between the use (value) and archival value of records. Instead, looking at online digital circulation, as an archive in motion, may take away the perhaps misguided focus from the Web (or Website) as repository.

More and more, divergent theories of time travel help us to deepen our understanding of the ways digital flows travel through the database, beyond the ways intended by programmers and engineers. Adopting the concept of time travel through the WABAC machine, Internet Archive founders created the IWM as an interface for traveling back and forth through the Web's database, via the Internet. Here, content and medium are unified, as the IWM is the only recorded memory of the Web, or rather, the only intentional apparatus to endeavour to systematically index itself. Ironically, only time will tell how this singular interface to the Web's past will shape interpretations of history.

Borrowing from science fiction has shaped the mentality of the IWM, where time theories present divergent relationships to space and the ability of humans and machines

[84] If the said timeline is partially overwritten, the notion of the 'time loop' can be introduced, which–like a broken record–skips back to a particular moment in time, repeatedly. The looping effect may invariably strip the time-travelers of his respective present memory, but it is his memory (or more specifically his memories)—in his past and future selves—that makes time move along, and a diegetic 'reality' possible. Memory travels differently through different storylines, but remains one of the more difficult elements to assure in terms of storyline continuity. http://www.timelooptheory.com/

to travel 'through' it. More importantly, conceptualizing time differently—from Manovich, to Gitelman, to Chun, to Srinivasan—force us to question our beliefs about the possibilities and limitations of access and preservation: how does access shape our notion of time? Is time itself altered by what is or is not available for 'future' perusal? If memory needs to be triggered, how can the flows of the archive online be arrested and activated?

Literature Summary

This literature review focuses on the concept of the archive as both subject and research process, using a range of metaphors to think through the conceptual and practical potential and limitations of the archive. The archive is amenable to a broad range of metaphors, including, but by no means limited to, the ones I have selected to address key conceptual concerns: the archive as subject, as living, as database, as volatile, as dumpster, and as time machine. With these metaphors, the archive is a living subject, virtual and computerised, unstable and indiscriminate, and in flux.

There is no doubt that the online archive is different from the archive as a physical space that one can enter, and experience. But this literature review relies on metaphors to suggest that there is more than this difference to consider; that perhaps it is more important at this juncture to think of the iterative nature of the archive, to imagine preservation as layered and transient, in terms of the possibilities for recovery and the limits imposed onto access. Materiality remains an important concept—increasingly so—but one that is arguably differently nuanced yet just as important in the context of the

online archive as it is as a point of historical comparison.

That said, every metaphor has its limits and these limits are in and of themselves integral to defining the boundaries of the archive. The online archive remains, I argue, more conceptual than viably capable of encompassing more than its own modality, but in this way also presents a perfect reflection of its palimpsestic processes. This is why pushing up against the limits of the metaphors is to recognise how, together, those limits make a bigger statement about our idealisation of the archive, as concept, practice, process, repository and institution, always in conversation with technology. Ultimately the archive is about our deeply affective ties to the culture we create and the power of evidencing the past for an unknown but certain future time and place.

Chapter 2: Methodology and Intervention

Surveying Online Traces: Canadian Video Art

Chris Meigh-Andrews's *A History of Video Art* (2006) serves as a critical introduction to the various origins of video art, by tracking its emergence in the 1960s to its widespread use in the 1990s. As an international phenomenon, Meigh-Andrews traced various trajectories and concluded that video is undeniably "technology dependent" and that "any history of artists' video must acknowledge the part played by the issues of access to the technological means of production on the development of its form and in relation to the cultural context" (2006, 3). As a recording technology, video shifted from exclusive use by television broadcasters to becoming one of the most influential media in contemporary art. Though first developed for US military surveillance ends in Vietnam, video was quickly adapted for political and artistic expression as well (Gagnon 2010; Elwes 2005; Gagnon 2000; Hall & Fifer 1990; Pidduck 1990; 2004).

Novel approaches to video brought with them a shift in viewing contexts as well, away from broadcast television. Modes of display became a commentary about contemporary culture. As Meigh-Andrews explains, the marginality of video art, as well as the ephemeral and impermanent nature of the medium, "was considered a virtue by many early practitioners, and artists who wished to avoid the influences and commercialism of the art market were attracted to its temporary and transient nature..." (2006, 5). This perception, if not celebration, of the medium's transient nature is perhaps the first hint of the medium's specific placement within a politics of access and

preservation. While this ideal would shift considerably over the course of the next four decades, video art would necessarily embed a kind of counter-archival legacy within the art movement (Gale 1997).

While today there are tremendous efforts across Canada toward the preservation of video art, part of the legacy of the medium—and art movement—is that the works in and of themselves largely question the archival impetus, and in turn, notions of history as stable or even desirable (Gever 1990; Juhasz 2006; 2009; Burton 2005). But impermanence itself—as a political desire—was to be recorded somehow: "permanence, then, seemed inadmissible; video was as ephemeral—and emphatic—as speech, its temporary capturing on monitor or tape, a mere wisp of memory (Gale 1997, 9). By "then," Canadian video art historian Peggy Gale refers to the 1970s, and insinuates that decades later, the idea of permanence would in fact become important; that while the medium proved itself ephemeral, its history and traces had to be documented even if the tapes themselves could not be preserved (Gale 2012).

Video artist and Bell Canada Award winner, Tom Sherman, further asserts the temporality of the medium, in Canada "video art's hey-day" was over by the early 1980s;

> institutional support for video art from public broadcasters and museums began to wane. […] Private galleries couldn't figure out how to commodify video art. Collectors were slow to embrace this immaterial form. Public broadcasters were now losing interest in experimentation, as a global recession in 1981 forced cutbacks. Video art was on its deathbed as music video and personal computing were being born (Sherman 2008, 4).

The idea that video was being completely replaced or subsumed by the personal computer, and media arts more generally, seems to have informed much about the way the video art archive is construed. There are several narratives about the history of video art in Canada, but few academic engagements carry over the discussion of video art to the online realm, and most if not all popular and published articles on the topic terminate the discussion of video art's history at the emergence of the Web (Wyver 2009; Meigh-Andrews 2006; Elwes 2005; Beimann 2003; Gale 1995; Hall & Fifer 1990).

Where these accounts stop, however, several blogs, conferences, and online publications debate and discuss the consequence and impact of the Web on video art. These insights, which I weave into my case study and analysis of the online archive, focus in large part on technical issues, formats for display, copyright, and the distribution and commercialisation of video online. These concerns are, in turn, adopted or challenged through the implementation of various online initiatives, which are necessarily imbued and reflective of the movement's wide and increasingly divergent politics. In the attached infographics, I locate and give an overview the various Canadian online video art initiatives, focusing on distributors and organisations that deal directly with issues of permanence through online preservation. Many of these findings come in the form of digital vestiges, and continue to be altered as I document their trajectories.

Annexe 1-3 are important infographics that tracks various Canadian video art initiatives that were both artist-run and have had as their main objective to produce, collect, and distribute video art.[85] This has meant that these organizations have adapted in various ways to the technologies that have transformed the possibilities and politics of

[85] http://www.wayward.ca/wayward/notes/video-cache-inforgraphics/

access to their collections. To further narrow the field, I focus on Web initiatives; how these have been revamped, or experimented with the politics of collection and distribution. What I offer is an overview of Canadian sites emerging alongside, and helping to situate, the case of the SAW Video Mediatheque. In this visual survey, I look at the Centre for Art Tapes (CFAT) and its Digital Mirror project,[86] Video Femmes, Groupe intervention video (GIV),[87] Video In Video Out (VIVO), VTape's Virtual Museum Canada, VTape Digital BitCasters, and Fringe Online, Charles Street Video (CSV) and Canadian Filmmakers Distribution Centre (CFMDC), Video Pool, Vidéographe's Vithèque,[88] IsumaTV, and EdMediaTV, with these last three being the most comparable to the Mediatheque project, as also highlighted in the annexed inforgraphics.[89]

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[86] For this project, the curatorial statement explains: "In our attempt to revive some of the beautiful artwork produced at the Centre for Art Tapes (CFAT), we initiated the transformation of a formerly dead space into a living one" (MacSwain & Bourgeois 2006).

[87] GIV was also a contributor to the Mediatheque project in 2004, and as such has its own relationship to SAW Video which precedes me, but which I reinforced and reignited through my research-creation intervention, Video Cache in 2010.

[88] Because the Vithèque project was delayed in its launch for many years, I was able to locate various documents online about the project's goals, its take on copyright and artists remuneration, and other elements that would greatly shape access and distribution decisions for the site. The virtual trail left behind by the development of Vithèque offers an incredibly rich terrain for tracking the conceptual and practical ideals of the project at different moments in its conceptualization, which seem to be otherwise undocumented. For months in 2009 and 2010, I tracked the progress of the Vithèque by taking screen grabs of all things pertaining to the development of the site. While the site remained closed in an official manner to the public, there were numerous accessible loopholes. However, while my intention was never to access the site beyond the set boundaries presumably desired by Vidéographe, it became possible to peruse many of their trial sites by merely browsing the Internet. Because this documentation exist nowhere else and presumably remains sensitive material to many involved, I have decided to include only short segments that speak directly to my case study and intervention. I have decided not to make Vithèque an official case study, without the support and collaboration of Vidéographe. As such, I offer only speculative interpretations, and what I include here is simply an introduction—though noteworthy—for understanding the unique perils of creating an online video art archive. I finally had the opportunity to discuss Vithèque project with Vidéographe Director at the time, Bernard Claret, several months after the project launch in May 2010, nearing the end of my field research in 2011. Claret left Videographe in 2011 but no mention has been made about a connection between his departure and the troubles with the online portal, Vithèque.

[89] See: http://www.wayward.ca/wayward/notes/video-cache-infographics/

These were the sites I was able to locate online, though it goes without saying that by the time this is read, many of the sites could have shifted on/offline, been revamped, and new sites could emerge and old ones uncovered. While there are several other entities that could potentially be listed here—such as the National Film Board of Canada and the National Gallery of Canada—I have mapped the main sites for independent and regional video art distribution across the country and their preliminary engagement with Web initiatives, failed or thriving. Insights from festivals, artist coops and artist run centres, galleries and other initiatives would surely greatly enrich future conversations on the subject. The Web is a fertile ground for initiating such projects though few cases prove to be sustainable the way an archive would seem to demand. My focus on SAW Video's Mediatheque is an in-depth exploration of one site—the first to have a decidedly archival function conceived through Web technologies and enabled by the Web as it was in 2003.

Web Archaeology

> *Facetiously, perhaps media archaeology is the "queer theory" of media history: queering media, making the object of media studies unfamiliar and hence expanding its field to include queer practices, discourses, objects (Parikka 2010).*

Using Canada's first online media arts video portal as a case study—the Mediatheque's promise and failure as an archive—I adopt the notion of the 'online archive' for which little consensus currently exists. To do this, I carefully analyze the potential of Web archaeology as methodology; an approach that centers on the past rather than on the affordances of 'new' media (Huhtamo & Parikka 2011).

'Archaeology' is now a well-known term widely used by communication and media studies scholars, largely based on Foucault's shifting and broadening analysis of culturally and historically specific methodological assumptions (Ernst 2006; Kittler 2000). The Foucauldian archaeology however, positions archaeology as dealing with gaps and discontinuities, in contrast to discourse, which privileges continuity and order. It is method; a way of doing historical analysis of systems of thought without a search for a/the beginning, or, as I extrapolate, chronology. It is in relation to absence that Foucault's archaeology describes the archive: the general system "that governs the appearance of statements as unique events" and determines the system of enunciability of the 'already-said;' i.e. the (implicit, taken-for-granted) rules that limit memory, and in turn, activation, and recovery (Chun and Keenan 2006). The interplay of these core concepts is not transferred nor imposed anew onto the realm of the Web, but rather borrowed for the methodological attention it pays to itself, to examine the online archive as neither continuation nor rupture, beyond the specificity of its site. In other words, I make note of Foucault's use of archaeology, to then move away from it, with it.

In my analysis of the online archive rendered visible through Web archaeology, I work with three layers: the Web itself, the Internet Archive Wayback Machine (IWM) as archive of the internet, and online archiving projects, as distinct but interrelated entry points. Working with these entry points, I propose that the archaeological method serves as research-creation intervention. In this case, the intervention occurs between two iterations of the Mediatheque: what it promised to be (and how these promises changed over time) and what its failure to archive (itself) revealed. Like media archaeology, Web

archaeology deals with a perceived absence (Ernst 2006).

While much of my work has relied on access to Websites through the IWM, I suggest that access alone constitutes only a fraction of what can be understood as valuable recovery. 'Recovery' itself is conceived as an instance of recovering rather than a return to an original state. As shown in study of the Mediatheque, careful documentation based on interviews and archival research which led me to administrative and internal document analysis are an important element of recuperation, both as intervention, and as an in-depth analysis of the approach itself. This kind of reflexivity is also testament to the underlying post-colonial and queer feminist ethics that define my framework of analysis (as outlined in the literature review), wherein I argue that archives and archival processes always emerge from and mirror particular politics and evidentiary paradigms that need be rendered explicit. These politics become unravelled in the process of analysis, as do the biases embedded in technologies on which the online archive relies: it is impossible to approach data in a way in which it can "be 'made to speak' neutrally, objectively and once and for all" (Featherstone 2006, 593).

Web archaeology, stemming from media archaeology, is a methodologically focused attempt to capture and recover digital traces online—a process that figures centrally in my thesis. As Erkki Huhtamo and Jussi Parikka explain: the term media archaeology "has inspired historically tuned research and is beginning to encourage scholars to define their principles and to reflect on their theoretical and philosophical implications" (2011, 3). For media critic Geert Lovink, media archaeology is a discipline, echoing Ann Stoler's idea of reading media against the grain, "rather than a telling of

histories of technologies from past to present" (in Huhtamo & Parikka 2011, 3). Archaeology, outside of the archaeological discipline proper, has been used and justified through extensive archival consultations, suggesting that any process of 'digging' (below the surface, the veneer, the obvious) to uncover (and recover) defines the methodology as open and ongoing.

As a means of assessing the archive online, Web archaeology becomes an important disciplinary tactic. However, as opposed to a method geared to resolve a particular hypothesis about the Web or the archive, or the relationship of the archive to the Web, I adopt, rather, a framework that encompasses a discussion of the perceived lack of tools necessary to 'dig' into the Web, and in turn, reflect on meaning of and methods for such 'digging.' I also look to media archaeology as a means to validate research into residual media (Acland 2007; Straw 2007). While I readily acknowledge that Web archaeology is a departure from both the material culture normally associated with the archaeological tradition and the positivist/empiricist underpinnings of the field, I also firmly assert that as metaphor and method, it remains best suited to define the work required of the Web archive.

Web archaeology is enacted in the very ways in which I was able to write this thesis: accessing articles and databases of journals online and from the library, bookmarking content with Zotero for academic references, creating a Scoop.it account of my findings as visual repository,[90] creating and maintaining an active Twitter network (data flows), using iShowU as desktop capturing software to record my video 'digs' (explained below), implementing a database-less content management system

[90] http://www.scoop.it/t/archive/

(StaceyApp) as a month-long online exhibit, accessing sites that are no longer live through the Internet Archive Wayback Machine, storing my Microsoft Word documents in cloud servers like DropBox, and emailing myself backups to various Gmail accounts! These, I contend, are also part of the overall Web archaeology approach, which is defined more by having source and method unified, than by a specific approach to Web analysis, widely applied independently of content. That said, Web archaeology as it used in this research project, does concentrate on the 'machine' and its processes rather than on the screen's contents, echoing Marshall McLuhan's mantra 'the medium is the message' where the content of the medium becomes its own medium. This suggests that the qualities of a medium have as much communicative power as the information it transmits (Chun 2006).

At its core, a Web archaeology approach asks not how traces of the past can be objectively observed, but rather, how and what the Web reveals about the construction of time itself, and how iteration and repetition can be fruitful to an analysis of the online archive, challenging notions of space and time. Iteration and repetition, however, are not of the past: they involve the present, and reveal the present(ness) of the search and (re)searchers. As a researcher, practitioner, and Web archaeologist, I am therefore not recreating the past, but writing a version of it, until and if a more 'stable' version grows from it, replaces it. Thus, unlike the material artefact of traditional archaeology, Web archaeology displaces (but does not destroy) the trace.

Digs

In *Re-constructing Archaeology: Theory and Practice*, Michael Shanks and Christopher Y. Tilley (1992) write that they "intend to sketch an archaeology which is not a passive reflection or representation of the things it unearths, but actively re-constructs the past, that is, constructs pasts anew." In this, they stress that "archaeology is a constructive project, a part of the present as well as of the past" (xvii-xviii, 1992). This passage is pertinent to my archaeological 'digs' as processes of Web excavation and Web preservation become intertwined. More importantly, as a constructive project, my archaeological approach does not assume preservation (of 'the past') as an inherently right or good: it questions its own politic in the doing.

'Dig' is a term I conceived to label part of my Web excavations—those that became too elusive to describe, those better 'dug up' and brought to the surface, and those I collected to document my trajectory and, in turn, *create* a (research) trajectory. 'Dig' is an edifying concept—as both verb and noun, it conjures the idea of intervention; an action that alters as it reveals. As a verb, 'digging' implies the unearthing, uncovering, and in turn, layers and depths of access and meaning. In terms of archaeology, digging also likens a place (a site) to the passing of time–or more specifically, the moments in time that have been preserved, embalmed, untouched, until dug up, and again revealed. To access the past, to travel back in time, becomes an exercise inherent to the Web archaeology approach and process.

To conduct archaeological 'digs' online, an acknowledgment of the Web's failures and limitations is also necessary, be they inherent, errors in use, or oversights that can and

will be addressed and resolved in the future. We 'dig' to uncover something that is presumably no longer there, which is not always a failure of technology or human error, but in its very absence, a failure of the preservation of something sought. In this way, Web archaeology finds deep affinities with net art theory, though this is something I came to late in my research (which informed my analysis in important ways rather than shaped methodological considerations). Much of net art theory revolves around notions of preservation and deals philosophically with the question of ephemera as well as through various practical and conceptual case studies (Laforet 2010; Bosma, 2011). This combined approach resonates in my work; I provide a documented history of SAW Video's Mediatheque in conjunction with a reflection on the process, as equally important, in both the writing and research-creation intervention, Video Cache.

For my research into the defunct Mediatheque and other failed online archives, I used the Internet Archive Wayback Machine (IWM) the way someone else might use a research database or Google—that is, without (initially) giving much thought about the methodological implications of what I was doing, or as to how using the IWM to 'time travel' might significantly differ from these other forms of access to primary research materials. As I have come to not only ascertain but also place centrally in my analysis, the IWM is a vital component for understanding access as process. Access is itself key in defining archival research on the Web, and its reliance on the cache as storage. In this section, I situate the IWM as a means of accessing past iterations of the Web, using Google Cache as an important point of contrast for the ways in which the Web archives itself, and the ways in which it fails to adapt to established archival modalities. SAW Video used Google Cache to rebuild their site and I used IWM to research the lost

Mediatheque archive.

Anyone who has done research (or a search) on the Web knows that there is a possibility that the page they are trying to access will no longer be available. Sometimes —such as in the case of newspaper articles—the article has moved to a subscribers only section that demands you pay to access content that is no longer today's news. Other times, the page you are looking for is automatically redirected to another location. And often, pages lead to a 'page not found' notice accompanied by a '404 error message' or a 'temporarily unavailable' notice. These are all common experiences of the Web that render visible the now largely accepted place of inaccessibility in our day-to-day usage. And, part of this acceptance is the notion—although not always rendered overt—of the ways in which accessibility and inaccessibility are transient. This transience suggests—unlike the word cyber*space* might imply—that the Web is not a space, but rather a set of flows, a constantly shifting states of network relations. For media theorist Wendy Hui Kyong Chun, "cyberspace is spaceless" and "is fundamentally unmappable" (2006, 39). As such, the preservation of Web's palimpsestic nature is akin to the preservation of movement itself, where html/xml objects are placed in relation on to another "without creating a coherent perspectival space" (Chun 2006, 39). Thus, while the content that lives on in large-scale databases is often retrievable, the context and moment of retrieval remain primarily ephemeral; this is made obvious (among other things) by the frequency of error messages.[91] Error 404 and the overall perishable quality of the Web may not be, as new media scholar Lisa Gitelman claims, "the most important question for historians

[91] Error 404 indicates that you were able to communicate with the server, but the server could not find what was requested. It leaves the possibility that the page might resurface at some point; that the loss is less permanent, say, than an error message in the 500 range (which is when a server fails to fulfill a seemingly valid request.)

and archivists to tackle. More urgent may be the evolution of a shared sense of Web publication as an event that can reliably be located and experienced in time, without error or exception" (Gitelman 2006, 137). Rather than loss, error 404 indicates to a researcher, a *degree* to which what is being accessed is lost. And, conversely, a degree to which it is accessible, recoverable, or excavatable.[92]

Google Cache and the IWM are projects that document Web traces, in and through the Web as (living) archive, and allow for Web archaeology to transpire. The IWM was the only entry point into any representation of the Mediatheque. Google Cache served up the restoration of SAW Video's Website. Together, Google Cache and the IWM render retrievable iterations of the Mediatheque for research and discussion.

Google Cache

As a means to recuperate their Website, SAW Video relied on Google Cache for immediate access, when they were informed of the back-end server crash; they were able to reinstate the majority of their site based on the version preserved in the cache. However, reassembling a site from Google Cache is not easy—as evidenced by numerous Google Forum posts on the subject[93]—there is no download function and no access to html beyond the "View Page Source" option offered by most browsers. The site can be reconstructed manually, using the cached version as guide, and by copy-pasting text, html

[92] Numerous online projects now concretize this 'staying power' of the Web, by incorporating a history function which render past iterations and versions available to a user (Dropbox and Wikipedia, for example). These function to archive the Web's past, to provide and preserve access to the Web itself, as not a space but a set of continually shifting nodes.
[93] http://www.google.com/support/forum/

source code, and assets into a new version.[94]

While the SAW Video site was eventually reinstated, the Mediatheque archive, which was a separate entity to the co-op Website, was not. To access the Mediatheque for this case study, I used the IWM because it allowed for traveling back further into time, to earlier iterations of the project, than that afforded by Google Cache. In sum, Google Cache was the tool used by SAW Video as a means to access to most recent version indexed of their defunct site, while the IWM facilitated time travel through the last decade of the defunct archive.

Google is now highly synonymous with the Web as the main search tool and for browsing the Web (rivalled in its ubiquity only by the likes of social networking tools like Facebook and Twitter, which serve decidedly different primary functions than to provide rapid Web-based searches). While highly technical, the Google's search function can be analyzed from a user/researcher perspective, contributing to an important dialogue about access, and more specifically about access to the Web's 'past.' Google has been making its index available through cached copies—Google Cache—since 1998.[95]

To make its collection accessible, Google uses parallel processing "on a distributed network of thousands of low-cost computers" which means it can crawl and harvest the Web rapidly and in many 'places' simultaneously (Google Guide 2007, online). Explained in an simplified manner, Google's Googlebot crawls the Web. From these crawls, the indexer sorts every word into a database, against which users' queries are compared, and for which search results are generated. Based on Google's own *Technological Overview*, the vision and mission for the 'perfect search' is something that

[94] https://support.inmotionhosting.com/cgi-bin/kb.cgi?&do=read&id=103&lang=
[95] http://www.linksandlaw.com/decisions-148-google-cache.htm

"understands exactly what you mean and gives you back exactly what you want," according to Google co-founder Larry Page (Google.com).[96]

However, this notion of the search is complicated by Siva Vaidhyanathan, who argues in his book, *The Googlization of Everything* (2011)[97] explains that 'search' in Google is as much about what is concealed as what is revealed. Google's process is based on four elements, outlined as relevance, comprehensiveness, freshness, and speed. Combined, these are meant to allow searches to be at once comprehensive and subjective. These algorithms are updated weekly and are increasingly customized for each user, based on search history and location. Because algorithms are constantly changing, a search can hardly reproduce the same results (though this is difficult to verify and track because it is not recorded). This, according to Vaidhyanathan, demonstrates that searches are not mathematical calculation based solely on correlations that objectively benefit users; they are largely the product of careful decisions by programmers working with and within large corporations. Vaidhyanathan points out that the search privileges the *recent* over the *classic*, the *local* over the *global*, and the *personal* over the *universal*; all criteria that are largely about making consumption (online shopping) more effective, not research that relies on consistency in primary and secondary sources.[98]

Google aims to index all media and formats, and to do so continually, eventually moving into what they call 'Realtime Search.' While the function itself 'went missing' in July 2011 when Google put forth its Google +1 platform, the concept itself remains intact

[96] http://www.google.com/corporate/tech.html
[97] http://www.googlizationofeverything.com/2011/03/keen_on_yes_google_is_a_ monopo.php
[98] Despite the trend, or direction, Vaidhyanathan points out that for the last decade, Google has provided an efficient tool for searches that facilitate access to the Web for research—even if it is likely to move in the direction of catering to the user as consumer.

(Fox 2011). Google's Realtime Search (likely to reemerge eventually) suggests that there is no difference between information created, and information published—much like the Twitter application—where access is also said to be instantaneous (Sullivan 2009).

Interestingly, speed is the emphasis for—and increasing speed, the priority of—Google, whose query response time is "roughly one-fourth of a second."[99] By relying on Realtime Search, Google's archive shifts into the mode of a live or living archive, where events are not only documented moments after they occur in 'real time,' but are also indexed and made available within seconds. The 'distance' between the past and the present is shortened, putting into question the proximity of primary and secondary sources within an online archival strategy. Furthermore, given Google's super servers, a site can often be accessed more rapidly through the cached version than the 'live' page itself—and this is important as it effectively thwarts the notion of an original source and any idea of a singular 'present' moment or site as point of reference.

As Google indexes content on the Web to provide its search tool, it simultaneously makes copies of every document in the index (the Google index is roughly 100 million gigabytes). However, on their on-site documentation, Google glosses over the fact that their index and archive is limited to files at 101 kilobytes of text (the "cached version of the page will consist of the first 101 kbytes," 120 kbytes for PDFs) (Blachman & Peek 2011, online). How and if this replicates the true size and complete document is not factored into the summary; an important lack in the overall framework that constitutes Google Cache's collection of the past.

In Google's Google Cache, a cached copy is a version of a Web page as it

[99] http://www.google.com/corporate/tech.html

appeared when it was indexed, which is not necessarily a reflection of the present—or most current page. Website owners can opt out of the index, but their site is still likely to be cached despite the 'cache' button and access to the cached version being omitted from the interface (made invisible). As John Battelle dramatizes in *The Search*, Google creates "a world in which every click can be preserved forever" (2005). The default of multiplying remains even if the cached version is hidden or made inaccessible to the general public; files exist across servers, continually indexing the Web's data. However, since the cache exists as an opt-out process (rather than as an informed opt-in), most users overlook the issue of copies as they pertain to these mass automated indexing projects. Part of what makes Google Cache so valuable is its span, despite being largely understated in its current presentation. Google restricts access to the index, making only the most recent indexed version available. Access is limited to one single revision. Needless to say, Google's collection of the Web's past grows continuously, exponentially, in size and, in turn, in value. However, because it is a corporation working in a competitive environment, Google's indexing and its reliance on metadata standards are kept as trade secrets, which is a stark contrast to archives and library environments where this information is shared freely—and becomes more valuable for it (Beall 2010). This brings attention to the ways the online realm is not accessible or 'open' simply by virtue of being online (Schneiter 2011).

Through Google Cache, Google makes accessible part of this index as cached copies for 14 to 20 days only, abiding to the notion of 'temporary' in the US-based 1988 Digital Millennium Copyright Act (DMCA). Because Google requires copying—what are called intermediate or incidental copies—in order to transfer data, DMCA regulations

demand that these types of system caching be temporary stores.[100] Referred to as the 'Canadian DMCA' by Michael Geist (Canada Research Chair of Internet and E-commerce Law at the University of Ottawa), Bill C-32 would also legalize most temporary copies made by automated technical processes, such as caches and fleeting copies existing only in RAM (random access memory) (Geist 2010).

New media policies are reflecting an increasing tendency to embed legalities into technology (or code), rather than social, political, and cultural discussions that are continually evolving through interpretations of the law, therefore eradicating "ambiguities" that "allow the courts to re-interpret the intent of the law over time and in different situations" (Lessig 2004; Coyle 2000).[101] This means that private companies determine and control access; much of it involves copying. By default, this also makes Google the sole owner (akin to a 'super-publisher') over these cached copies, rather than the public that generates the content or the publishers holding IP rights prior to digital versioning.

For Google, the fact that there is an opt-out option from the cache, that Google's caching is automated, and that this automation is deemed 'non-volitional' places Google's process under the 'safe harbour' provision relating to copyright infringement.[102] Because

[100] Challenged by US (Nevada) poet and attorney, Blake A. Field, Google was brought to court April 6, 2004, on the basis of copyright infringement because it 'copied' and 'distributed' Field's poems without his permission or consent through its caching process. Field's case did not go very far as the Court ruled that there is an 'implied license' to view pages containing copyrighted material on the Web, and this includes the process of indexing by Google and other major repositories. The 'implied consent' (of access-as-copy) is an important detail, because technically, any time a user visits a site, that page is also temporarily cached in that computer's memory (RAM), which could also be interpreted as a violation of copyright following Field's logic (or lack of). Like a photocopier, the user's intention and decision to copy is subject to legalities, not the machine (photocopier) enabling the copying.

[101] And also: http://www.educause.edu/EDUCAUSE+Review/EDUCAUSEReviewMagazineVolume45/GettingOurValuesaroundCopyrigh/202337 and http://kcoyle.net/lessig.html

[102] http://spicyipindia.blogspot.com/2010/10/is-googles-caching-copyright.html

there are billions of Websites to archive and it would be impossible to locate and index them manually, Google relies on automated caching. Automation is an important concept; it points to another way that defaults are being set based on technology and how technology, in turn, is reshaping law. The flipside is that process, rather than content, is what determines ownership of the archive (as cache). Based on the automation of the cache, there is considerable risk in the precedent set by Google Cache, since it is seen to supersede the original individual creation by offering a service that is said to be inherently 'transformative' and 'socially valuable' (Register UK 2006).[103] This case also makes it possible for comparable initiatives to crawl the Web for the purposes of mass archiving—justified in their automation.

Unlike formal archives, Google Cache rejects the notion and impetus for creating a permanent historical record of the Web. Instead, when pages disappear, Google claims to delete 'dead' links as quickly as possible (Olsen 2003). This means that Google Cache offers a delay—time enough to recover documents before they are removed (more) permanently. While speculative, Google is likely to retain even those documents—those 'removed'—in another layer of the Googleware archive.[104] For now, however, Google Cache remains more theoretical than practical, as, by Google's own admission, there are only occasional clicks on the 'cache' button—and this for a search engine that gets in the order of a few billion hits each day (Olsen 2003).

[103] The Register UK (2006): "Because Google serves different and socially important purposes in offering access to copyrighted works through 'cached' links and does not merely supersede the objectives of the original creations, the Court concludes that Google's alleged copying and distribution of Field's Web pages containing copyrighted works was transformative."
[104] http://www.youtube.com/watch?v=NAx-6nHEWbE&feature=related

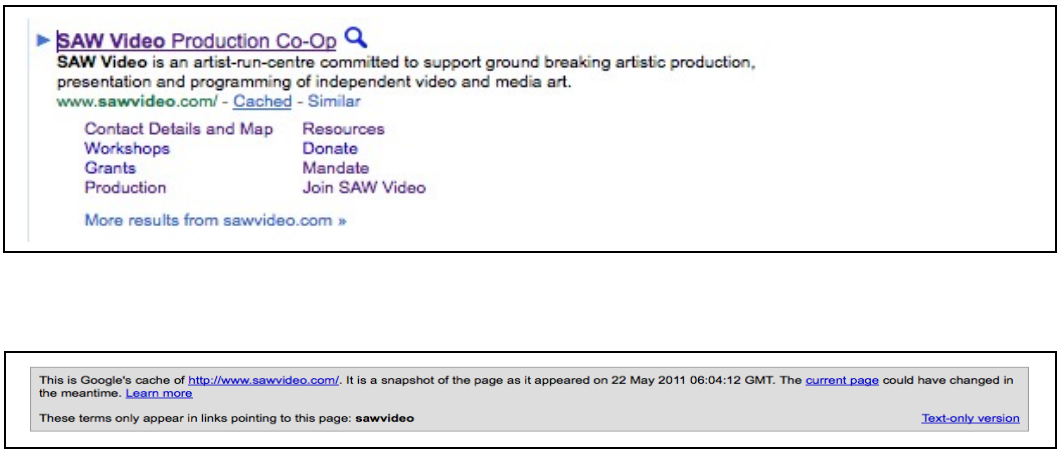

Figure 2 Google Cache - Link to SAW Video Site

The Internet Archive Wayback Machine (IWM)

The Internet Archive Wayback Machine (IWM), unlike Google Cache's restrictive access, is an archive of the Web itself, archived on and through the Web.[105] IWM archives the archive of the archive… in an infinite loop. Because the IWM strives to make many iterations available—though often with a delay between the time it collects snapshots and the time it makes them available again—it is the most apt tool for time travel into the Web's past.[106] However, travel through such regenerated loops requires that particular attention be paid to the construction of the past by the IWM, and not just a recording of it

[105] As the archive of the Internet, as it names itself, it implies a preservation of the underlying network of the Web; the "Web" is a way of accessing information over the medium of the Internet. The Web is a large portion of the Internet, so much as to be used interchangeably, though they are not synonymous technologically speaking. The Web uses the HTTP protocol, which is one of the languages used for communication over the Internet (email, sms, Usenet forums, and file transfer protocols (FTP), for example, are not on the Web, but the Internet).
[106] However, to better qualify time travel as a research approach that facilitates Web archaeology, an engagement with and analysis of the different temporalities afforded by iterative and regenerated constructions of 'the past' is necessary.

that is then presented, chronologically, as what came before the 'live' (momentarily up to date) version.

Brewster Kahle is the founder of the IWM. His inspiration for the archive of the Web stemmed in large part from a necessity to counteract the volatility of media, as memory, including the increasing pace at which documents were being created in 1996, on and for the Web, with little care for what happened to deleted, updated, or upgraded remnants (Laforet 2010; Bosma, 2011). The founder of the IWM is not blind to the utopian underpinnings of the Web, nor of the IWM. Kahle insisted from the project's onset that the Internet was moving in 'that direction': presumably to embed archival potential within the medium itself, merging source and storage (Koman 2002).

In 1999, the New York Times defined this vision as a "crusade" with a mission to "archive for posterity the entire contents of the World Wide Web" that had by then reached 13 trillion bytes (Flynn 1999). In 2002, Kahle asserted that the IWM was the largest database ever built; it held two hundred and thirty terabytes of material—and was estimated to be "ten times larger than the Library of Congress," as summed by Lawrence Lessig (2004, 110). Three years after these claims, the Web had grown to ten billion pages, and the IWM's main server farm grew to hold a half-million gigabytes of compressed and indexed pages" (Boutin 2005). In terms of the archive's physical storage, it was reported to have migrated in March 2009 "into a new Sun Microsystems-built portable data center loaded with 60 Sun X4500 Thumper arrays that each have 48TB of storage capacity" (Preimesberger 2009, online).While in 2009, the tally for the IWM was at 40 billion pages, sourced from 50 million sites, and stored in a portable data centre, size alone did not make its usefulness incontestable according to its founder: the IWM

was accessed at the rate of 200 queries per second in 2002 (Koman 2002b) and as many as 500 times per second in 2009 (Preimesberger 2009).

Following Stewart Brand's predictions, in *Escaping The Digital Dark Age* (1999), based on "the total amount of data there is in the whole world," data are continually surpassed by storage capacities (2003, 46). He writes: "There is more room to store stuff than there is stuff to store. We need never again throw anything away," Brand insists, and as a result, "that particular role of archivists and curators has become obsolete" (2003, 46). For Kahle, this large-scale vision is precisely what allows for such a project to exist: he summons, "Let's go index every document in the world," and insists that, "once you have that sort of mindset, you can get really far" (Koman 2002b). In comparison to what is amassed through the Web, Kahle estimates that adding the totality of all film, music and printed matter produced yearly is just "not that big" (Koman 2002b).

The Internet Archive has taken a grassroots approach to archiving as a response to the crisis of digital preservation that, according to Rosenzweig, "both expands and further centralizes archival responsibility in ways that were previously unimaginable" (2003, 37). Rosenzweig further argues that,

> The continued existence of the Internet Archive rests largely on the interest and energy of a single individual, and its collecting of copyrighted material is on even shakier legal ground. It has put the future of the past—traditionally seen as a public patrimony—in private hands (2003, 5).

While the Internet Archive from which the IWM grew and became public in 2001 has philanthropic underpinnings, its counterpart and source is definitely corporate: Alexa

Internet. Alexa Internet was also founded by Brewster Kahle (and Bruce Gilliat) and was purchased by Amazon for (approximately) 300 million dollars, as reported in the 1999 New York Times (Flynn 1999). While a joint grassroots-corporate project needs to be of concern per se, the fact that it is Alexa Internet that donates its snapshots to Internet Archive may be an issue, if not in terms of long-term preservation, then in terms of continued free access and claims of ownership (copyright) over the content, such as Google Cache exemplifies.[107]

In 1998, Alexa Internet took a step toward the preservation of the Web by donating two terabytes of Web content as a "a copy of the public World Wide Web to the Library of Congress, in the first large-scale contribution of digital materials received by the institution."[108] Despite being deemed depreciated by Amazon in 2008 (Arrington 2008), Alexa's Website boast that they are currently gathering approximately 1.6 Terabytes (1600 gigabytes) of Web content per day (February 2012).[109] However, their goal is positioned overtly and openly against the criticism it could invite for its tenuous relationship to the materials:

> At Alexa, we believe that saving and preserving our early digital heritage is important today and essential for future generations. We also believe that a public charity is the best kind of organization for preserving this global asset.[110]

In order to archive and index 'our digital heritage,' the IWM is a machine comprised of

[107] The Wayback Machine is sponsored by the Library of Congress, the National Science Foundation, the Smithsonian Institution and Compaq.
[108] http://www.loc.gov/today/pr/1998/98-167.html
[109] http://www.alexa.com/company/technology
[110] http://www.alexa.com/company/technology

numerous robots with servers steadily 'archiving' Web pages by crawling the internet and taking virtual snap shots of html content on a bimonthly basis, cataloguing obsolete Websites and old versions about six months after a given date (Hopkins 2011). However, the Internet existed prior to the IWM's founding in 1996. For this reason, among others, the IWM is not a complete archive of the Web though it covers a significant fraction of the Web's content; this is also true for the ways in which it archives itself. Sites excluded include password protected sites and/or sites with a robot blocker (robots.txt), or those simply not collected by the 'crawlers.'[111] Dynamic pages using Javascript and fillable forms are not archived with their full functionality intact either, while html-based Websites have proven to be preserved more fully through the IWM, though often with broken image links or missing media assets (Murphy, Hashim & O'Connor 2007).

In an interview with Koman (2002), Kahle explains that the crawlers are written in open source code (combinations of C and Perl). These crawlers record pages into 100MB files, which are then stored on one of the storage machines (clusters of Linux machines and FreeBSD machines). Following this, the pages are indexed to be retrievable, as explains Kahle:

> there's a load balancer that goes and distributes those queries to 12 or 20 machines that operate the front end, and those query another dozen or so machines that hold a striped version of the index, and that index allows the queries to answer what pages are available for any particular URL. So if you were to click on one of those pages, it goes back to that index machine, finds out where it is in all the hundreds of machines, retrieves that document,

[111] http://www.robotstxt.org/orig.html

> changing the links in it so that it points back to the path, and then hands it back to the user. And it does that at a couple hundred per second (Khale in Koman 2002, online).

All of these techniques require tens if not hundreds of machines to process data:

> Consider the hardware: a computer system with close to 400 parallel processors, 100 terabytes of disk space, hundreds of gigs of RAM, all for under a half-million dollars. […] the folks at the Archive have turned clusters of PCs into a single parallel computer running the biggest database in existence -- and wrote their own operating system, P2, which allows programmers with no expertise in parallel systems to program the system (Khale in Koman 2002, online).

The amount of content stored and the means through which the index is searched suggests "what we have on the Web is phenomenal," explains Kahle. "There are more than 10 million people's voices evidenced on the Web. It's the people's medium, the opportunity for people to publish about anything -- the great, the noble, the absolute picayune, and the profane" (Kahle in Koman 2002, online). Kahle concedes that the Web interface does not show the full glory of the archive, but he says it was not intended to do so. "This is a browsing interface, a wow-isn't-this-cool interface ... It's a first step, but it's technically rather interesting because it's such a huge collection" (Khale in Koman 2002, online). As with Google Cache, size and value converge, though perhaps less motivated by data mining possibilities and exhibiting a sincere preoccupation of Web history and culture.

As stated in the Internet Archive FAQ page, the IWM is the only archive of the Internet.[112] However, while the archive of the Internet is often understood or encapsulated by the IWM, it is more precisely an interface to the archives—and index of site—as opposed to giving access to the sites as coherent wholes. This explains the necessary shift in attention away from the 'within' on to the 'in-between.' Or, in the words of Felix Stalder, "rather than asking what is it made out of, we have to ask, what does it interface to?" (Stalder 2002). The IWM is essentially a tool for browsing and enabling access—interfacing to—multi-billion-URL collections through a Java software package (Tofel 2007). Unlike the now common search engines of the Web, like Google, sites stored in the IWM are accessed via a URL. The IWM is not currently text- or keyword-searchable.[113] This means that for researchers, prior knowledge of the Website (or multiple URLs as is often the case) is necessary to conduct a search and return specific findings about a Website—this also becomes an important and inevitable step of Web archaeology (Notess 2002). Once the Website defined, the URL is entered in the search bar at archive.org and the 'digging' begins.

Figure 3 Wayback Machine Search Function

[112] http://www.archive.org/about/faqs.php#The_Wayback_Machine
[113] The IA Website now boast a 150 billion Web pages archived from 1996 to April 2010. While the IWM is there to recuperate lost sites, among other things, it remains, itself, a site. Operating on a Linux system, much of IA is stored on hundreds of slightly modified x86 servers. As documented on the IA Website "Each computer has 512Mb of memory and can hold just over 1 Terabyte of data on ATA disks." These servers are stored in large racks, each estimated to be worth over 30 000 USD. So while the tyranny of shelf space may be lessened by digitization—at least proportionally—it seems the virtual is not spaceless.

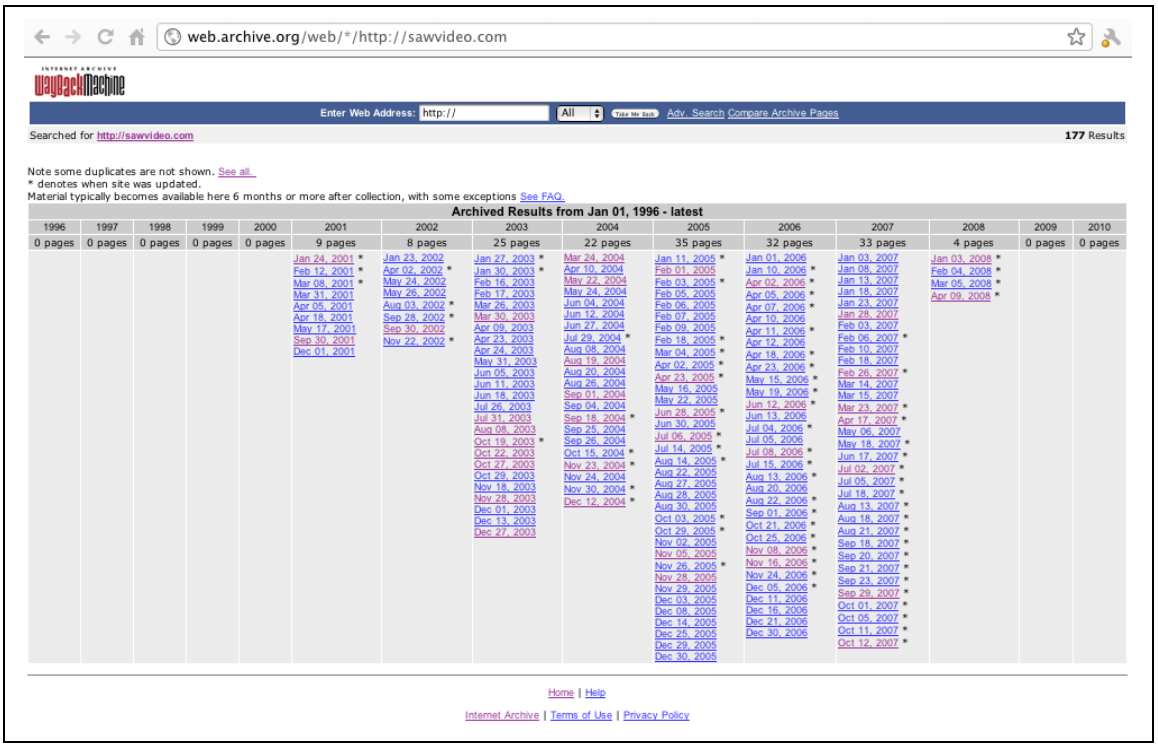

Figure 4 SAW Video - Listed in Wayback Machine

As shown above, the IWM presents the dates of archived entries in a drop-down table organized according to year. These dates are hyperlinks to saved content, and reach a version of the site—each version, or change detected, is marked with an *. The IWM stores sites and assets on their servers, resulting in impressive representations of the sites and, incredibly, the links as they were at the time of search. In other words, files are not in their original location but rather copied onto the IA servers, stored there, and accessed later as modified URLs. Furthermore, because the IWM does not indicate the date its grabs were taken or made available, it decontextualizes the 'when' of sites past, in its grid-based chronological organization, replicating the need for structure of the database.

For its incredible capacity and its limitation as an archive, the IWM is in every sense as flawed as the Web's memory it attempts to preserve and, "as a time-travel

device, the Wayback Machine is far from perfect", explains Boutin (2005). Like human memory, the IWM is deficient insofar as it is incomplete and elusive; it preserves only a 'skeleton' of a page, hyperlinks are often broken and images replaced by broken link icons, and for the most part, without cached video, dynamic media, audio, or CSS intact.

Figure 5 Broken Wayback Machine Link

Gitelman explains that: "When users view pages from the past, captured to the archives' present servers, the relative extent and completeness of each page is never obvious," and asks, "Where will the edges and the empty "data islands" of each past document on the present Web be found?" (Gitelman 2006, 137) The so-called memory of the Web can be framed as a trail of versions and updates, repeated and regenerated, "creating a nonsimultaneous new that confounds the chronological time they also enable," suggests Chun (2008). Gitleman concludes: "there is something oddly and unidentifiably present about the past to which the Wayback Machine promises to transport its users" (Gitelman 2006, 137). The future of the past, then, is one with many missing elements, reminding us of the volatility of not only memory, but of the concepts of past, present, and future we

invest in so much.

What these initiatives demonstrate is an attention to access of the Web's past; Web technologies have come to enhance the unfettered and widespread distribution of all media formats (such as Napster, Ubu, and at new heights with Wikileaks) but with little attention paid to the preservation of access itself. The preservation of access is somewhat awkward conceptually, but it remains necessary in order to formulate a methodology that addresses entry points into the Web, via the Web. While content free-floats and multiplies exponentially or virally, the cache's memory—because it is in itself invisible—becomes a lesser priority within a discourse of online preservation, than the content made available through the cache's memory.[114]

The cache, and the IWM in particular, was invaluable to my research process and intervention, and to the framing of the online archive as iterative. The IWM would also become an active part of the screening and discussion about the archive with SAW Video, who were until then, unaware that their Mediatheque archive lingered on in the cached layers of the Web.

Interviews

Starting in December 2009, I met with and interviewed several people implicated in conceptualizing and developing the Mediatheque at SAW Video. Throughout the duration

[114] Put simply, the videos within the Mediatheque have been copied and stored on material back ups (DVD and hard drive), but the site, its interface and database, has vanished and remains largely framed as mere container. This container can be recreated, and this recreation can resemble the original perfectly but the collection is separated from context, and its container is preserved separately if at all. In a wider context, that of the IWM as portal into the archive of the Web, this lack of preservation of access is made evident by the countless broken links, defunct and crashed databases, as well as the palimpsestic creation of (new but always incomplete) Website iterations. These broken link warnings are themselves often visible, as I explain in detail below, while the desired hypertext functionality is interrupted.

of my PhD research, I was in contact with people involved in the creation of the original Mediatheque in the late 1990s, as well as those preparing the re-launch of a project departing from the defunct site, after 2009. As part of my Mediatheque research, I conducted in-depth interviews, lasting well over two hours each, and had numerous email exchanges and interview follow-ups. Retained in this project are five interviews conducted face-to-face and two email exchanges.

My first interview took place November of 2009 at SAW Video with Penny McCann, the (first official and) current Director of SAW Video in Ottawa. We met at SAW Video and discussed the Mediatheque project at length. Forthcoming from the onset, McCann supplied me with grant reports and administrative files about the Mediatheque; these would constitute a large part of the project's documentation on which to base my analysis. McCann was available numerous times for meetings, to answer questions by email, and eventually to co-curate an event entitled Video Cache. The latter would necessarily depart from the original conceptualizing of my research intervention, and, most importantly, it would come to inform it.

McCann had taken over the position of managing SAW Video and the Mediatheque in 2004, and with this change in management came a change in structure. She arrived at SAW Video when the Independents On Line (IOL) pilot project for the Mediatheque was transforming into a large-scale and hugely funded online video art archive. By then, McCann had already been a long-standing member of SAW Video. Despite her important contributions to SAW Video and the Mediatheque, it seems that McCann identifies herself first as a filmmaker, then as an art administrator. Her art practice spans years and is defined as experimental and codified storytelling, exploring

shifts in subjectivity, memory, and perspective (CFMDC McCann, no date).

McCann's contribution to my research creation intervention started with a casual conversation in her SAW Video office in 2009, but blossomed into much more. We met several times in Ottawa to select and watch videos from the Mediatheque—many of which would not make it into the final Video Cache screening but that nevertheless told important stories about the project. McCann traveled to Montreal a year later to present Video Cache and together we extended the interview process into an open forum and exchange, much of which I have documented through video and transcription here: http://www.wayward.ca/wayward/notes/video-cache-documentation.

During my interview with McCann, she referred me to Kevin Morris, the former Project Coordinator and Administrator of SAW Video, whom I met with a few weeks later at his home in Aylmer, Québec (March 2010). Morris first became involved in SAW Video as an artist—though a potter by profession, he was known for his 'magical budgeting skills.' He explains that he took over the position of administrator when his wife and partner, Angèle Gagnon left SAW Video. While Morris claims that this was not an ideal transition, he felt connected to SAW Video and able to take on the work. Morris also often refers to his profession as a potter to suggest that even someone whose main art form is removed from digital technologies is able to imagine its possibilities.

Morris was also generous with his time and frank about his now bittersweet views about the Mediatheque project. Morris' voice is very present in the documentation of the Mediatheque and it seems that in many ways the project would not have been possible without his lead, or would have taken on a very different format.

He shared the credit of the Mediatheque's launch with the numerous people

working arduously during that period (late 1990s, early 2000s) at SAW Video, but also spoke unreservedly about the frustrations of the initiative, including numerous clashing personalities that made the interpersonal elements most challenging for this project. No technology, Morris would affirm until the end, could compensate for the lack of time and resources faced by arts organizations in Canada and the stress it imposes on artists working within artist-run centres.

Morris often repeated that Anatoly Ignatiev, the Mediatheque's digital archivist, was a key player in the development of the project. On Morris's suggestion, I later met with Ignatiev (April 2010) in his home in Ottawa and we discussed his involvements in the project. We discussed the project at length though at no point could I make a chronology of events take shape nor fully grasp the workflow involved. What I learned from Ignatiev—and this is something I had to return to months after recording the interviews—was that affect was an incredibly important if not blurring component of the Mediatheque's history for those who laboured in the project.

Ignatiev, just arriving in Ottawa from New York City where he had become familiar with the Internet in the late 1980s, was focused on and interested in the visionary aspects of the Web for independent video distribution. Having himself successfully created video for playback on floppy disks, prior to having an Internet connection, Ignatiev saw the potential of digital technologies for cheap and wide-reaching distribution. For Ignatiev, 'free' art exchanges, by all definitions, were and remain the ideal for video art circulation. Having been invited by McCann (a SAW Video member at the time) to apply for a grant to continue these standalone videos, Ignatiev began to invest

in SAW Video what SAW Video had invested in him as an artist.[115]

When we met at his house in Ottawa, we sat at his computer and watched old and recent video work, which inspired Ignatiev to create a work for Video Cache, from his personal archives of SAW Video during the Mediatheque years. On November 24, 2010, Ignatiev was present for the Video Cache showcase at GIV, for which he had created a short video entitled *SAWdust* (2010)—based on his archival footage from the early days of SAW Video. This piece became one of the precious documents created through this research project and presented exclusively for the Video Cache screening. *SAWdust* remains online at: http://www.wayward.ca/videocache/documentation/SAWdust.

Ignatiev's attachment to the Mediatheque remained apparent and reflected his dedication to SAW Video during those production years. The crash seemed to be an emotional crash for Ignatiev as well; it was and remains a total erasure of countless hours poured into a project—a project he spent five years working on—and one that would not amount to the permanent ever-growing, 'living,' and collaborative archive he and Morris had envisioned. Ignatiev, like Morris, would continue to insist that humans power technology, and without passion and drive, technology is futile.

McCann also referred me to Douglas Smalley, a technician on the Mediatheque project now working at Library Archives Canada. Smalley answered a long list of technical questions in great detail, by email. Similarly, Michel Lechasseur, provided information, as detailed in my first publication about the Mediatheque in an online journal, FlowTV (Hogan 2010), where he outlined details about the digital remnants of

[115] Part of Ignatiev's story is further documented as part of the Video Cache project, in a text-based voice-over that was not used for the SAW Dust video, but kept as an adjoining document. This piece, along with the rest of Video Cache, is set to reappear as part of the new portal to replace the Mediatheque.

the crash–a point that remains unclear. Lechasseur is recognized as one of the prominent people involved in its early technical development, including SAW Video's first Web presence, though the reasons for his departure so close to the Mediatheque launch remain unclear.

Other people involved (credited differently at disparate times on the Mediatheque Website, accessed through the IWM) include technical assistants and content managers: Paul Gordon, Ashleigh Horricks, and James Walker; database developer, technical assistant and consultant: Mark MacKay; interface designer: Leif Harmsen, who was unavailable for comment.[116] According to the IWM, the Research and Resource Development team consisted of Tony Asimakopoulos, Maral Mohammadian, Tom Mann, Chris Ikonomopoulos, Linda Norstrom, Maliha Hamidee.[117] Firuz Daud is the creator of the Mediatheque launch video that was retrieved by McCann and re-featured as part of the online component of Video Cache.[118] This video was played in 2003 to celebrate the launch, and played again in 2010 to contextualize the project anew: it remains online on Wayward.ca.[119]

Given their shared experiences with the Mediatheque and also the distance each had come away from the project, for Morris, Smalley, and Ignatiev, the interview was largely an exercise of remembering, as they had not been involved in the project, or with SAW Video, since the launch of the Mediatheque in 2004. In 2010, Lechasseur worked part-time on the SAW Video Website and McCann continues on as Director of SAW

[116]http://Web.archive.org/Web/20080303155047/www.sawvideo.com/cinema/about.php?lang=en&id=22
[117] http://Web.archive.org/Web/20040622150132/www.sawvideo.com/cinema/generic.php?id=22
[118] http://www.wayward.ca/videocache
[119] http://www.wayward.ca/videocache/documentation/mediatheque2003/

Video, spearheading not only the discussion about the Mediatheque's rebuilding and reconfiguration, but managing the new version (since 2011). Together, this group would envision, create, launch, and revive a video archive that would mark Canada's first large-scale online video art portal.

Creation as Research

In order to present my project as a research-creation intervention, I believe it is important to situate myself as an academic-practitioner within the field of Communication and Media Studies. It is because of the very specific range of skills I have acquired as a graphic designer, Web developer, video maker, and academic, that my intervention takes the form of a curated screening, online exhibition, catalogue and multimodal documentation, for which I have done all of the conceptualising, designing, coding, layout, and organising. Among other things, the skills include a solid understanding of content management systems. In addition, skills include the knowledge to set up a database and to effectively design for print and Web, to edit code, to compress video for various formats, to layout and output a catalogue for print on demand, and to embed, copy and distribute a range of media across platforms. While it may seem unusual to list one's skills in this way, I do so since such skills are made invisible by the current priorities of the academic realm. These priorities privilege process and critical engagement through *written* forms and through traditional processes of research, which reveal little of the labour or the specific technological and grounded creative insights and capabilities required to not only actualise a Website and screening, but also to conceive of

the most effective methods by which to intervene.[120] Unlike the established modes for assessing and appraising written research, the criteria for evaluating research-creation remain less obvious despite the inroads made toward this, especially in the Joint Doctorate in Communication at Concordia University. With all this in mind, it is not only the content of the project—or the recurrent draw of crash and failures as themes[121]—that classify my work as intervention, but also the means by which I am able to intervene and deliver what I have, as research-creation.

Research-creation (or, research/creation) is a new 'framing' of research within the Joint Doctorate in Communication, with particularly strong footing at Concordia University. Because research-creation is an applied term in its infancy, there may be a tendency to define it by what it is not: as something that produces something *other than* a thesis. Though the notion of research-creation remains undefined, or unclearly defined, its budding, overt resistance to strict, potentially reductive, and object-centric understandings of research mark much of its appeal for some scholars at the forefront of research in the Media and Communication domain.

Research-creation in the Communication Studies department at Concordia University is becoming an increasingly interesting option for students at the graduate level whose work requires self-reflexivity and experimentation for analysis. For me, the

[120] An example of this is the tone (if not paradox of allowing but undermining non-written interventions) that is read from the School of Graduate Studies' Thesis Preparation and Thesis Examination Regulations: "If students find it necessary to include non-text materials in the thesis, the content used must also conform to standard usage in their field, and be in a format that can be deposited into the university repository" (no date, 9). http://graduatestudies.concordia.ca/documents/publications/graduatehandbooks/thesispreparationguide.pdf

[121] My personal Website melhogan.com documents numerous projects which I have done in the last 5 years that point to my creative practice as an 'art of collection,' with special attention paid to the so-called failures of Web culture and digital hoarding.

option of research-creation was a key factor in determining the appropriate environment to conduct my research; not because research-creation defines my project per se (I had many bouts of indecision about the term) but because it opens up possibilities for production. This, in turn, unlocks ideas of what counts as research and ultimately what defines my future research trajectory and place (or sense of belonging) within academia.

As of 2011, there remains (to my knowledge) only one other official research-creation project completed at the doctoral level, though numerous students have arguably adopted creative methodologies and produced media works without subscribing to research-creation as a category that defines their work explicitly, or in official terms by the university. Dr. Owen Chapman's research-creation dissertation, entitled *Selected Sounds: A collective investigation into the practice of sample-based music* (2007), is an exploration centred on music sampling. I analyzed Chapman's work in detail during the doctoral forum and was lucky to have access to Chapman, in person, for discussions on what constitute the many facets of research-creation, which I expand on below.[122]

With Kim Sawchuk, Chapman later co-authored an article (forthcoming) in *The Canadian Journal of Communication* about the specificities of research-creation within Media and Communication Studies, based largely on the authors' own insights into and experiences with multi-modal production. A discussion in the Department picked up on these points again on December 2, 2011, and while I was not in attendance, I was privy to an audio recording of the discussion, which further enriched my interpretation of research-creation, in ways I point out throughout this section. For Chapman and Sawchuk, production, and research-creation in particular, "speaks to contemporary media

[122] I should mention that I was the graphic designer for the CD, and as such held a privileged position within the project.

experiences and modes of knowing" forthcoming. Springboarding from this, I have situated my own 'modes of knowing' through research-creation as intervention.

The way research-creation is written out—hyphenated as it is used here, or slashed (research/creation) as used by funding bodies like SSHRC[123]—can assert different priorities. The first illustrates a more collaborative approach wherein research is constitutive to creation and vice versa; the other foregrounds research and creation as separate but complementary, if not co-dependent. Chapman and Sawchuk further nuance and elaborate on this: research-creation can take on (at least) four forms that include 1) creation as research; 2) research from creation; 3) research for creation; and 4) creative presentations of research (forthcoming).These categories need not be distinct from one another; the importance is not in choosing a particular definition of research-creation, but rather developing a solid notion about the *how* and *why* of a particular approach, as one would in any outline or proposal concerning methodology/ies.

Rather than emphasizing production or product (or, "deliverables") as is often the case when contrasting research-creation to traditional methodologies and modes of dissemination,[124] Chapman and Sawchuk draw attention to experiences of research and modes of knowing—those that are shaped, informed, inspired or produced from experimental, creative, and artistic interventions with media. What emerges from research-creation is a way of conducting research that inherently challenges its own limitations and motivations, making these moments—otherwise framed as obstacles or failures—generative.[125]

[123] http://www.sshrc-crsh.gc.ca/funding-financement/programs-programmes/fine_arts-arts_lettres-eng.aspx
[124] See guidelines for submission of research-creation by the department.
[125] Thank you to Dr. Kim Sawchuk for this observation.

The generative elements of media engagement are therefore not exclusively about deliverables, but also—and more importantly perhaps—about process. This includes careful documentation and description of the steps undertaken, which acknowledges often invisible labour, experiments, and tests. Research-creation makes explicit the ways in which research processes, methods, methodologies, approaches, experimentations, and explorations, are integral to the politics of research (whether explicitly acknowledged or not). In turn, this makes a case for recognizing research-creation as different from traditional research methods insofar as it allows researchers to actively engage with the very media they theorize by developing a practice-based approach to Communication Studies.[126] However, the case for research-creation is by no means anchored exclusively in methodology—research-creation in the case of Video Cache is not solely a means by which to uncover something that other means or methods do not or could not afford. During a December (2011) discussion, Chapman reiterated that research-creation is an alternative framing and analysis of what constitutes and counts as knowledge, and therein lies its epistemological importance, as intervention.[127] As a hands-on intervention, knowledge is *created* through research-*creation* itself—not only through its interpretation and analysis. And, arguably, the distinction between analysis and intervention itself eventually fades.

Outside Concordia University, this engagement is also considered in the 'about' section of Senselab's *Inflexions: a Journal for Research-Creation*, an open access journal. It states: "We encourage inter/trans/non disciplinary work, both individual and

[126] As I presented in the Literature Review, this methodological politic is indebted to and rooted in a postcolonial, queer, and feminist engagements with and about positionality and transparency.
[127] Minute 6:29

collaborative, that is not content to critique or negate existing models but affirms the value of creation in the research process" (SenseLab no date, online).[128] *Inflexions* also makes a statement about production, encouraging authors to "embrace the technical possibilities of the Web, and to test the limits of academic writing, by considering integrating their writing with other forms of expression" (Inflexions no date, online).[129] These forms of expression can be tangible or fleeting, performative or substantive. While in actuality the graduate student journal subscribes to common modes of peer-review, deadlines, and traditional assessments of scholarly rigour, its aim remains—decidedly—a means to transform ways of considering scholarly interventions, as the title *Inflexions* itself implies. It is largely agreed that clear modalities of evaluation and peer-review are integral to scholarly production, but for research-creation interventions and theoretical texts alike, the push for questioning what constitutes knowledge has also meant a shift in modes of evaluating how knowledge is framed (Stabile 2010). As Matt Soar explains during the December exchange, research-creation is not in tension with theory-based works, but rather, recognition of the impact of media on the way knowledge is produced and analysed.

Somewhat in contrast to this definition of creative intervention, according to the Graduate Course Calendar from Concordia University, the research-creation project should include:

> a practical component of creation or innovative production in the field of media/communications or digital/computerized communications, as well as a written component of approximately 150 pages demonstrating the contribution to

[128] http://senselab.ca/
[129] http://www.senselab.ca/inflexions/volume_4/about.html

the advancement of knowledge in the field. A digital reproduction of the practical component must be attached to the manuscript at the time of submission.[130]

This particular framing of research-creation presumes that a 'digital reproduction' is generally plausible if not an inevitable outcome of 'practical' research. Simply by conducting a research-creation project, some sort of tangible form must emerge to meet the university's demands. However, since the challenge in research-creation is to question and shift the very ideas that underpin inadequate traditional forms, as research-creation itself invokes, it must also challenge the parameters that currently help define it.

Based on Chapman and Sawchuk's article, and further engagements with the concept of research-creation, various elements resonated for me in preparing, creating, and reflecting on Video Cache within the larger Wayward initiative, as the component of my thesis most definitively aligned with this notion of research-creation. Other elements include the notion of research as 'intervention' as well as the idea that research-creation is about being 'a kind of researcher' (Chapman 2011). The research-creation intervention invokes collaboration, which in turn, informs the kind of researchers who engage with, and take on the responsibility and accountability of working with (and often taking on the task of representing) others.

Again, this research politic stems in large part from feminist methodologies that demand the researcher be situated within her or his research, and that self-reflexivity be integral of the shaping of the project (Lather 1988; Ahern 2011). Finally, research-creation is not inherently about deliverables (despite the institutional demand for something reproducible.) This is not to say that research cannot produce something very

[130] http://graduatestudies.concordia.ca/publications/graduatecalendar/current/fasc/coms.php

tangible, but rather that it should not be informed or limited by that which can be neatly packaged and handed in along with a print copy of a thesis. The quality of the intervention is therefore not assessed by its format. Neither can the format speak to the invisible labour, the technical skills and constantly renewed savviness, nor the iterativeness of the research process, necessary to conduct research at the doctoral level.

While Chapman and Sawchuk's article has become an important reference point for the research-creation component of my work, one noticeable element that falls outside their conception of research-creation—in any explicit way, though it is implied throughout—is the role of technical knowledge and skills *in* creation.[131] While in both Chapman and Sawchuk's own creative projects, technical skills are essential not only to the production of their various projects but to their very conceptualisation, there is no discussion in their ground-breaking article about the relationship between these kinds of (continually renewed) knowledge*s*, as something integral to the creative process of research. While this was necessarily outside of the scope of the article, the authors opted instead to initiate the conversation of what defines research-creation (presumably to avoid rigid parameters (de)legitimizing methodology). As one of my original contributions to knowledge in the field, therefore, I expand throughout this dissertation on some of the technical insights gleaned from my own research-creation intervention.

Early on as a doctoral student I launched a research-creation space for experimentation online, which I called Wayward and which is located at wayward.ca. The

[131] As media practitioners, I believe we all tend to normalize our skills to the point where it not only becomes embedded in our work but fails to be properly documented and, in turn, recognized as essential to research-creation interventions.

main site is built using Indexhibit, a free artist-created content management system. Each offshoot project is built from StaceyApp, a database-less content management system. Initially, the idea was to collaborate with various artists on projects that explored the way the Web could serve curatorial needs, as well as serve as temporary interface for showcasing programs, while using the back-end of the Web to share content and contextual elements. In some ways, this is what the Wayward project became, though much of the potential of the Web for video remains uncharted.

During my doctoral research, I launched and hosted three exhibits at Wayward.ca, which was foremost an experimental space for curatorial projects.[132] These included: SPLINTER, a video art chain-letter (summer 2010: 11 videos) which produced a chain of 11 independent videos by local artists,[133] Video Cache (winter 2010, curated by SAW Video's Penny McCann),[134] and Salon des refusés,[135] an ongoing collection of 'rejected' works (2011-2012). Together these projects speak to my commitment to using research-creation interventions as means and modes to explore video art circulation online, from the very local Video Cache and SPLINTER projects to the potentially international Salon des refusés.[136] While Video Cache ended up being activated anew via SAW Video's Mediatheque 2011 launch, I am currently in negotiations with GIV to develop a distributor-based compilation model. I begin here by detailing Video Cache, the project through which I explored SAW Video's crashed and born-again online archive of video

[132] http://www.wayward.ca/
[133] http://www.wayward.ca/splinter/
[134] http://www.wayward.ca/videocache/
[135] http://www.wayward.ca/salon
[136] The idea of the local and the remote, in themselves terms used to manage content on one's computer and on a server, also remain important methodologically, especially in research pertaining to the Web which is often framed as inherently open and reaching everyone.

art: the Mediatheque. The emphasis below is on the technical necessities required of each project.

Through Video Cache as research, I demonstrate that technical skills are quite often invisible (and, I believe, undervalued as a creative element) and yet inspire much of what is possible in multi-modal or cross-platform projects. With technical skills, questions around preservation, transfer, access and presentation directly influence the project's possibilities and outcome (of course, always in direct relation to the people invested in the project). Below, I outline several elements of research-creation that are part of Video Cache: the online exhibit, the screening, and multi-modal documentation.

The aim of Video Cache was to highlight the SAW Video's Mediatheque, and the crash of their database and loss of their archive in 2009. The screening provided a sample of works no longer found through the Mediatheque portal (until it was rebuilt in 2011), nor for the most part, anywhere else. Video Cache is therefore a research-creation project in and of itself that simultaneously emanates from, and also provides a solid basis for theoretical analyses at, the root of the project: namely in questioning how Web technologies have changed definitions of access, preservation and distribution and their relationship to one another within an archival framework. While the point of Video Cache was not to contrast the offline with the online showcase per se, these two venues did offer an additional and important point of reflection. I begin here by outlining some of these online considerations.

Homaging the Crash via a Database-less Content Management System

Video Cache is now a permanent compilation on the SAW Video Website, as the first online Curated Program featured alongside the Mediatheque.[137] SAW Video was able to renew the rights for each of the ten Video Cache videos, to be showcased online in perpetuity.[138]

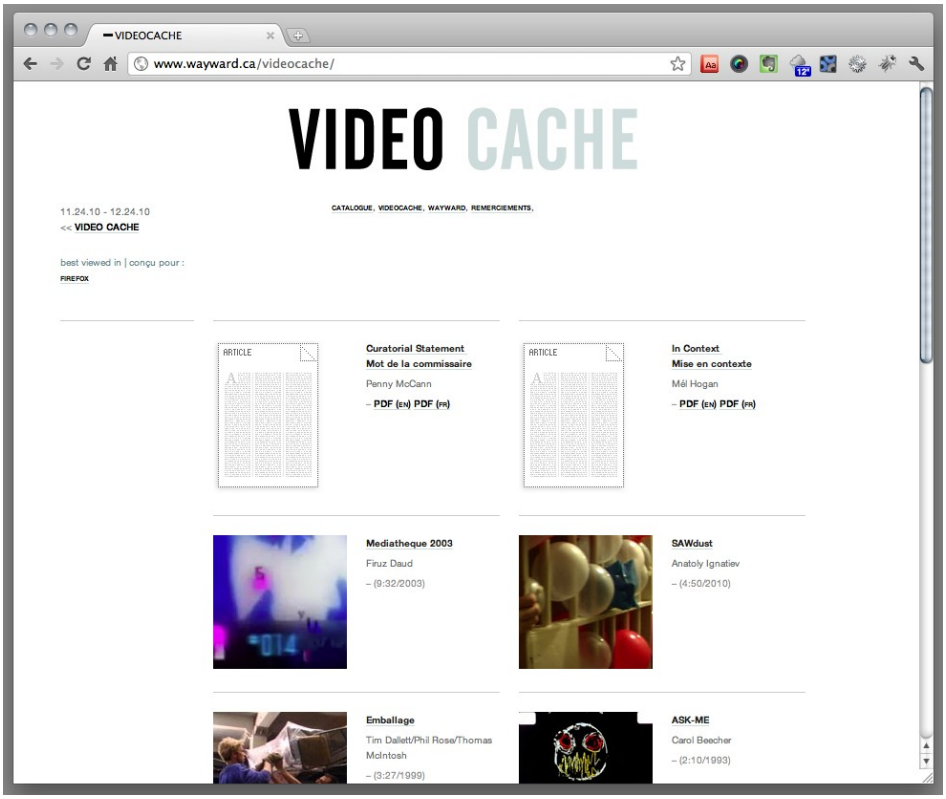

Figure 6 Video Cache Research Creation – Original online exhibit

[137] http://sawvideo.com/programming/screeningroom/curated
[138] See additional screen grabs at the end of the thesis.

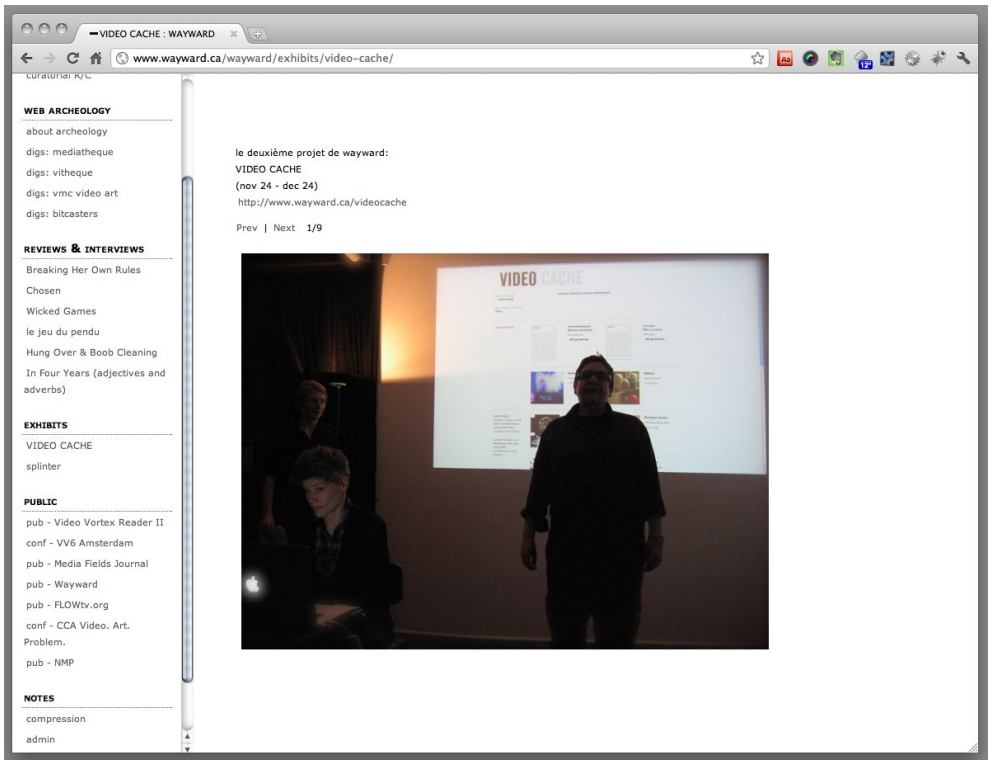

Figure 7 Photos of Anne Golden (GIV) and Penny McCann (SAW Video) as Wayward documentation

Before the move to SAW Video's Website however, Video Cache was an online video showcase linked from Wayward.ca to its own self-contained site (http://www.wayward.ca/videocache/), live for one month between November 24 2010-December 24 2010. The online exhibit was intended to provide an additional (virtual) entry point into the Video Cache screening, which was followed by an audience discussion. Those unable to attend the event could watch the videos online, further contextualized with the catalogue and curatorial statement. However, this option was also limited to one month, which generated a forced (but perhaps motivational) sense of exclusivity to and finality of the event. Documentation for the event and online screening, including a curatorial statement by McCann, and a statement of intent and interview by and between Nikki Forrest and me as wayward.ca curators, remains online, alongside video stills (as placeholders) for the ten videos in the Video Cache program.

There are now numerous CMS (content management systems) available for non-programmers to create and maintain dynamic Websites. While most CMS do require a solid understanding of the Web's underlying functions, principles, markup languages, base templates (or, themes) and feature add-ons (or, modules, widgets, plugins), CMS reduce the programming skillset required to create and maintain an online presence. That said, the skills required to not only conceptualise a Web site but to tailor it to one's purposes is incredibly time-consuming and complex, usually realized through lengthy professional training or extensive trial-and-error experience. It requires a wide range of insights into code, design, social media strategy and so on.

The advantage of CMS over hand-coded html sites, for example, is that they are

dynamic (as opposed to static) in the way information is managed and indexed. The Web was once predominantly comprised of static HTML sites, with a fixed amount of pages, updated manually, while today the trend is toward 'hacking' into code made widely available in forums for those with basic skills to pull off complex functionality.

Dynamic, on the other hand, means automation in the sense that data is routinely classified based on parameters of the creator's choosing, and running off a database. Working from a database also means that content is potentially archived rather than overwritten, when it is updated. Many CMS are blog-driven (Joomla,[139] WordPress,[140] and Drupal[141]) though more and more portfolio-driven CMS and applications are emerging (ZENPhoto,[142] Tumblr,[143] Arlo,[144] Core (BETA),[145] Cargo,[146] StaceyApp[147] and Indexhibit).[148] Locating these CMS was an important part of my research process as I wanted to create an online showcase from which video was stored and streamed from my wayward.ca server (rather than a third party site like Vimeo or YouTube).[149]

For Video Cache (online), I opted to combine two CMS: Indexhibit (v0.70e Released: May 12, 2008) and StaceyApp (V. 2.1.0, April 8, 2010). These CMS were

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[139] http://www.joomla.org/
[140] http://wordpress.org/
[141] http://drupal.org/
[142] http://www.zenphoto.org/
[143] https://www.tumblr.com/
[144] http://arlosites.com/artists
[145] http://weareastronauts.org/core-cms/
[146] http://cargocollective.com/
[147] http://staceyapp.com/ It is not clear whether Stacey is an open source application for creating online portfolios with ease or a lightweight content management system.
[148] CMS are divided between free sites running off the company's server with appended domain names and CMS that require a database and install on your own server space and using your own domain name. Some provide both options, and some (or at least one) run off simple .txt files without database. It is difficult to say which is progressing from which and more specifically, if the database-free CMS is a kind of reversion to early modes.
[149] It would have been more difficult to convince distributors or artists to submit their work through a third party UGC, since Vimeo and YouTube, for example, demand that rights be shared with the artists and the UGC.

selected for their relative ease of use, portfolio-driven usage (rather than the usual blog-driven CMS), and for their 'light weight.' Because I was to create and administer the site on my own, and because the showcase would be fixed for a period of one month, and running from my server space, this combination of CMS was most adequate for creating uniformity across projects while remaining distinct (i.e. as separate folders on the server.) After comparing numerous CMS, I selected Indexhibit for the core wayward.ca site and StaceyApp for the video showcase portion at wayward.ca/videocache.

On its homepage, Indexhibit defines itself as "A Web application used to build and maintain an archetypal, invisible Website format that combines text, image, movie and sound."[150] For the purposes of Video Cache, video and text were the key elements. Based on my findings, Indexhibit was one of the rare CMS that allows for video to be uploaded through the interface itself (rather than the backend, via FTP or embedded from a third party Website).[151] However, Indexhibit requires a database from which to run (MySQL5). Despite this initial step, which requires a minimal Web-based skill set (and/or ability to somewhat blindly follow instructions), the Indexhibit install and its use are made for non-programmers to use and for more advance users to adapt and modify to suit their needs.

Comparable CMS such as WordPress, for example, have made it incredibly easy to have seamless connections to large video repositories like YouTube and Vimeo, bringing the cost of hosting video to nil. However, for artists' video, using UGC like YouTube is an issue when it comes to ownership, and control over access and copyright,

[150] http://www.indexhibit.org/
[151] Uploading from one's own server requires more server space, and access to bandwidth. In this way, there is a risk in streaming larger files (like video) for a potentially highly popular online event, as the bandwidth costs are difficult to predict.

despite being more widely practiced by artists now than in the early 2000s. These third party hosts even came recommended by the Mediatheque's former technical assistant, now at Library Archives Canada, Douglas Smalley (discussed in more detail in the next chapter).

These two CMS—Indexhibit and StaceyApp—run quite differently, and while aesthetically they could be made to match by sharing CSS (cascading style sheets), a distinct identity for Video Cache was desired. While wayward.ca was to host documentation and other projects over the next few years, its unique URL and aesthetic marked Video Cache's separate identity. In terms of design, Indexhibit uses the left navigation and blue underline for links, for example, as an alignment with early Web design, while StaceyApp has a decidedly more print feel, caring for typography and negative space in a way few CMS tend to.

For StaceyApp, video files require a fixed width and height, and the files need to be named to a specific format (*width*x*height*.mov). While there appeared to be exceptions to this—some files worked with their original file name—this numbered naming schema was the only foolproof approach. Needless to say, that naming video by its dimension poses interesting archival and organizational questions, only somewhat redeemed by the fact that these are individually nested in a more aptly labelled folder as part of the process. Unlike a database-driven repository, StaceyApp stores simple .txt files that are linked by folder and numbered accordingly. This means that all URLs correspond perfectly to the folders and that all assets pertaining to one artist are contained within one folder. In the project folders, for example, assets are stored (video file in either .m4v or .mov format), the .txt file, and the thumb.jpg, which is the image that appears as the

link button from the frontpage interface. The CMS component has coded the title, date, content and keywords placeholders, as defaults.

After conducting several tests with different video formats and dimensions for online display, I concluded that Quicktime's .mov extension at 560x445 played most efficiently. The .mov, while typically a larger file than allowed by other formats through compression, provided faster streaming online.[152] No hard fast rules exist which outline the best format and codec for video online (though various recipes are proposed for different projects.)[153]

In the end, the online exhibit demonstrates that the choice of CMS is dependent on the Web technologies available at a certain time. At the time I created Video Cache and selected StaceyApp, there were three important incentives to do so. For one, I needed to be able to make a copy that would be self-contained and easily set up again, which would allow SAW Video to archive Video Cache in a functional way. This would also allow me a 'deliverable' for my PhD project. Secondly, I was searching for the most efficient way to host an online event for one month that could easily be deactivated, without being lost or generating broken links. Thirdly, using a database-less content management system to run Video Cache was an homage and direct response to the Mediatheque's database crash, which sank the archive in 2009. Without a database, the site could and would slowly become obsolete with browser advancements and Web

[152] I had learned this from uploading video to three previous online projects: The Illustrating Medicine Project, Dayna McLeod's 52 Pick Up Video, and Wayward's SPLINTER project. In some ways, testing these formats in various contexts was the only way to determine the best solution for the kind of online display required, based on server, audience, type of content, and number of video files.

[153] http://korsakow.org/downloads/MPEGstreamclip_4.png and http://www.wayward.ca/wayward/techspecs/compression/

technology updates, but no sudden loss would occur that could not be just as quickly remedied.

Video Cache Screening at Groupe Intervention Video

A few months after meeting with McCann for the first time in 2009, we decided that a key complementary element for documenting the Mediatheque would be to locate screening copies and showcase the works at a public screening. I proposed that we collaborate on a project through Wayward.ca, to showcase a few works that were once part of the Mediatheque, to be presented also as a screening at Groupe intervention video (GIV), in Montreal. GIV had been one of the artist centres that participated in the Mediatheque back in 2004. I submitted a proposal to GIV and was allotted a "Laissez-passer" evening. This meant, among other things that I—along with McCann and Wayward collaborator Nikki Forrest—could screen the works, that artists fees would be paid, and that both the public discussion about the issues faced by the Mediatheque and multi-modal documentation of the project would be anchored and renewed in an art context.

McCann would lead the curation of the exhibit by selecting 10 works from the original collection of 496 videos available online through the Mediatheque, until May 2009. My contribution would be to set up the online showcase, prepare a catalogue of the event, piece together the fragments of the Mediatheque, and document its history with an emphasis on its reconstruction. The documentation collected throughout the process would become available in a catalogue for the Wayward.ca exhibit, with video 'digs' and

other documentary bits collected and represented on the site, and later would be featured on SAW Video's new Mediatheque portal (not yet built at the time of the screening) as the project's documentation (http://sawvideo.com/mediatheque/about).

While the screening itself was not recorded (due in part to copyright restrictions and due also to the fact that the videos are best represented otherwise) the presentation and ensuing discussion were and an outline of the discussion can be found at: http://www.wayward.ca/wayward/notes/video-cache-documentation/. For the sake of access, the event has been divided into 13 segments with accompanying video footage, also accessible from that link. This documentation of the screening invariably intersects with the notion of multi-modal documentation, outlined below.

Multi-Modal Documentation: Catalogue, Infographics, Screen Grabs, etc.

The Video Cache intervention was possible in the two-year window following the crash, as a means to highlight and discuss technological failures as generative. Video Cache, as an iterative intervention, is also the product of reactions to the project itself. The catalogue, containing contextual documents from the VIDEO CACHE online showcase, is the least ephemeral object: it contains and marks the event and programme. The catalogue becomes the documentation that circulates beyond the online exhibition and the online showcase–it lives on independently as a reference to both the Mediatheque's history and the Video Cache project, on or offline. A limited run of 15 catalogues were made available the night of the event, but copies can be ordered from Lulu.com as a print-on-demand option (http://issuu.com/waywardpublications/ docs/videocache).[154]

[154] As of October 21 2011, the virtual flipbook on Issuu had received 258 visits.

SAW Video has already put in an order for 10 additional copies, and further requests are noted through the Lulu interface. I did all the production work on these catalogues, and designed them using the interlaced aesthetic of video.

The catalogue includes a curatorial statement by Penny McCann, SAW Video Director, a text situating the project in a larger context by me, as well as an interview between Wayward collaborator Nikki Forrest and I addressing the circulation of video online from the perspective of new and seasoned video artists. Photos of the event, screen grabs of the online showcase, video 'digs', infographics, interviews, published articles, as well as the video recording and written outline of the public discussion that followed the screening, are all important documentary traces of the project that constitute its own archive and as a careful continuation of the project reflected in grant reports and administrative documents almost ten years prior. They are merely listed for context here, but speak for themselves in relation to the project, which is explained in detail in the next Chapter.

Chapter 3: SAW Video's Mediatheque

The Mediatheque Trajectory: An Overview

The following chapter details the trajectory of the SAW Video Mediatheque as a seminal large-scale Canadian online archive of independent video art. SAW Video is a small video artist cooperative in Ottawa, Canada, which received almost half a million dollars in government funding to launch a pilot project that would grow into an important online archival portal.

What follows is a series of events and insights, which together detail the complex path of the Mediatheque archive in terms of the promise it held for SAW Video and the broader video art community in Canada. This chapter also points to the numerous iterations of the Mediatheque—from its pilot project Independents On Line, to the Mediatheque portal supported by three-year contracts, to contracts expiring, to its current revamped content management system—and how each version reveals a different set of limitations about archiving, mapped out over the course of eight years (and ongoing).

SAW Video's 'About the Mediatheque' page on their Website offers a brief overview of the Mediatheque's history and hints at its wayward trajectory.[155] I recount it here to explain the Mediatheque's timeline (see *Figure 2*): the archive was launched in 2003 as a pilot project titled Independents On Line (IOL); in 2004, IOL change its name to the Mediatheque, and showcased 496 videos; and expanded to a "permanent online digital archive" in 2006.[156] Challenging this ideal of archival permanence however, the

[155] This is what inspired the name 'Wayward' which I chose to name the site where I host all my research-creation work and video curation experiments (wayward.ca). Wayward is also a play on 'Wayback' referring to the Wayback Machine often in my research and for video digs.
[156] http://sawvideo.com/mediatheque/about

portal suffered an "irrecoverable" server crash on May 12, 2009.[157] The site was offline for two and a half years, the time of my research-creation intervention: Video Cache. Using an updated CMS (content management system), SAW Video finally re-launched the Mediatheque portal on October 1st, 2011, with little to no notice or advertisement about the event, until days prior to the launch. The launch coincided with SAW Video's 30th anniversary. The Mediatheque is now online and is open to everyone for viewing. The archive is also open for submissions by SAW Video members, though contains no new videos as of yet (January 2012). Video Cache is also part of the newly launched Mediatheque archive, as the first Curated Program.[158]

The SAW Video Mediatheque is online,[159] but it is likely that without my research-creation intervention and the careful documentation of the project, such as provided in this chapter, that the Mediatheque's current iteration would stand in as the archive that is currently available to users. In fact, the current edition has carried over only a quarter of the content from the original site, and its infrastructure has been completely overhauled. It is also likely that the abbreviated overview given above would become the dominant narrative about the project, which, as I reveal in this chapter, is in long form rich with insights in its details about the online archive, well beyond to stop/start moments of the Mediatheque repository. Because the Web allows for and facilitates the iterative process to the extent that much of its content is overwritten, a site's 'past' (and trajectory) is often not recorded, save for larger efforts by Internet Archive and Google, for example. To a great degree, this has meant the deletion of

[157] http://sawvideo.com/mediatheque/about
[158] http://sawvideo.com/mediatheque/about
[159] http://sawvideo.com/mediatheque

content to, quite literally, make space for the new.[160] This is in part attributable to quick technological changes and the culture of 'new media' as well as the rapid obsolescence it breeds to make way for what is most current.

For the Mediatheque, this simply means that its current iteration reveals little about its trajectory: a trajectory that is arguably of utmost importance to researchers, curators, distributors, and artists, given that the project was Canada's first highly funded prototype and online archive for video art. For artists and distributors, determining the best modes by which to make video art available remains a contentious issue. The trouble is partly in the difficulty of assessing the potential of independent arts organisations to work with emergent technologies (and the Web in particular) toward the preservation of video art collections, for works from the 70s and Web-ready files alike. Researchers and curators depend on being able to analyse traces not only by way of content or textual analysis, but also through technical and creative interventions. Together these inform decisions of format and storage, as well as circulation ideals, at particular junctures. Access, and its relationship to context, is at the forefront of this exploration.

In this way, my research object—the Mediatheque archive—is always both site and concept. In other words, I account equally for ideals about the project as I do for its digital traces, including numerous iterations and updates. The project's trajectory begins with online video experiments by SAW Video staff in the late 1990s, toward a portal accessible today at http://sawvideo.com/mediatheque. Video collection aside, the Mediatheque portal resembles little to its earliest iterations. As such, this chapter tracks the Mediatheque as an archive, focusing on the trajectory of the repository in and of

[160] While individual sites require constant refreshing to, in part, manage server space, the Web itself as archive seems limitless.

itself, and paying particular attention to its archival qualities and contradictions. While my research-creation intervention also acknowledges the importance of the content in the archive—what Mediatheque stored and sought to preserve—I resist making the collection interchangeable with the archive itself even though my collaborators at SAW Video often claimed they were one and the same. For SAW Video, being able to recirculate the videos from the Mediatheque collection was at the core of their notion of the archive. From an academic position, however, archival research includes much more than the contents of a collection: it accounts for the varying contexts for videos, uncovering ephemeral traces, tracking technological formats and supports, and deciphering affect and ideals in light of the Web's potential for archiving, over time. Together these informed, or reminded, that the archive is always already a deeply political project and that the collection it holds is a not only a product of the accessibility afforded by the site, but also the ways in which accessibility gets redefined in the process.

My research-creation intervention, entitled Video Cache, did make use of the videos of the Mediatheque collection to collaborate with GIV (Groupe intervention video) and SAW Video, to curate and organise an online exhibit and public screening. However, the intervention did not contrast the online/offline realms for the collection, but rather served as a point of departure for research. By this I mean that Video Cache was an intervention—an involvement intended to alter the course of my object of study, which would in turn alter my research-creation process. For example, in preparation for the online exhibit of Video Cache, I had to identify and test out various content management systems, assess formats for online screening, and negotiate parameters and terms for the work to be legally showcased. In creating Video Cache, I had to constantly reflect back

on the Mediatheque's original intention, which emerged prior to many of the tools and systems I was using to build the online showcase in 2010, and which would host some of the same content as the Mediatheque did in 2003. As such, my intervention was very much in conversation with the development of the new Mediatheque, and informed greatly its revised platform in October 2011. These are some of the more invisible contributions made to the Mediatheque through research-creation that require being pointed out here.

Similarly, in organising a public screening at Groupe intervention video, I was able to gently provoke an inter-institutional discussion and collaboration about the place and function of the online archive for video art. Working with SAW Video Director Penny McCann, ten works were selected from the Mediatheque to be showcased online and screened in Montreal. Groupe intervention video hosted Video Cache and paid screening fees to Video Cache artists, but as I explain later, this triggered important questions from distributors who remained unsure how to best assess the value and terms for online showcasing. Of the ten videos selected and shown by McCann for the screening, only nine were showcased online. As I explain in more detail later, a distributor objected to the fees offered for the online component, despite having been part of the Mediatheque since 2003. This serves as a very pointed example of the reticence to showcase video art online, without firm guideposts in place to determine value and (limit) access. More importantly however, from a research-creation point of view, it points to the politics of the project, prompted directly by my intervention. Video Cache also came at a time when Montreal-base video art centre Vidéographe launched its own online video art platform, Vithèque, after several years of gruelling legal and technological setbacks.

While Vidéographe announced Video Cache on their platform, they never acknowledged the influence of the Mediatheque (or EdMediaTV) had on Vithèque, claiming instead that Vithèque was the first large-scale Canadian video art repository of its kind, possibly drawing a distinction from the fact that it, unlike the Mediatheque, attempts to monetize video art. Nobody from Vidéographe was present at Video Cache.

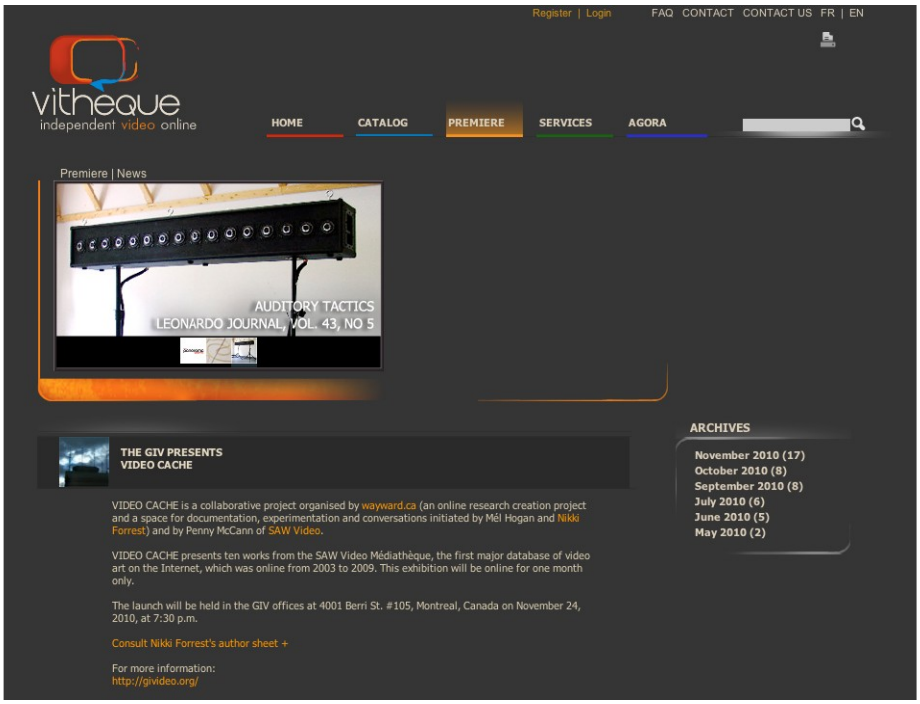

Figure 8 Vithèque announces Video Cache

Finally, working with SAW Video to curate the Video Cache program for a public screening seemed the most appropriate means to showcase video, but it also raised questions about this very assumption, given that, as an online archive, the Mediatheque did not prioritize high quality copies for screening—it was about showcasing video art on the Web.[161] I used the public screening as an opportunity to glean insights from the video

[161] Perhaps this is a point in video art's history that demands a look inward rather than forward; it demands a reflection on the trajectory of video art from its activist roots and voices against

arts community, from the hour-long discussion that followed our presentation.[162] Without Video Cache, much of what is presented herein would have been impossible to document, as my findings were a result of the trust built from my collaboration with SAW Video and the access it afforded me to details for which no official trace exists.

Video Cache was an opportunity to recover the concept of the online archive through the Mediatheque, and discuss its revised potential, almost ten years after its 2003 launch. Together, the written documentation and the Video Cache research-creation intervention rekindled the Mediatheque's aura, refreshed the conceptual history of the project, and highlighted ongoing debates about its status as an archive. Overall, the intervention and documentation reflect on the archive and generate an invaluable resource for it, for future perusals, comparisons, and adaptations. In this sense, every element of this chapter continues to be open to later interpretations and renegotiations of the project, as my creative intervention largely prioritizes methodology and process over a finalized reading.

The Mediatheque's trajectory in this case study is therefore not a History of the archive per se, nor is it a genealogy or chronology of events; rather, it is the output of several years of media archaeology, including the weaving of memories from various participants, which were tracked in administrative documents and in conversation with me. As such, this chapter is constructed based on personal triggers and issues most important to those remembering the project. It is also, in this sense, the product of the

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mainstream representation—by women, queers, people of colour, community activists, etc.—to the current place and value of these scarce collections in an art market, and on or against a potential for wide scale dissemination.

[162] The discussion documentation can be found in video and transcription format here: http:// wayward.ca/wayward/notes/video-cache-documentation

limitations of memory—if limitations are understood as forgetting or as always-partial reconstructions. As such, this overview of the Mediatheque is informed by absence, retrospection, contradiction, desire, regret, vision, and inspiration, as affective qualities emerging from memory, which are difficult to both grasp and transcribe into a coherent narrative but offer a deeper and potentially more profound engagement with the notion of memory itself, and its preservation. So much of this documentation project also relied on my memory as a researcher, and my ongoing process of documentation and transcription.

Notably, the following is the only documentation of this kind for the Mediatheque; no coherent report, and no in-depth organizational report, news item, or personal reflection has been actively produced by SAW Video to situate the Mediatheque as Canada's first large-scale online video art archive, prior to their brief summary of the events featured on the 2011 version of the site. By perusing administrative documents and grant reports, as well as having numerous informal conversations and formal interviews with SAW Video staff, past and present, I was to assemble the written documentation for the Mediatheque, which would serve to situate the screening and discussion about video art archiving in the past decade or so.

Rooted in a creative feminist media archaeological methodology, I frame the documentation of the Mediatheque in a self-reflexive way. I bring to the forefront the people involved in the initiative—as administrators, artists, Web developers, or archivists—and their understandings of the process and labour involved, along with how their memories (often divergent and in contradiction with one another) continue to shape the ideals of video art in the (now retrospective) archive. My intention is also to anchor the Mediatheque archive in the history of Canadian video art, at the intersection of Web

studies and archival theory. It is also to recover the Mediatheque's memory by weaving memories and stories about the project, as told, remembered, and invariably reconsidered, by its various participants. To do this, I pull out key threads, as moments in the project's trajectory, according to those most invested in the Mediatheque. This approach insists on and makes visible the iterativeness of the documentation process. In this way, because the Mediatheque is online anew, it also allows the reader to account for the 'nowness' of the project up front, while progressively contrasting the envisioned goals of the Mediatheque with what it became, and how it became talked about several years later. As we read on, our reliance on memory and the effects of hindsight become more obvious, making a statement in their own right about the importance of remembering the archive, and for the archive.

Early Video Experiments for a Living Archive

In 2003, SAW Video produced the first tangible instantiation of its envisioned 'living' archive, with the desired goal of having members of the art community contribute to an ever-expanding video art repository, on and for the Web. Growing from an archival initiative that accounted for emerging video technologies, SAW Video was given seed money by the Canadian Council for the Arts to test out its vision as a pilot project; a project it called Independents On Line (IOL).

After several years of brainstorming and early digital video experiments, IOL was proposed to the Canadian Council for the Arts in 2003, as a Web project that would stream the work of independent Canadian video artists.[163] While the project's early

[163] This is under the banner of Media Arts, which is today called Digital Arts, in Canada.

emphasis was on independent video and video streaming on the Web, SAW Video had at the time just recently connected their own office computers to the Internet. This is a moment in SAW Video's history recalled with great attention by Anatoly Ignatiev, a video artist and member of SAW Video at the time, who became very involved in the conceptualisation and actualisation of the Mediatheque. It was by speaking with Ignatiev, who eventually took on the self-appointed role of digital archivist of the Mediatheque, that I understood the deeply affective nature of the archiving project. Admittedly, locating affect is a tricky endeavour. After speaking with Ignatiev, I felt that despite hours spent discussing the Mediatheque together; I had been able to extract very little in terms of concrete insights about the project's development. I left that interview transcription aside for months, only to return to an incredibly rich source—revealing that the interpretation of the stories told revealed much more about what I was searching out than what was potentially left uncovered.[164] From then on, I carried this notion of affect with me in my assessment and documentation of the Mediatheque, which on paper could be read largely as a superficial celebration of the Web as a new technology, but which contradicted what I was hearing from those closest to the project. While affect is notoriously difficult to translate into words, it becomes most evident in Ignatiev's recounting of the invisible labour required of the Mediatheque.

Ignatiev, who became the Mediatheque's archivist, recalled finding a stack of tapes in the SAW Video storage room in the late 1990s. The stack was uncared for and disintegrating. While unknown to him at the time, these tapes would become the

http://www.canadacouncil.ca/

[164] Why I was able to relate differently to the interviews after time passed was largely a result of my supervisor's recommendations to bring out the human qualities of the project.

collection that would serve as the foundation for the Mediatheque archive, provide the material evidence for funding, and to help SAW Video archive its own history. To actualize the project, funds would be necessary—and because funds were necessary, SAW Video staff had to conceptualize the project using a political framework and vocabulary that funding entities would not only find appealing, but also worthy of such an ambitious project.

Dating back to the late 1970s, many of the film and video works at SAW Video were stored in non-archival conditions and suffered the fate of media not properly archived due to limited budgets, storage space, access to facilities and equipment, know-how, etc. According to Ignatiev, and Kevin Morris who was the SAW Video coordinator at the time and heading the Mediatheque project until 2008, a proposal had to be written to get funds for a pilot project that would see the collection preserved through digitization. While SAW Video could not claim to meet any of the basic requirements of the material archive—it had neither the facilities nor expertise—it could (and did) demonstrate to its funders that the Web offered an extension and alternative to the material definitions of storage and process, though much of it relied on experimentation- and risk of failure. Neither Ignatiev nor Morris were trained archivists nor Web programmers, but together understood the Web as a medium by which to bypass the traditional archive. To archive 'old footage' using emergent digital technologies was certainly not SAW Video's alone—the late 1990s saw a blind rush by all kinds of organisations to convert and adapt to new media and the Web. However uncertain and unpredictable the Internet may have been in the 1990s, it was transforming

communication in important and relentless ways, and SAW Video staff saw themselves as being at the forefront—before traditional archives and other video art distributors—to apply the vision of a large-scale video art archive to the Web.

Ignatiev recalls SAW Video in the late 1990s as a "small, creepy, and old" space that transformed into a haven for video producers. For Ignatiev, the transformation of SAW Video into an inspiring and highly productive creative space was largely attributable to one person: Kevin Morris. Ignatiev recalls Morris's excellent management skills which saw SAW Video's working budget increase from 120 000 dollars to 900 000 dollars over the course of a few years (Morris personal correspondence, 2010). Ignatiev was inspired by this upturn, which included access to new equipment for video production and digital storage. Together with SAW Video Web developer, Michel Lechasseur, they experimented with the possibilities and limitations of the Web at the time, for showcasing and sharing video. The limitations were foremost attributable to the fact that having an Internet connection was still a fairly novel idea for most people in the late 1990s and early 2000s. Their conclusion was that if the portal was going to serve the arts community, it would have to somehow be widely accessible.

The online archive was highly speculative in the early 2000s. At SAW Video, the initiative was based on their staff's personal experiments with the medium. Douglas Smalley, currently a video preservationist at Library Archives Canada, was working at SAW Video on the Mediatheque project in 2003. He recalls: "The idea for a large scale online streaming archive grew out of some early experiments with a small number of short video clips available on SAW Video's Website" (personal correspondence 2010).

With Ignatiev, Smalley recalls that in the late 1990s, video was sharable online through upload and download, but a 2-minute clip, for instance, could take several hours to transfer. Video streaming was incredibly slow. Video was also highly pixelated and limited to sharing between very few early savvy adopters. Rapid advancements in Web technologies in the early 2000s, such as greater network bandwidth, the commercialisation of the Web as space of business, and the movement to create a set of standard protocols and formats for video, allowed for more people to engage and experiment with video online, with YouTube revolutionising the idea of the video repository in 2005 (Stalder 2008). However, these developments were all trailing the vision for the Mediatheque and as such, could not serve as model, cultural framework, or even, inspiration for the project.

Reflecting on why SAW Video received the archival grant, Morris outlines the important communication between the Canada Council for the Arts media arts officer at the time, David Pool, in conversation with the Department of Canadian Heritage:

> David Pool—I'm certain—was in communication with Heritage. And I wouldn't be surprised that this excitement played a role in Heritage's funding, for while not a strict condition of funding, the potential of expanding the community around Media Arts through streaming was likely a strong latent factor among project officers in pushing the project forward. Our model also was more appealing; VTape's previous two failed submissions to Heritage were for streaming their online work worked on the mode of peer-to-peer streaming, while we took the route of building an online community around the archives (Morris personal correspondence, 2011).

According to Morris, who drafted the original proposal, later reinforced by McCann, the

> Mediatheque had appeal because it was pitched as an archive rather than a peer-to-peer streaming tool, limiting access to the collection by Canadians. IOL was to showcase and display video rather than mirror offline modes of distribution, the likes Morris describes for VTape and other video distributors competing for similar grants.[165] The Mediatheque's manifest purpose was to archive, but, as explained by Morris, "the excitement for a living archive" was demonstrated by a community of media artists who "foresaw new Internet potential(s)" and "immediately began generating new ideas," like Stingers.[166] Stingers was a very technologically advanced feature of the Mediatheque, which allowed artists to upload short clips directly to the site and in conversation with one another, but which failed to garner any real interest or participation.[167] Despite this, the more 'static' archive component was accessed widely and was a relative success at a time when Web culture was not yet in full bloom.

Speculatively then, it was the Mediatheque's positioning as a non-distributive entity that gave SAW Video backing for the archival project over more 'qualified' distribution centres across the country. More precisely, because it did not seek to generate income through distribution, it became more legitimately educational and more clearly an endeavour to promote Canadian art, in the eyes of its funders. This proposal was a

[165] Note that these are Kevin Morris's views on the competition for the grants. VTape has not confirmed these claims.
[166] See Chapter 3 Literature Review for more on the concept of the Living Archive.
[167] While Stingers was not part of the original project application for funding, Morris explains that it grew out of the same enthusiasm that drove SAW Video to create the Mediatheque in the first place, namely to sustain and expand the media arts community. However, Stingers was taken offline when McCann became the Director of SAW Video in 2009, prior to the Mediatheque crash.

solution to, and incentive toward, an archive that made video art accessible and free to anyone with an Internet connection: it was a counter-model to peer-to-peer distribution not supported by the Department of Canadian Heritage at the time. It seemed apparent for Morris and a few others at SAW Video that this was the way forward, to embrace technology for its democratizing potential. But, when first proposed, there was as much resistance to the project and to this open vision as there was excitement, and SAW Video had many long meetings to sort out conflicting views about the roles, distribution politics, and limits of the online archive for video art.

According to Morris, the Mediatheque committee met on a regular basis to determine the form and function of the archive. However, as recalled by Ignatiev and Morris, many of the meetings stalled on numerous technological issues, which, overall, made the process of organizing the Mediatheque long-winded and emotionally draining. For those who like them felt side-tracked from developing the archive, their sense was that the SAW Video Board of Directors took a very hands-off approach. Morris explains it as a "lack of faith and investment" in the project, but somewhat contradictorily suggests, "video producers are not Internet people." Perceived to be two irreconcilable ends, Web and video were not an instant or obvious pairing for the SAW Video community, prior to the building of the Mediatheque. As such, the committee's perception was not always in accord with the perceived glee about the potential of video streaming projected by both the Canadian Council for the Arts and Department of Canadian Heritage.

In the earliest discussions of the project at SAW Video, there was little enthusiasm

or support for the online project from within SAW Video or its membership: few were those who saw the Web's potential for distributing and showcasing video art, let alone showing off its archival potential. Many more remained intimidated or confused by the concept of the Web itself, recalls Ignatiev. Others, as Morris points out, saw it as a distinct medium, one that was irrelevant to SAW Video's mandate (at least until its move to support 'media arts' more broadly, rather than film and video in particular.) Others still, may have foreseen problems associated with online distribution in relation to copyright and artist fees, though no mention of these concerns directly surfaced in the interviews with McCann, Morris, or Ignatiev, nor in the funding reports.

However, once the detailed plan was laid out for the funding proposal, members of the SAW Video community began to envision the potential of the Web for video artists —a potential that eventually generated unprecedented enthusiasm in the media arts community, recalls Morris. Morris pointed out numerous times that the momentum and enthusiasm for the Mediatheque are not documented anywhere, but to him remain the most exciting moment in the project's trajectory: when the Web began to grow exponentially and SAW Video was at the forefront of technology with their vision of the Mediatheque. Ignatiev and Morris insisted that the momentum and enthusiasm for the project had to be set in motion by artists like themselves in order for those less familiar with, or more sceptical of, the technology to also be able to grasp its potential and fully assess its creative and collaborative significance. This interest was made tangible by the Canadian Council for the Arts, and soon after, the Canadian Culture Online division of the Department of Canadian Heritage, giving over half a million dollars to see the project

come to life.

Once momentum began with the Mediatheque, and the proof of concept was not only approved but was also seriously funded, tensions arose over the ownership of the project and the selection process for the works hosted through the portal. As more people become interested and invested in the Mediatheque's potential, the long-term vision of the project and its management became increasingly diversified and divided. Morris in particular was frustrated with those embarking on the project after much of the conceptual work was done, imposing a different vision that was largely undoing or repeating steps Morris had already foresaw and worked toward. Despite these internal grumblings, however, what remained intriguing to the larger video art community was why and how SAW Video was funded to take on this important if not enormous task: a task that nobody could quite claim to be qualified for in the early 2000s.

Standards and Guidelines for Canadian Culture Online

Through a Partnership Grant, the Canadian Culture Online division of The Department of Canadian Heritage funded SAW Video's first version of the video art online archive: Independents On Line (IOL). On paper, the IOL pilot project served the digitization of older works in SAW video's collection. This connection to older works was imperative for funders. Canadian Culture Online set out specific guidelines for the kinds of online projects it funded, making a clear distinction between preservation projects (defined as digitizing material collections) and Web projects (which sought to encourage the creation of materials for the Web). Despite this distinction, SAW Video continued with its vision

and plan to build an extensive 'living' archive, which did not fit this clear distinction but rather challenged the need to have an either/or archive as proposed by Canadian Culture Online.

The first trace of the Mediatheque project (as accessed through the Wayback Machine) is SAW Video's call for videos, inscribed as a news item on their home page in 2003. It invited (in a rushed frenzy) submissions for the IOL archive initiative:

> We are aiming for a grand launch end of April, 2003 of 500 videos and films with a new Website to support this work and the artists involved. Stay tuned!!! We are still looking for videos and films produced in the National Capital region by independent producers. If you have work in our archives, or want to put your work on-line, please contact SAW Video at newmedia@sawvideo.com for info - and download and fill out the ONE SHEET, and send it in with your video (Internet Wayback Machine 2003).[168]

The launch did not happen in April 2003 as hoped in this call, and eventually the call was changed on the site to reflect the uncertainty of the launch date: a "to be announced" notice replaced their original April target date. And, while SAW Video required works to come in from the 'National Capital region,' Canadian Culture Online insisted that the archive be Canadian in scope, inclusive of works from coast to coast. Morris, and later SAW Video Director, McCann, had reservations about this because much of Canadian video art has functioned historically on a regional basis. Vidéographe in Montreal, Centre

[168] This was found by accessing the Wayback Machine and interestingly, while the image links are broken, the PDF one sheet document still downloads which means it remains in the same place on the server, where it was in 2003. http://replay.waybackmachine.org/20030411135149/http://Mediatheque.sawvideo.com/homepage/default.html 2011

for Art Tapes in Halifax, Video Out in Vancouver, Video Pool in Saskatchewan, etc., are all examples of the significance of 'the local' that SAW Video wanted to pursue, at least for the initiation of the archive. However, because of the perceived 'borderlessness' of the Web, Canadian Culture Online understood the focus on the local as limiting and somewhat in contradiction to the online archive's unreserved reaches.

As a means of generating content for the living archive demanded by Canadian Culture Online, SAW Video collected works through an open call for submissions. The call first addressed artists directly. According to Ignatiev and Morris—if memory serves right—few artists' titles were turned down from entry into the Mediatheque. The archive was quickly filled.[169]

One recurring anecdote that came up in all the interviews I conducted with SAW Video staff is that of an artist who submitted a video divided into twelve pieces as a means of maximizing his payment through the Mediatheque—it was rejected, but then uploaded as a single, shorter, piece. Similarly, other artists dug out older works only to cash in on the rare occasion of being paid for showcasing their works online, but were also quick to remove these pieces upon the contract's termination, three years later. Extracted from a larger context as I do here, these anecdotes raise questions about what constitutes a collection and a collection's value. This was (and remains), for McCann, a central concern: including the further contextualization by curators, generating background information about the artist, and rendering visible the links between themes,

[169] Works that were not included in the Mediatheque were videos that the committee felt unfit for presentation in the repository for either aesthetic or technical reasons, though those parameters remain vague across the interviews I conducted. While Morris is adamant that set standards were in place to ensure the quality of works and their appraisal, the guidelines to which he refers appear in none of the reports I had access to.

styles, politics, aesthetics, etc., within the videos themselves, as part of a collection and archive. Beyond these individual artist submissions, many works came in from select video distributors, arts groups, and co-ops across the country.[170]

The Business of Canadian Art: a 'Mixed Approach'

According to SAW Video's Executive Summary in 2004 (to the Department of Canadian Heritage) of the IOL pilot project, and the Mediatheque that replaced it, the total expenses amounted to 570 614$, with contributions from The Department of Canadian Heritage (382 917$), the Canada Council of the Arts (25 000$), corporate sponsor Xtream Labs (90 600$), funds from fundraising efforts, and SAW Video's operating revenues (estimated at 72 000$).[171]

As McCann and Morris insist upon in their reflection of the funding process for the Mediatheque, the Canadian government at the time was sorting through a scandal—nicknamed "AdScam" and "Sponsorgate"—that came as a result of a Canadian federal government sponsorship program (the scandal, in Québec, involved the Liberal Party of Canada, in power from 1993 to 2006) (CBC News 2006; CTV.ca no date). The impact of the scandal, according to both Morris and McCann, was that it made their dealings with

[170] Contributing entities to the Mediatheque included: Vidéographe, Groupe Intervention Video, Spirafilm, Video Femme, Charles Street Video, Ed Video, IFCO, Daimon, Dance Network, Flicker Free Productions, Team Tasty, Alphatron Media, NFB, Chaos Academy, Video Out, Toronto Animated Images, A.C.T, Quickdraw, Doomsday Studios, Cineworks, YU Cinema, Concordia University, and SAW Video.

[171] While officially documented as a contributor to the Mediatheque in the Executive Summary (2004), Morris notes that the corporate funding from Xstream Labs fell through, as the project's development coincided with other 'victims' of the '.com bust', a speculative bubble starting in roughly 1995 and 'bursting' in 2001 (BBC News 2001). The bursting of the .com bubble would also foreshadow the problems of the Web well into its social media heights, pointing to a rupture between labour and immaterial production (Betancourt 2010), a point Ignatiev raises time and again with regards of the burnout engendered by projects meant to facilitate access and online distribution. This is a point that many subsequent project leaders, including Bernard Claret of the Montreal-based Vidéographe Vithèque initiative would concur.

the Department of Canadian Heritage incredibly dubious. Seemingly overnight, they required and expected tedious and detailed verification procedures, and this for all institutions attempting to access funds shortly after the scandal. This generated an incredible amount of additional stress for SAW Video staff. Morris recalls having to draft long and detailed reports to justify each step of the project to funders, which were invariably used by the Canadian Government to justify huge expenses in the arts, in the wake of these scandals.[172] The idea was to not only show that these expenses were investments, but also that these investments could prove fruitful if they were made early on in technological developments.

According to Ted Bairstow, the 2003 Director General of Canadian Culture Online division of The Department of Canadian Heritage:

> Canada has a long, and largely successful history of combining an essentially free-market approach with certain safeguards that ensure cultural preservation. Now, as the Internet has firmly entrenched itself in the lives of Canadians, it is this mixed approach which is seen as an appropriate model for the way in which Canada deals with the online space (Bairstow 2003, 2).

The 'mixed approach' mentioned by Bairstow (2003) is one that—using the Mediatheque as an example—was more conceptual than actively possible. The Mediatheque never fully emerged as a tool for preservation, nor one that managed to remunerate artists beyond seed money, and as such never attained this vision to generate income to sustain

[172] Interestingly, the reports generated to this end constitute a large portion of accessible documentation about the Mediatheque, from which I was able to glean important details, which appear nowhere else in the project documentation.

itself. For the Department of Canadian Heritage, however, the emphasis in 2003 was in how innovation itself had value for Canada. This is why importance was placed on speed and wise-scale availability, and on the creation of Canadian content: "Canadian content cannot be created quickly enough or be made sufficiently visible and easy to access," claimed Bairstow in 2003 as the Mediatheque was set to launch (Bairstow 2003, 2).[173]

Despite this enthusiasm and urgency to promote the project, the Department of Canadian Heritage hesitated numerous times on signing off and making money available to SAW Video. They demanded a quick turnaround from SAW Video to justify their funding as a means to evidence their spending under the highly scrutinous public eye. For these reasons, the Mediatheque was a massive undertaking built in only 3 months—all the time allocated 'on paper' to the project's creation. In this astoundingly short time, and to meet the government's demands, a database had to be created, an interface designed, works digitized, works collected, contracts signed, and partnerships solidified. This is another key moment in the Mediatheque's trajectory were memories converge: Morris, Ignatiev and McCann each recall how those demands shaped the project by inflicting undue pressure onto the organisation.

However, in no short part due to Morris' 'budgeting magic,' the project was realized meeting the deadlines: "you've gotta work it – you've gotta juggle all the time and borrow from your own self," recalls Morris. Morris explains his role in understanding and working with the politics of funders: "You had to look like you were getting a lot of corporate backing to get money from Heritage" but the funding from

[173] Availability and access to the archive were very much framed as a means to provide educational tools, under the Partnerships Funds.

Canada Council for the Arts showed "resistance to corporate partnership."[174] "In the end," Morris concludes, "we didn't see ourselves as a business." By not seeing the Mediatheque "as a business," Morris implies that the portal was promoting free access to independent works, with no plans for remuneration beyond the initial phase nor as an ongoing basis for the project: nothing beyond what the government was paying as a one-time fee to be reallocated to artists.

This position 'against' monetization further solidified the project as an educational and cultural entity, and fit the archival mandate demanded of them by the Department of Canadian Heritage. This also distanced them from other projects that foresaw the Web as an opportunity to reinvent old—and now deemed expired—modes of distribution.[175] Despite the experimental approach undertaken by SAW Video, and the quasi-impossible requirements from Department of Canadian Heritage, once the Mediatheque in place, the grant would provide artists with fees unlike any amount before seen in terms of video art remuneration in Canada.130 000$ were set aside to the acquisition of rights from artists for showcasing videos for three years through the Mediatheque portal.[176] The enormity of this sum—equivalent if not more than what Vithèque paid out in artists fees in 2010 for a similar endeavour[177]—is reflected in the

[174] Morris points out the irony stating that the CCA lives off their stocks.
[175] This is not a unanimous view of the Web however: Bernard Claret of Vithèque is careful to explain that one (the Web) should not be seen as a replacement of the other (material distribution) despite the ways in which the Web has completely overhauled the nature of the work of distributors. For Claret, the Web is new, different, and an addition to, but not a substitute for offline collections and events (personal correspondence 2011).
[176] According to the Executive Summary of the project, the total expenses of the project amounted to 570 614$, with contributions from Heritage Canada (382 917$), the Canada Council of the Arts (25 000$), corporate sponsor Xtream Labs (90 600$), and funds from fundraising efforts and SAW Video's operating revenues (estimated at over 72 000$).
[177] Vithèque paid 350$ for each work of Vithèque which constitutes its collection of 300 videos made available for free to Canadians. The total is roughly 105 000 paid to artists as one-time artists fees for 5 years of online exhibition.

detailed attention paid to copyright and artists' fees in the elaboration of the project.[178]

Despite this capital, stemming in large part from The Department of Canadian Heritage, the steps involved in organizing the Mediatheque project—as an innovative proposal—were numerous and exhausting, having no previous model on which to base itself. Not only did a database of the works need be constructed and conceived of, but also contracts with the artists had to be drafted and signed. The technical and logistical were interdependent and required a great push from both sides to make the project come to life, including: cataloguing, inserting metadata, digitizing, and burning DVD Rom back-up copies, encoding and uploading content to the site. These steps were part of the larger archival process, and applied equally to works digitized and those submitted in digital formats, or 'born digital.'

While SAW Video staff was very aware of ways in which material and digital archives were proposed and presented differently to funders, the distinction between 'digitization' and 'digital' was important in determining the role of the Mediatheque—as a project that migrated older works to online viewing, from one that utilizes the Web to enhance distribution of works produced in the digital era. Vacillating between these two possible outputs, the proposal to create the Mediatheque was seen to provide a structure that would accommodate both, and this would in turn encourage the continual growth of the archive, freeing it from a strict material/immaterial divide. However, by focusing on the affordances of emergent technologies, the proposal failed to outline the labour and

[178] Copyright and artists fees remain some of the most pertinent and unresolved issues for online video art: how to control and determine ownership rights for Web content and how to remunerate artists for work that circulates digitally. Once artists' fees paid, the remainder of the Mediatheque budget would go to administrative and technical contracts, and the costs of supplies and equipment, storage and streaming, digitization, training, and resources development.

skills needed for such a production, including the expertise of format shifting, compression standards, and upkeep, for works born digital. As a result, the vision for the Mediatheque was largely to rest in the hands of technology itself, comfortably nested in its most utopian promises. The portal would become evidence of priorities for archiving in the late 1990s into the mid 2000s, reflecting the limitations of 'mixed approach' proposed by Bairstow. For Bairstow, the mixed approach was very much informed by the safeguards of preservation, which SAW Video adopted but customized with no model to follow.

Having to conform to the category of 'digitization project' from Canadian Culture Online, the Mediatheque remained framed as such in official reports. However, in practical terms (and perhaps going against their own proposal for an archive) it eventually factored in the Web's impact on video artists by taking into account issues of mobility, formats, and cultures of production, which unvaryingly breathed life into the living archive. In their numerous grant reports, SAW Video play with the notion of preservation and suggest that it took on an alternate meaning, nested in this tension between the ephemeral and the living archive.

Spinning the idea of the archive to also include the movement and mobility of artists and the circulation of their works outside the Ottawa-Hull region, Morris proposed that the archive would require a more flexible outlook about what constitutes the local, and what, above all, the Internet afforded in terms of artistic community and participation that the traditional material archive could not. Instead of recreating geographically bound communities, Morris saw the Mediatheque as an opportunity to include multiple access

points, movement and displacement, into the archive's structure and organization. Morris and Ignatiev wanted the Mediatheque to reflect how artists work, and not just the final product as outputted in video. As such, their goal—though largely unrealized—was to integrate features that accounted for collaboration between artists, documentation of process, and traces of exchanges of inspiration, and not simply duplicate storage as a space to classify and retrieve a finite collection.

At the time of the launch, the project was manifold: it included new, born-digital works, alongside digitized works. However, it is evident that preservation never became a priority 'in practice' for the Mediatheque. It was secondary to the management of funds allocated to artists, which remained the priority well into the site's maturing. How to get money to the artists and to maximize the Web's potential for video art in Canada became part of Morris and Ignatiev's visionary drive. Together with Lechasseur, they created SAW Video's first online archive, which was essentially an open repository without definitive archival priorities, beyond demands made in terms of technical specifications.[179] Nonetheless, as more than a mere concept of an online archive, the Mediatheque became grounds for experimenting with the budding technology and ideas of the early 2000s about how to create community making video art accessible.

Archival Labour

The bulk of the planning and conceptualizing of the project was made through a committee of a dozen or so members at SAW Video, but the 'archival labour' became the

[179] For reasons that remain unclear, Lechasseur left SAW Video two weeks prior to the production and launch of the Mediatheque; he has returned and is currently serving as SAW Video's part-time Webmaster.

responsibility of only one person: Ignatiev. Ignatiev became the Mediatheque's digital archivist but had no prior professional experience in the field. While arguably there could be no expert in the nascent field of online archiving, Ignatiev remains aware that his training was through on site trial and error, and involved experimentation to develop a highly personalise but transferable method. He is credited with developing the entire digitization process for the Mediatheque project. Because the initiative was unprecedented, he created a system through trial and error, testing various compression formats and encoding rates. Smalley recalls that submissions came in for the Mediatheque in various formats—"ingest formats that we could accept," he explains, "included ¾" Umatic, VHS, Betacam SP, MiniDV and DVcam"—and that the onus was on SAW Video, as part of the archiving process to digitize to a standard format of their choosing.[180] Interestingly, this process is one that by Ignatiev's own admission, reflected his personal idea of a classification system, rather than a system than an objective basis rooted in years of archival theory or practice. Despite this, the system was said to be carefully constructed to be easily explained and utilized by future employees.[181]

Ignatiev explains that in order to organize the collection onto a material backup, he divided the uncompressed works—some of which were too large a file to fit onto a single 4.7 GB DVD—into parts. These parts were to be reassembled in a video-editing program to recreate the 'seamlessness' of the original, sometimes analogue, file. This meant that the video works were fragmented and spread across various DVDs, in some

[180] This would later change, and artists were asked to submit work on Mini DV exclusively, and to provide a still of their video as thumbnail, in order to decrease the responsibility and workload for the Mediatheque staff.
[181] One such employee, Ashleigh Horricks (coming out of SAW Video's Youth video programme), worked with Ignatiev to digitize works. Horricks adapted easily to the process in order to continue the process of digitizing video, remembers Ignatiev.

cases. Ignatiev explains that the purpose of this was to reduce costs; DVDs were more costly in 2003, and he felt there was "no sense in wasting the GB of storage," should one video work be stored per DVD. Remarkably then, based on this ecological principle, the files exist across material supports, awaiting (re)assemblage by future curators and archivists.

Smalley explains this workflow: from capturing to encoding, to then saving unto DVD as material support:

> Once the video had been captured in DV format, it was encoded to Real Video 9. The full DV quality .avi files were backed up to DVD-R data discs, with programmes longer than approximately 20 minutes having to be truncated into separate sections in order to fit on a 4.7GB capacity DVD disc (personal correspondence 2010).

What this means is that to materially support a video file at a decent quality in .avi format, 20 minutes of video exceeded 4.7 GB of storage. The fragmentation of video onto DVD for material support, which has to be reassembled for viewing purposes, does not seem a preservation ideal; the ideal would not be bound to the constraints of, or storage capacity. However, such fragmented preservation is not unlike YouTube's online streaming: YouTube currently limits video lengths to 15 minutes (up from 10 minutes in 2009 and prior), creating many segments as part of longer/complete works. For sites like YouTube, this truncated duration was in part imposed and determined by the cut back on 'piracy'—with so much of its content uploaded without permission from rights owners. YouTube's response was to set a limit that would render it more cumbersome to upload

full 'episodes' from broadcast television. [182] In YouTube's words: "YouTube has created an advanced set of copyright policies and content management tools to give rights holders control of their content."[183] The fragmentation of video on YouTube, if viewed as a repository, parallels the Mediatheque's archiving limitations: both are dependent on and delineated by digital storage space, but informed by legal and cultural impetuses. [184]

Ignatiev recalls that for full digitization to occur, each selection had to be watched six times in 'real time'—as there were six steps to the digitization process. The Final IOL Report (2004) on the project (by SAW Video to The Department of Canadian Heritage) notes that digitization occurred in 'real time' such that ten minutes of footage (which was the average length of videos in the Mediatheque) would require ten minutes to be converted, averaging at approximately 5000 minutes for the entirety of the collection. Burning the digital file, however, would require double the time per video, and encoding would demand as much as four times that amount. This means that the DVD-R space required for the Mediatheque collection amounted to 2350 GB, or 500 DVD-R.

As also stated in this Report, these durations (and file sizes) were calculated on the basis of the equipment available, and as such, these numbers diminished when a second work station computer became available. But, as those working in production remind and report, the addition of a second work station often caused for consistency

[182] The additional 5 minutes (to a 15 minutes maximum) is expected to have only a minimal impact on these copyright issues, especially given the open content ID system effective on YouTube. The open content ID system is an automated procedure for videos suspected of violating copyright thus allowing rights holders to track, monetize, or block content deemed infringing. http://.makeuseof.com/dir/youtube-movies-full-length-movies-on-youtube-for-free/ and http://Webpronews.com/topnews/2010/07/29/youtube-ups-upload-limit-to-15-minutes-per-video and http://nexus404.com/Blog/2010/07/30/youtube-upload-limit-increased-to-15-minutes-youtube-increases-the-video-upload-limit-from-10-to-15-minutes-for-aspiring-video-directors/

[183] http://youtube.com/

[184] For YouTube, storage and bandwidth cost more (estimated to more than double) than the ad revenues generated form the site. YouTube is popular, but not profitable, and this is largely due to the material costs of digital dissemination so often overlooked.

errors: “In terms of technicians, we discovered that more than one technician working on more than two workstations at a time leads to errors: in meta-tagging, missing tape quality errors, incorrect adjustments during digitizing, etc” (2004, 2). Ignatiev describes developing a solid workflow that followed a logic others could take on and build from, but the report also shows that the connection between the archival labour and system developed are very much intertwined with technology, as such that a person develops a particular and personal approach that can feel logical if not technological in nature.

The human hours of such a large-scale online project cannot be understated, and in as much as human passion drove this project, human error complicated the relationship between technology and the Mediatheque as an archive. With the advent of faster DVD burners, greater processing speeds, etc., the process would invariably become smoother, less costly, and more efficient. In 2003, once the workflow firmly in place, the average minute of video took one hour to get online, from its original format.

Technical Requirements: Launching Standards for an Online Archive

The Mediatheque was being conceived and developed at a time when the Web was transforming quickly due to the growth in users, increasing 444.8 % from 2000 to 2010.[185] After the material backups were made, and files prepped for online viewing, issues of bandwidth, online format and player, and backend database management, had to be sorted. At this juncture SAW Video decided to work with an Internet start-up whom had provided them assistance prior to the Mediatheque, for their Youth Program.

[185] According to http://nternetworldstats.com/stats.htm

The partnership between iSi Global[186] would provide server management and free bandwidth for the project, but this meant that video was streamed using the Real Player plug-in, as iSi Global was the local representative for the software.[187] However, as Ignatiev points out, SAW Video was not beholden to this format—they chose it because it was a standard at the time. While in 2003 Real Player may have seemed as viable an option as the ubiquitous Flash video/HTML5/Mediatheque.264 do today, for example, the corporate ties to RealPlayer were nonetheless essential to the project (Gilbertson 2010; Gizmodo 2010).[188] SAW Video could not afford the streaming costs as the site bandwidth demands were significant (for 2003)—this meant that a corporate partnership facilitated the project. iSi Global allocated bandwidth for approximately 300 000 hits averaging 10 minutes each, amounting to approximately 12 months worth of free bandwidth.[189]

Bandwidth, however, is not a concept that is easily or commonly understood to the fullness of its complexity, nor easily measured. The changes in bandwidth in terms of circulation capacity and costs are worth exploring in more detail both for what it reveals about the implications for the Mediatheque in 2003 and current debates about the role of ISP (internet service providers) in providing and delimiting the bounds of access.

Bandwidth is often used as a synonym for the rate of transfer of data, as bits per second (bps). 'High' or 'wide' bandwidth is required to run video smoothly (without interruptions or delays, or the sound and image become un-synched, or lagging in

[186] http://isiglobal.ca/
[187] http://real.com/
[188] Similarly, viewing YouTube videos on a personal computer requires the Adobe Flash Player plug-in to be installed in the browser http://en.wikipedia.org/wiki/YouTube
[189] Despite the server crash on SAW Video's end, SAW Video and iSi Global remain on good terms and are partnering for the next iteration of the project.

streaming). The 'band' itself refers to the width of the range of frequencies for transmission (measured in hertz) of a given electronic signal.[190] Over the years, bandwidth has increased tremendously, but remains an issue for video streamed online. In a 2003 application for the City of Ottawa Art Funding Programme, SAW Video stated that:

> a current streaming rate of 150kb is not optimal for viewing work online, with 500 works, bandwidth is obviously an issue. It is only thanks to a generous sponsorship by Ntegrating Solutions (Ottawa), who has donated the majority of the bandwidth required, that a site of this scope is possible at all (2003, 16).

Considering that a 'low' or 'narrow' band of the dial-up connection is at about 50 Kbps or 50,000 bits per second, and a 'high"' or 'wide' band (broadband) clocks in at 128 Kbps to 2,000 Kbps or more, the measure of speed—from the ISP to the user's personal computer —determines if not defines 'access' online (Simpson no date, online). Looking at bandwidth is one of the many ways, along with media-memory supports like DVDs, compression and encoding rates etc., that situate the Mediatheque in a Web-historical context (Parrish 2008).

A second factor of video circulation through the Mediatheque, as stated in the IOL Final Report (2004), was the promise of accessibility across platforms. Both Mac and PC operating systems, independent of the browser or operating system, would require the Real Player plug-in as part of their corporate agreement with iSi Global. Because videos were relatively low quality, and were streamed, access to the Mediatheque's content

[190] http://searchenterprisewan.techtarget.com/definition/bandwidth

became a matter not only of bandwidth, but of the processing power of individual computers.

In sum, the backbone of the Mediatheque project rested on several preservation principles as listed in the Final IOL Report (2004): multiple copies of the Website, a user-friendly back-end that made upgrades part of the process, and a material back-up onto DVD. The copies of the portal were made automatically on the servers of Xstream Labs —later replaced by iSiGlobal—as well as a daily backup at SAW Video. However, these preservation principles were external to the archive rather than contained by it.

Part of the so-called preservation approach included the 500 digitized productions utilizing 300 DVD-R. And, as reported, "a user-friendly back-end with administrative forms makes adding to and maintaining the collection and its associated data as straightforward and economical as possible" (IOL Final Report 2004, 2). Claiming that the administration of the site is simple and that the backend allows for "great flexibility, such as expanding indefinitely the formats for presenting productions, mediums of productions, genres, and numbers of people and productions available online" the material back-up and online support—they alleged—worked in tandem as a preservation strategy and, presumably, constituted the archival quality of the project.

Having tested all hyperlinks, SAW Video also assured a cross-platform compliancy, a limit of three 'levels' to access data, the use of Secure Socket Layers (SSL), encryption, and promised to upgrade security (via corporate sponsor iSiGlobal) for personal user information. Shortly after the project gained momentum, IOL's name was changed to 'Mediatheque' to reflect the bilingual intentions (or afterthoughts) of the project, and to meet Department of Canadian Heritage's requirements of bilingualism.

Before becoming the Mediatheque, the conceptualization of the project underwent various developmental phases, generally accounting for different approaches and investments in the 'archival' framework as put into practice through Web technologies. Emergent technologies were important markers of the particular era that defined the acceptable parameters for an online archive. They determine the boundaries for both the creators and users of the Mediatheque, ensuring the privacy of users and effective terms of use for the site. These elements were insured at the level of disclaimers as well as being built into the technology of the site offering different layers of access for site administrators (monitoring) than for users (browsing). The IOL Final Report (2004) to Department of Canadian Heritage stipulated that all conditions imposed by the Canadian Culture Online Guide had been met to launch the larger Mediatheque project: the Mediatheque provided a distinct entry point from SAW Video's Website, and it grew from the IOL that piloted it.[191]

For the Mediatheque, the launch meant that it had met all the project requirements demanded by its funders, based on the Canadian Culture Online Guide to Technical Requirements and Recommendations (last updated in 2007). This guide outlined standards in place for online projects under the banner of "digitizing Canadian cultural content" which sought to "contribute to a guarantee of quality" and in turn served to evaluate projects against numerous requirements. These standards were set in place to make Websites more accessible, more easily visible and searchable through search engines, more viable in the long term, and easier to migrate to new platforms—backwards and forwards in terms of upgrades (and degrades, as in reverting to older

[191] A scanned clipping of the newspaper can be found here: http://adornato.com/images/press/Xpress_mediatheque_Ottawa_2004_adornato_lrg.jpg

versions of the code.) These standards would also account for and respond to the needs of the 12.5% of the Canadian population with disabilities (StatCan 2002).

Measures specified in the Guide include markup language—hypertext and extensible hypertext requirements; code validation to verify the code is error free, cross-platform validity, and reliable searchability for Web crawlers (or engine spiders); character encoding for easy browser interpretation; client-side scripts to increase interactivity for the user, as applied by the browser (but downloaded as to be client-side rather than server side.) The site had to function perfectly should the minimal requirements be met by the user, emphasizing accessibility as a main design consideration.

The Guide also demanded that layout and design be managed through CSS (cascading style sheets), which separate (in theory) presentation of content from structure. CSS is the preferred method for determining the visual style and layout of Websites, mainly because it also benefits the Website by reducing page file size, and in turn, quickening access. CSS facilitates indexing by Web crawlers and generally reduces the time and energy required for a site redesign, should significant changes be made in terms of layout. To meet the standards, the site had to be functional should the user have an older (text-only) browser or a device for which CSS was not rendered properly, if at all. For similar reasons, pop-up windows, tables, horizontal scrolling, and image maps became outlawed in this Guide. This, again, placed priority on access to basic content, and generally text-based description, over aesthetics and/or design.[192]

[192] Designed by Leif Harmsen in 2003, the Mediatheque interface was a black minimalist portal, with white text, accentuated by purple and orange, and a few logos. Morris recalls diverse visions for the portal, including significant differences in opinion over the look of the portal, and a growing tension between those invested in the project from the beginning and those joining in on

The Guide also outlined standards for resolution and media access, and video in particular. In terms of screen resolution, the Guide demanded a Website be effectively viewable at both 800x600 and 1024x768 pixels; these resolutions continue to increase today. Other visual considerations included font size—which had to be easily increased and decreased by the user—and visual contrast between text and background. Images were to be presented in current and common formats accompanied with their text-equivalent, and always as hyperlinked thumbnails. Video had to be embedded into the browser window (as opposed to the pop-up, which was forbidden). Video was not permitted to start automatically, and had to include controls for starting and stopping the video (i.e. have a visible 'player').

The emphasis in this Guide is very biased toward the user-end, ensuring that the user retains the utmost control over the kind of access made available. Further supporting this claim is the demand that video file sizes exceeding 50 Kb (which is very small for video) be labeled with the file's size and duration, so as to not foil users into downloading more than their computers and connections could handle at the time. All codecs—which is a device that codes and decodes data streams—had to be freely available and linked so that it could be easily installed by the user, should their computers require it. Video also had to be available for high and low bandwidth considerations, offered through streaming, as downloads, or as progressive download, affording the user different modes of engagement with the media.[193]

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the momentum, eager to propose new interface designs.

[193] The first option offers video through the Web server—displayed and discarded—leaving no file to be saved on the user's computer. If videos are offered as download, they are accessed from a user's computer and can be saved for later playback—the entire file must be downloaded for playback to be possible. The final option allows the video to be watched as it is downloaded provided that a portion of the file has been downloaded (buffered).

The two final sections of the Guide, on Metadata and Databases, are equally important. Metadata—'data about data'—included information about the Webpage such as: title information, the creator's name, keywords, the date of creation, the language name or code, and the URL. In terms of database interoperability, it was required that they rely on SQL and XML standards. In this sense, the interface became the browser's storefront that made access to content of the database possible as a database is rarely accessed directly. In other words, the interface allowed non-programmers to upload content to the database through what is known as the back-end interface. McCann and other SAW Video staff could therefore upload content to the database without any real awareness of it, or its core functionality.

Overall, these parameters point to a particular junction for Web standards, adapted each year to accommodate quickly changing technologies. However, these parameters also tend to overlook demands or guidelines about functionality in terms of the front-end interface design. Smalley explains that technical considerations informed the front-end design:

> In essence, nobody knew exactly what it was going to look like or how technologically it was going to operate. The design of the site was predominately influenced by the proposed core functionality that it needed to provide (personal correspondence 2010).

The site design therefore consists largely of drop-down menus to facilitate the location of a particular video, based on traditional archival categories: title, artist, year, and length. These menus remains functional via the IWM, an as such, a complete list of contributors

remains available after the crash. The functionality Smalley refers to was understood in some sense completely as what we would today refer to as 'searchability,' the association of artist description of the work to the artist's personal bio; full length videos screened without fee (no excerpts allowed); and, backend administrative tools allowing SAW Video to update records in the archive, and control as many functions of the archive as possible (personal correspondence 2010).

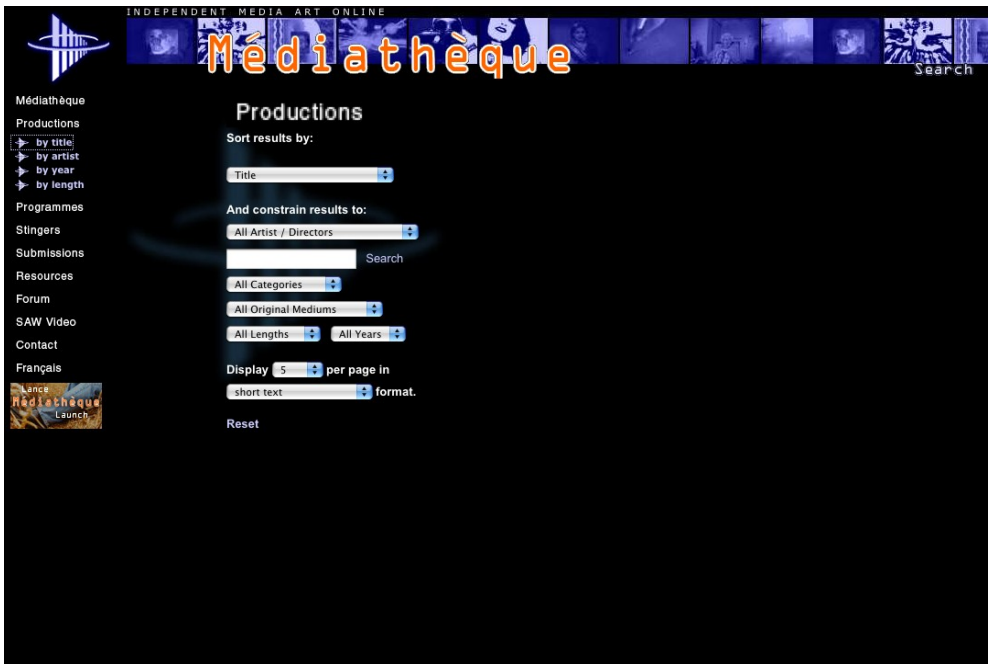

Figure 9 Mediatheque search function and fields

Finally, and perhaps most importantly in retrospect, the Guide recommended that prior to the project launch and throughout the site's development, that high-resolution content be "properly stored, backed up, and migrated according to appropriate long-term preservation practices so that fund recipients can access them at a later date […] in the event of data loss or a technical audit" (2007, 17). The Guide specified that digital

preservation be "specifically concerned with the preservation of electronic (digital) content." Borrowing from Cornell University's Digital Management Tutorial (2005), the Guide further stipulated that digital preservation be defined as a "broad range of activities designed to extend the usable life of machine-readable computer files and protect them from media failure, physical loss, and obsolescence" (2007, 17). For the purposes of fund allocation, digital preservation became an issue of Website organization and structure, promoting long-term maintenance as well as ongoing access to its content. Once these standards applied, SAW Video was ready to build and launch the Mediatheque.

The Mediatheque was launched publicly in February 2004, following the IOL soft launch in 2003. The first cached copy of the project, through the IWM, appears October 19, 2003. Because very little video was being streamed online from Canada at the time of the launch—before widespread use of video online on YouTube, starting in 2005—the project was as large in scope and is was in anticipation. SAW Video's Final Report to the Department of Canadian Heritage, presented the launch of the Mediatheque with promise:

> … we have built a backbone that can support virtually unlimited growth in the number of productions that can be streamed and the number of resources that can be added; that is, a deluxe system that can meet future needs and requests, and that can accommodate changes and improvements as demanded (IOL Final Report 2004, 7).

Reporting on the launch, the Ottawa XPress (2004) quotes Smalley, SAW workshop coordinator and technical assistant at the time and current video preservationist at LAC,

defining the Mediatheque as "an archival repository of independent video art of all genres," adding that "unless you go to screenings you won't get to see works of art like this anywhere." The rarity of the works and the singularity of the Mediatheque are highlighted through the successful launch of the first project of its kind in Canada, if not worldwide.

Curatorial Channels

In its planning stage, from the introduction of the Web in the late 1990s to the 2003 Mediatheque launch, the Mediatheque was intended as a portal for media arts in Canada, to exhibit film and video from across the country, with a spotlight on regional works. But as a condition of its governmental funding, the aim had to also be decidedly educational. Saw Video had to merge curatorial intentions with an educational mandate. To do this, the Mediatheque was to provide contextual documentation by means of artist statements, artist biographies, descriptions of works, links to distributors, and links to personal artist portals, but the question remained about the necessity of curatorial classification.[194]

However, the Mediatheque project did not follow up on this plan, in large part a result of the rush imposed to have the videos online, making it impossible to actualize all the desired features. Because of this, SAW Video never implemented curatorial features into the interface for the launch, nor over the course of the following six years, when the Mediatheque was online. Curatorial considerations would become an afterthought—a

[194] The Mediatheque search engine was organized and constrained according to artist/collective name, classification term (including Animation, Crime, First Nation, Gay/Lesbian, Installation, New Media, Race, Suspense" etc. These categories were descriptive of both genre and content. The content was also classified according to original mediums (16 mm Film, 3D Computer Animation, Digital 8, Hi8/Pal, VHS, unknown medium, etc). The results could then be sorted according to artist/director, title, year, length, or randomly.

distant second priority to providing artists with (one-time) remuneration.[195]

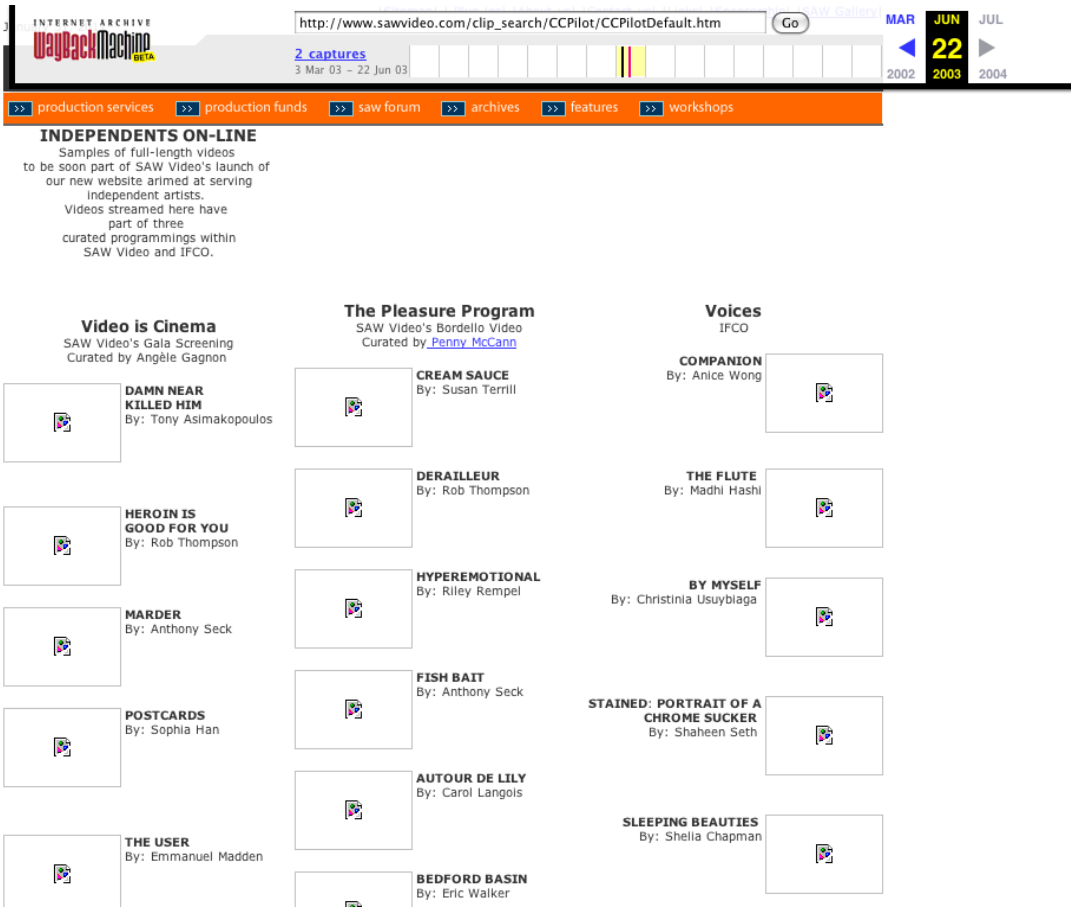

Figure 10 Three curated programs of IOL 2003 proposal[196]

[195] For the most part, the lack of curatorial features in the Mediatheque—generally defined by SAW Video as enabling the possibility of organizing works into collections and specialized programmes—constitutes one of the main self-criticisms by SAW Video, and one that surfaces for distributors, against the online showcasing of video art in such context-devoid spaces. On the other hand, McCann explains that "as a general rule, and going forward, any or all curated projects must be paid for." In this sense, works pulled from the Mediatheque—which showcases works for curators—are to be remunerated when presented in other venues (or, at the very least venues both online and offline that have funding in place). Put simply, works are not free outside the Mediatheque, despite being freely available within that context.

[196] Using the Wayback Machine, I was able to locate the moment where curation was first presented as the desired means to organise the archive, despite this never playing out in the actualization of the Mediatheque. Cached April 11, 2003, the site states that the videos presented would constitute a "selection from three curated programmes by SAW Video and IFCO." According to the traces left by the IWM, the details of these phases in the Mediatheque are slightly different than those originally proposed in writing. Prior to the February 2004 launch, 30 videos were made available online. These were organized into three programmes: "Video is Cinema" by Angèle Gagnon, "The Pleasure Program" by Penny McCann, and "Voices" by IFCO. However, these sections did not carry over from the 30 (of 496) of the IOL, into the Mediatheque. Beyond this IWM trace, the curatorial sections were dropped in the realisation of the

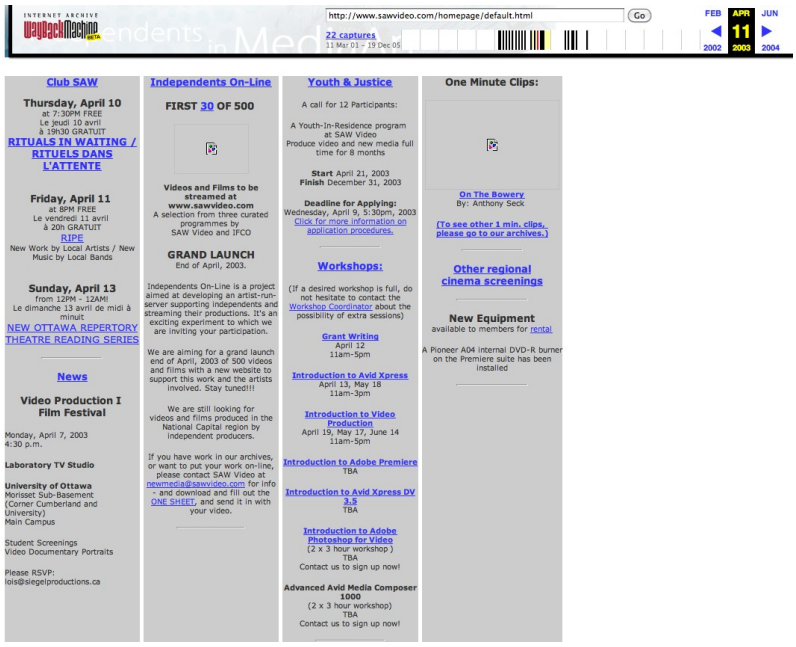

Figure 11 SAW Video's 30 videos in "three curated programmes" (2003)

Even in its absence, the curatorial impulse remained central for providing insight into the importance of context for the collection on the Web, said to be all the more important for McCann.

Recent integration of social media, through Web 2.0 developments, has rendered the process of participation—and in turn, curation—much easier than it was at the onset of the Mediatheque project in the early 2000s. As a result, projects similar to the Mediatheque—such as Vithèque and IsumaTV—have implemented functions that allow users to comment, respond and label (tag), as well as upload and exchange videos, and create and save playlists, through an interface that provides ongoing and multiple contexts to their work. While the Mediatheque had many of the technical functions in

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Mediatheque. http://replay.waybackmachine.org/20030622131837/http://Mediatheque.sawvideo.com/clip_search/CCPilot/CCPilotDefault.htm

place to allow these types of functions, the lack of context paired with the lack of online participatory culture rendered the site less dynamic than what its present-day incarnation could potentially offer.

Montreal-based Vidéographe's Vithèque project—vitheque.com—may very well be the best living example of a re-visioning of the Mediatheque. However, Vidéographe opted to not include social media into the revised Vithèque interface. To this, Vidéographe Director (in 2010) Bernard Claret explained that it becomes a contradiction to 'litter' video art all over the Web because video art does not have mass appeal—and presumably, using the Web as a mainstream mass distributor goes against the culture from which video art emerges: a subcultural genre.[197] In 2010, Vidéographe's s version of the Vithèque platform relied on three curators to organize a selection of video works available online, almost replicating the model intended by SAW Video, eight years prior.

In addition to these curated collections, Vithèque introduced the notion of tiered access, where 'professionals' would have access to more features than those logged in as 'individuals.' This model relies on exclusivity: it places artists as 'individuals,' and curators, distributors, and other commercial and educational entities, as 'professionals', further echoing Bairstow's ideal 'mixed approach.' Unlike artists, said professionals were given unlimited access to the works and numerous additional possibilities for interaction while access by artists remains restricted. As such, the platform is foremost a marketing tool, and in this way, quite unlike the Mediatheque in their curatorial and educational

[197] Claret maintained that it is not because a video is available on an online platform that the general public will suddenly have the urge to see the work, despite increasing the works' reach for curators and festival programmers who have access to the virtual collections. In these cases, offline and online access is not defined through perceived availability, but rather through use. Use, however, tends to vary in its definition according to assigned roles.

intentions. Providing levels of access with varying tools for curating collections within the site, Vithèque facilitates programming based on its collection, yet retains the traditional title of curator for those deemed to be experts in the field. In other words, Vidéographe is not opening its Vithèque platform for public curation by way of user participation, which is something SAW Video had intended for the Mediatheque, through its Stingers segment.[198]

Distributors like Toronto's VTape, who appear to remain unconvinced of the Web's positive impact on (or potential for) video art circulation, openly argue that a lack of context is ultimately a lack of control, which invariably devalues the work of video artists. For VTape, the 'artist' is very important—and it is around the definition of the artist that their politics get defined, and ultimately, how they determine the bounds of acceptable contexts for viewing. This stems from the fact that in 1975 Canada became the first country to pay exhibition fees to artists, after successful lobbying by CARFAC (Canadian Artists' Representation/Le Front des artistes canadiens). CARFAC's lobbying also resulted in the federal Copyright Act Amendment. The Act recognized artists as the "primary producers of culture," and gave artists legal entitlement to exhibition and other fees.[199] As such, understanding the emergence of 'art as labour' in Canada became important for understanding the framework of (largely artist-run) distribution centres across the country, including the management of copyright as a means to negotiate contracts and generate income for artists.

[198] According to Morris: "Stinger allowed viewers to upload one-minute videos to create a video dialogue from more artists, up to 10 minutes. In its way, it was the precursor to YouTube. Our aim was to get a more immediate function online to augment the archives by creating more interactivity among artists, to support and expand the dialogue within the artistic community through streaming videos online. Video (not text) was the principal language of new media" (personal correspondence 2011).
[199] http://carfac.ca/

However, as I elaborated in the section that reflects on my intervention Video Cache, VTape is short a definition on what context effectively means or how context can be validated online. Of the ten videos selected for Video Cache, only *Hello Ingmar* (2000) created by Gunilla Josephson, distributed by VTape, was omitted from the original online showcase of Video Cache (although it was subsequently showcased as part of Video Cache on the Mediatheque portal launched October 2011). In short, as made evident by Video Cache, context becomes a shifty pretext for distributors in determining the bounds of acceptable online access, stalled until all aspects of circulation become clearly defined—something VTape claims it has been working on since at least 2009. It would appear that for now, VTape is content with its offline collection, using the Web less for visibility and more as a means to catalogue its works, and to provide videos in a protected peer-to-peer fashion, as a (format) migration specialist and high-end art collection.

Judging from Vidéographe's Vithèque and VTape's reluctance to offer up online copies of their collections, the context for video art distribution is gravitating toward a sustainable pay-per-content model—one that has proven viable for blockbuster films (Netflix, iTunes Store) though always alongside peer-to-peer sharing through torrents and applications (Limewire, Torrentz, etc). Claret of Vithèque nuanced this online/offline conundrum: while the market for video art remains small, the Web allows its reach to extend, and for the organisation at hand to cash in on the niche markets. Claret contends that through Vithèque, users purchase approximately ten videos per week, in low resolution. Of this sum, 35% is given back the artist, and the rest of the fee is reinvested

to cover Vidéographe's overhead.[200] This fee has been carried over from DVD box sets sales, but is generated now by online purchases. Through Vithèque, fees are approximately two dollars per access to low-resolution digital files, following the 'longtail model' that keeps the price low in order to attract many (or more) sales (Anderson 2004). It seems that in the conceptualisation of Vithèque there was simultaneously and underestimation of the mass appeal of the Web for video art distribution, but also a desire to cash in on its mass mediated reach.

Similarly, when McCann looks back on the absence of a curatorial feature in the earliest iterations of the Mediatheque, as well as VTape's reluctance to let video be showcased online (even) alongside a screening that pays artists fees, the notion of a 'lack of context' is used as a blurry but powerful-sounding justification to opt out without having to address fees outright. This lack of context may be code for the lack of money coming in to artists featured in the Mediatheque, after the initial government subsidy, thus hindering the sustainability of the project, and failing to recognize video artists as part of Canada's professional art culture. This is tied to Canada's positioning of art as 'cultural labour' and, in turn, artists as a 'work force.' As such, the politics of the Mediatheque are not purely informed by the technical possibilities of the Web, they are also culturally specific and determined in large part by pre-existing ideals—ideals hardly budged by emergent technologies—as demonstrated by almost all Canadian initiatives mentioned above.

Opting out of a curatorial model that required human expertize to organise content,

[200] The initial 300 works were paid for the Department of Canadian Heritage grant, where Vidéographe paid 350$ per video for a contract of 5 years, including one year of the site's construction.

SAW Video opted instead for channels as a means to thematically arrange videos. Aware of the art historical reference if not the irony of resorting to broadcast television to classify art,[201] SAW Video used four 'channels' to organize video content at sawvideo.tv, storing support material at sawvideo.com (SAW Video's current Website). In fact, one of these channels on SAW Video's site became the space and technological backbone of the Mediatheque: the Archive channel.

Three-Year Contracts for a 'Permanent Archive'

The online life of the Mediatheque project—six years—meant that the repository would outlive its three-year streaming contracts with artists. This, in turn, meant that artists were to opt in or out of continuing to showcase their work after 2006: this time for free.

According to McCann, few artists decided to remove their videos from the site upon termination of their original contracts, for which they were paid a two hundred dollar flat fee per video for three years of online showcasing.[202] Artists dealt with the renewal in numerous ways: a number of artists who had more than one video on the portal opted to keep only specific videos in the Mediatheque when it came time to determine which works to effectively donate to the Mediatheque; others removed work they felt no longer represented their practice; some artists removed works that had been uploaded as a desperate 'money grab;' while others had their videos removed by SAW

[201] One of the test URLs, the slogan reads "SawVideo.tv – Your Disinformation Station." This slogan is one of the many hints at the impact of a video art history; a movement vested in identity politics and the use of technology for commentary and critique of the mainstream, made enduring by the digital trials and remnants of the IOL portal. The use of 'channels' to organize content is possibly to the most overt association to television, despite having little relationship to the original definition, beyond 'limiting' options to viewers. See Wayback Machine: http://Web.archive.org/Web/20100822155238/http://Mediatheque.sawvideo.tv/youth_videos/

[202] http://wayward.ca/wayward/Webarcheology/digs-mediatheque-/

Video, by virtue of being unreachable, a consequence of the out-dated database. SAW Video had to get permission from artists, or their distributors, to continue showing works on the Mediatheque. Despite this, a number of artists may have seen their work live on through the portal after the expiration of the contract, despite not having agreed to renew the terms, a fault easily attributed to management of contracts for such a large project—with so many participants and so little operational power. SAW Video has always remained respectful of artists fees.

McCann assured me that few if any artists removed their works on the principle of not being remunerated (again), or with the belief that all video showcased online should be paid for as an ongoing exhibition fee. For those who opted in to the renewed terms, the Mediatheque now owns the non-exclusive rights to showcase the works online in perpetuity; and this remained true even when the site was offline between 2009 and 2011. Of the 496 works on the Website, 300 remained after the 3 year contracts expired, which, according to McCann, provides "a substantial foundation upon which to build a permanent digital archive" (New Directions for the Mediatheque in 2006–2007).

Because there is generally a two-year window for videos to be featured at festivals and circulated to curators, television producers, and distributors (internationally), this valuing of the work is undoubtedly a factor in artists' decisions to continue to showcase their work online, 'freely.' In fact, as explained to me by Claret at Vithèque, outside of Canada artists are rarely paid screening fees for having their works programmed into festivals by curators, making the festival circuit a promotional device rather than providing a market for the work. As such, a second life for video art is situated between that two-year festival/gallery/television circuit and, at the other end, a

period where works are deemed ‘historical’ or rich in archival value, such as collections of early video from the 1970s, or by now, well-known artists.

The Mediatheque showcases works not only deemed archival, but undistributed and rare works that would never otherwise be seen by the general public. Based on the participant database in the form of a Microsoft Excel document, provided to me by McCann, 175 works from the 496 were distributed directly by artists, without distributors.

437	Intercourse With A Martyr	2001	SAW Video	DV	YES	Description: Dark forces are on the move.
438	Spick And Span	1994	SAW Video	Betacam	YES	Armed with a bucket of cleaning utensils a
439	Video Revolution	1997	SAW Video	Betacam	YES	Description: This work critically examines
440	Club ViviSEXion	1997	SAW Video	Betacam	YES	The bizarre two-part story of a young cou
441	Breakfast	1991	SAW Video	3/4"	YES	Breakfast is a music video I made of a pur
442	Point of You	2001	NBFC	Super 8	YES	This visual essay centers on a young wom
443	Sacrificial Lamb	1991	YU Cinema	16mm	YES	People following old traditions in a small v
444	Aqua	1988	YU Cinema	16mm	YES	People go to a public place to have a bath
445	Fjord	1989	YU Cinema	16mm	YES	Nature and people in Norway.
446	Folk Dancers From Serbia	1991	YU Cinema	16mm	YES	Original traditional dance from Serbia.
447	Christmas	1989	YU Cinema	16mm	YES	Documenting of Christmas in an Orthodox
448	Creative Process	1989	YU Cinema	16mm	YES	Artist Gordana Kitak in her process of crea
449	Two Canadians:Under Blue Helments	1992	YU Cinema	16mm	YES	The story of two Canadian Blue Helmets (
450	Woman	1989	YU Cinema	35mm	YES	An experimental film all done in close-ups
451	Let Us Learn Dances	1989	YU Cinema	Beatcam	YES	Educational video on Serbian folk dances.
452	Trudna Zemlja - My Land	1989	YU Cinema	16mm	YES	It is documentary short film about people
453	Peaceful Pictures of the World	1993	YU Cinema	16mm	YES	Peaceful Pictures of the World
454	Limun Zyt - Yellow Lemons	1988	YU Cinema	16mm	YES	Experimental film. About sour politics. Ca
455	Children of Kozara	1989	YU Cinema	16mm	YES	Concentration camp during World War II v
456	Double	1979	YU Cinema	16mm	YES	Parallel stories. When a double takes the
457	My Name is Refugee	1997	YU Cinema	16mm	YES	During and after WWII in the former Yugo
458	Self Portrait - November 2002	2002	SAW Video	16mm / DV	YES	Description: Clear 16mm film was stretche
459	Blind Date	2001	SAW Video	Mini DV	YES	A blind date is set up between a street inv
460	48 Hours On The Street	2001	SAW Video	Beta/DV	YES	A dramatic and humor filled documentary
461	Les Filantes Etoilees	2000	Spirafilm	DV	YES	A series of formal, symbolic and atmosphe
462	The Magic Paintbrush	1999	SAW Video	VHS	YES	Description: This video relates to the them
463	By Myself	1994	IFCO	16mm	YES	By Myself is a tale of a young boy who em
464	Ecrire les yeux flottants	1999	Videographe	n/a	YES	ÉCRIRE LES YEUX FLOTTANTS talks about
465	Camille	2002	Video Femmes	DV	YES	
466	Fruitlands	1995	SAW Video	3/4"	YES	Family of Eastern Europeans settled on Fr
467	Quand La Charrue Passe Dans Le Ciel	1998	Daimon	SVHS	YES	
468	Last Stop At Underground RT Station	2002	SAW Video	Mini DV	YES	Description: An homage to certain historic
469	What're Ya Doin Benji?	2003	SAW Video	DV	YES	Benji and I were at The Banff Arts Centre
470	Golden City of Contemplation	1994	SAW Video	n/a	YES	A performance within a document of a ret
471	Nail Polish	1993	SAW Video	n/a	YES	The first of the fictional "Vovo Kingdom" s
472	Creative Assembly #1	1994	SAW Video	n/a	YES	A video collage made entirely of sampled
473	Mi'kmwesu	2000	SAW Video	Betacam	YES	Description: MI'KMWESU is an experiment
474	In Motion	1993	SAW Video	Hi8	YES	Description: IN MOTION is a short experin
475	Jipuktewik Sipu, River Of Fire	1991	SAW Video	3/4"/Hi8	YES	JIPUKTEWIK SIPU, RIVER OF FIRE feature
476	The Chelsea Bridge Tentet	1997	SAW Video	DV	YES	Chelsea Bridge, under the leadership of Jo
477	Celebration Of Life (River Of Fire fest.)	1995	SAW Video	3/4"/Hi8	YES	
478	Dino Sores	1996	SAW Video	DV	YES	Description: DINO SORES is a bright colou
479	Reintroducing The Wild Turkey	2001	SAW Video	Beta/DV	YES	Ten million wild turkeys populated North A
480	Auf Festen Boden (pt. II)	2001	SAW Video	DV	YES	A documentary about the lives of the four
481	Living With Deer	1998	SAW Video	Betacam	YES	Based on beautiful wildlife footage shot ov
482	Sharing the Land	1999	SAW Video	Betacam	YES	SHARING THE LAND explores the habitat
483	Embracing Our Mother	1996	SAW Video	Betacam	YES	This video is about the risks associated wi
484	Auf Festen Boden (pt. I)	1999	SAW Video	DV	YES	A documentary about the lives of four Eas
485	Bedford Basin	2000	SAW Video	Betacam	YES	An eight minute real-time video painting o

Figure 12 xl sheet (section) of Mediatheque collection

Included in the Mediatheque collection are works for which artists do not own all rights for the materials—much of video art is about commenting on society and culture and thus draws heavily from it, a practice that still falls largely outside of fair dealing in Canada. As explained by McCann, "we protect artists rights, but we protect their right to rip off work!" With this bold statement, McCann is acknowledging that practices of pilfering and remix are integral to video art—to state the contrary would be to deny the nature of a significant portion of the collection and of video art history more generally.

As an important side note to this, when digitizing videos for Vithèque, Vidéographe opted to leave out from their online showcase all works for which rights were not cleared by the artist; this obviously creates an important divide both in terms of the history of video art and the kinds of video art users have access to, based on technologies of display. The Vithèque archive is systematically dividing works that are copyright-free, which get digitized and posted online, from those that have remix/appropriation/found footage, being literally left on the shelf.

Vithèque is not alone in awkwardly addressing the threat of copyright—the unclear rights and responsibilities that pertain to art practices and their distribution—by inadvertently letting the threat alone (rather than actual consequence) determine the politics of access to their collections. Other tactics to counter copyright threats revolve around the quality of the copy that is circulated online: typically highly compressed. Low resolution (high compression) is often presented as a means of 'protecting' copyright because it is contrasted against a far super screening quality, which has come to be a

standard for video.[203] For VTape, for example, there is a definitive connection between controlling quality and retaining rights—they retain the high quality version and allow a lower quality to be selectively watched online. However, according to VTape, low resolution is not enough to protect copyright. As Kim Tomczak, co-founder of VTape, explains in an email, the recent (2011) revision of VTape's online preview model:

> we have become concerned that DVD's have become all too easy to duplicate and we now feel we should move to a more secure preview format. This is the direction our sister organizations (LUX in London and EAI in New York) are also pursuing. We plan to move to password protected on-line previewing. The online files will be of a preview quality only and will be available to our clients through a secure password protected system for a limited period of time. Our goal is to greatly increase the protection of the copyright of your art work (2011).[204]

While copyright is not something that can be protected per se, it is often presented in the way Tomsczak does here; in Canada, copyright is assigned automatically to 'fixed' 'original' works, and is a legal system. Copyright does not rest within the technology itself, and arguably, should not—according to current copyright laws—be determined by the feasibility or ease of copying. To impart technology with these roles is to seriously misconceive of copyright; it risks removing the legal, cultural, and social dimensions of copyright by tilting the emphasis to be about protection rather than a balance between

[203] The origins of this claim is unclear and perhaps one worth reconsidering in the age of small screen mobile devices.
[204] Email to Dayna McLeod, about online previews, sent April 11, 2011.

incentive to create and timely access to the creation. With increasingly long terms of copyright across the globe, this kind of copyright rhetoric Tomsczak espouses has become commonplace; where access online is somehow inherently an assault to artists' rights. This worry—or fear of access outside the portal without permission—was also reflected in the Mediatheque in 2003. The concern was that in order to create a contract with artists, SAW Video had to be able to secure and limit access to the platform and prevent redistribution:

> It was a big concern and we did our best within the Real video platform to make it as difficult as possible for someone to clone the streaming file. However, no system is foolproof and there were definitely ways to circumvent the restrictions fairly easily if you understood how real video files worked. In the end, the maximum quality of the video available on our site was pretty poor when viewed at full resolution that the repurposing potential of anything taken from the site would be extremely limited (personal correspondence 2010).

Most of the repositories I have explored for this research project opt to make the quality of online video sub-par as a means to retain a better original copy within their material collections. This is to say that while video online has become much better in terms of both compression rates and streaming quality, this potential is intentionally thwarted to 'protect' video art.

The Crash

In June 2009, SAW Video's summer intern, Tiffany Tse, sent out a letter to video artists regarding the Mediatheque project—and more specifically to communicate the 'going down' of the site. The crash took down both the SAW Video Website and the Mediatheque portal. A letter was written to all contributing artists by SAW Video to explain the server crash, but also (already), in anticipation of the Mediatheque's rebuilding. The crash did not signify the end of the project, but it certainly gave pause to it as its custodianship shifted hands.

After this initial outreach effort to notify artists of the situation, an announcement was posted on the SAW Video Website to divert users (see Figure 1).[205] The story of the Mediatheque is the story of an online repository suffering the now expected fate of all things digital: an abrupt, fragmented loss. However, like all Websites, versions of the Mediatheque died off, while its fragments also multiplied and dispersed, only to be retrieved by various media archaeological endeavours after its crash. Framed this way, the Mediatheque's crash is as discursive as it is technical.

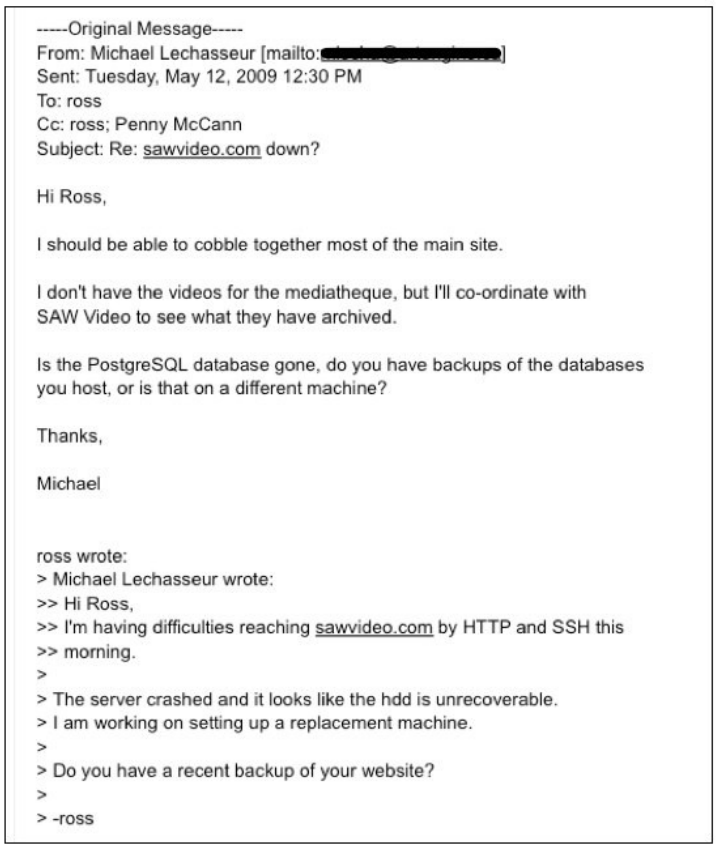
The details of the crash remain difficult to piece together largely because of SAW Video's staff reticence to place blame on each other or their sponsoring partner, iSi Global, who had been freely hosting the project. To this day (at least 2 years after the crash), video files uploaded in 2003 and 2004 for the Mediatheque remain on an iSi Global's servers in Texas (US),[206] and the partial database of works exists on a hard drive

[205] http://sawvideo.com/ (Accessed March 24, 2010). See: http://wayward.ca/wayward/Webarcheology/digs-mediatheque-/ This notice has since been removed, but can be seen via the IWM, September 27, 2009.
[206] http://wayward.ca/videocache-screening/part8.mp4

at SAW Video in Ottawa. The interface design has all but vanished, save for the efforts of the IWM and Google Cache, and possibly, older, personal, back-up files from SAW Video staff and hired designers.[207]

The Mediatheque's crash raises many serious questions about the Web's capacity to archive and because of this, brings attention to issues of preservation in the online realm. The Mediatheque was funded as an archive before anyone could claim to define the archive online. To this day, the online archive is a debatable concept. It is worth noting, however, that many of the concerns about the Mediatheque, as archive, are highlighted by the loss of the Mediatheque—the crash itself brings attention to preservation as a concept and construct. The loss of the site draws attention to different types of digital fragments, including how, in many cases, the ephemerality of these traces endures. The Mediatheque's abrupt (though temporary) offline status as an archive provided an opening into the discussion of the evolution of Websites—if it remained online, perhaps little attention would be paid to its underlying functions, which are more or less rendered invisible by the (now) functional interface.

[207] http://Web.archive.org/Web/*sa_/http://sawvideo.com



-----Original Message-----
From: Michael Lechasseur [mailto:[redacted]]
Sent: Tuesday, May 12, 2009 12:30 PM
To: ross
Cc: ross; Penny McCann
Subject: Re: sawvideo.com down?

Hi Ross,

I should be able to cobble together most of the main site.

I don't have the videos for the mediatheque, but I'll co-ordinate with SAW Video to see what they have archived.

Is the PostgreSQL database gone, do you have backups of the databases you host, or is that on a different machine?

Thanks,

Michael

ross wrote:
> Michael Lechasseur wrote:
>> Hi Ross,
>> I'm having difficulties reaching sawvideo.com by HTTP and SSH this
>> morning.
>
> The server crashed and it looks like the hdd is unrecoverable.
> I am working on setting up a replacement machine.
>
> Do you have a recent backup of your website?
>
> -ross

Figure 13 Email indicating Mediatheque crash May 12, 2009.
Printed with permission by McCann for Video Cache catalogue.

Several years after the launch, and a year after the crash, Morris spoke candidly of his frustration of the Mediatheque's offline status, following the news of the crash (which was the case at the time of the interview, until Oct 1, 2011). As explained by Morris, and reinforced by Smalley and Ignatiev, regular duplication by way of a back-up copies of the database should have been required of SAW Video staff. This is something Morris described as simply, "hitting a button and downloading" for which there is "no mystery at all, not even for a potter." Morris often compared his experience as a potter with his role as the leader of the Mediatheque project, hinting at his understanding of technology as

inherently more sophisticated than analogue or hands-on trades. However, this is a bias that Morris would often rely on to make a counterpoint, as he positioned himself as a potter and as someone Web savvy, indicating that his ability to appreciate and manage technology somehow meant that it was intrinsically easy.

However, as Mediatheque and SAW Video Web technician, Lechasseur explains, managing a database is not quite the same thing as following steps to 'click and download':

> The person that [sic] built the application supplied the SQL required to recreate the database and tables. Even if we had the data as it existed at the launch to re-import it would have been out of date, as staff updated the online database through a back end administration tool. I have the Web files that comprise the Mediatheque as it was, but not the PostgreSQL database from the server (personal correspondence 2010).

Perhaps there is more mystery (and skill required) to database management than Morris suggests; however, both Morris and Lechasseur insist on human responsibility—or the lack thereof—as technologies gave the illusion of providing solutions and facilitating various tasks, rather than adding to the already ambitious workload taken on by art administrators in Canada. Morris summarises the issue of responsibility: "the only problem is that nobody thought it was their job." Lechasseur echoes Morris's claim, framing the mishap as also a lack of accountability:

> I think that we should have ensured that backups of the server were taking place, and that iSiGlobal should have been performing those backups. But

> due to the nature of the relationship between SAW Video and iSiGlobal (ie: free hosting) we had to take what we got. […] it was explained to me that since we were being given a free service, we couldn't expect the same treatment as one of their paying customers. But even given that, I don't think that anyone ever suspected that they would lose our database and site (personal correspondence 2010).[208]

The idea that the lack of proper database management is somehow justified because SAW Video was not a paying customer of iSi Global is obviously problematic. The fact that SAW Video continues to host their Mediatheque database with iSi Global in 2011 is puzzling, but more importantly, it points to the hugely important role of inter-institutional collaborations, and the lack of structure for these kinds of exchanges. For Lechasseur, the potential re-launch is more than a matter of locating an existing database:

> iSi Global reported that a hard drive failure was the root of the server crash. In retrospect perhaps we should have investigated if our data in particular could have been recovered using more advanced techniques. We weren't provided the drive in question. I'm not even sure that they legally could give it to us since it would have had other people's information on it (personal correspondence 2010).

For Morris, the site could be up and running again in a matter of days if not hours, as he believes various copies of the database—though not the latest version as Lechasseur explained—exist on various hard drives at SAW Video and perhaps even, like

[208] Email with Michael Lechasseur, June 2010. All my attempts to contact Integrating Solutions directly failed.

Lechasseur, on his own computer at home. Morris firmly believes that "the crash is not a reason is it not up." He believes that earlier versions could have been remounted in minutes based on older versions from his own personal files and copies on SAW Video hard drives. However, McCann or Smalley made it clear that rebuilding the site would be a huge and lengthy endeavour, and did not share Morris's view on the matter. Ignatiev and Lechasseur looked forward without thinking too much about reviving the old portal as much as the potential and limitations it had now that it did not have in 2003.

Morris explains that without dedication and commitment, online projects die. He resigns himself to the fact that the project "never went anywhere" since the day he left. Many working on the Mediatheque believe, like Morris that, "even when technology changes, the human factors remain the same – nobody has the time or money" required for the upkeep of such projects. His frustration about the Mediatheque is shared with Ignatiev, and the disappointment is shared with Smalley and presumably others involved in the building of the Mediatheque, at levels both conceptual and technical. In 2012, McCann directs SAW Video and has invested considerable thought and energy into the Mediatheque, however different from the original or current iterations this initiative may become. This means that the current version of the Mediatheque is not the final one, but also that the current iteration is not straightforwardly a continuation of the portal. It is more palimpsestic than linear as a trajectory, and this modality largely informs its archival potential:

> The Mediatheque Web engine (front end layout and backend database) will never be resurrected. It is gone forever. This raises the larger question of how we can go about archiving dynamic Web based content that contains dynamic

> links and content, even executable code. As for the videos themselves, they do live on as DV quality .avi files in a disc library at SAW Video. One day soon they should be copied and transferred to another medium or they may be lost (personal correspondence 2010).

As Smalley explains, the material backup as counterpart does not ensure the Mediatheque's 'archivability.' Material formats are also temporary (though the decay is often less sudden and more permanent than digital decay) and require upkeep and migration: preservation is (inherently, conceptually) never complete. Comparatively, the crash is looming but never fully anticipatable and decay is anticipatable but never fully containable.

The video files for the Mediatheque exist in proprietary video format, compressed for Web streaming, doubled to data DVD Rom format in compressed (but better than Web-ready) quality.[209] For the original Mediatheque project, the DVD Rom versions of the videos served as back-up files; the online display was not a mirror of this collection. As uncompressed screening copies, they were not part of the project. While a request of The Department of Canadian Heritage's Partnership Grant, no high quality 'original' (by archival standards) is accounted for in the Mediatheque.[210] In this sense, the Mediatheque project was one that saw the online repository as an entity onto itself, and not a parallel, complement, or addition to any material version of a collection. The material counterpart

[209] A small number of works in the Mediatheque collection were and are distributed elsewhere.
[210] The term "conservation" is used to refer to treatment actions and copying for the long term, which seems to more readily align itself with digitization (as an act of copying.) During the Mediatheque's digitization process, the material 'master' and backup played different roles. Initially artists sent in their videos in any given format, depending on the technology they used. After the launch, artists were asked to submit a mini DV tape of their work and to retrieve it after the digitization process. Following this, artist had the option, as indicated in their streaming contracts, to deposit their mini DV tapes to the permanent material SAW Video archive.

for the Mediatheque was seen to 'support' the online environment. The Mediatheque, then, is a prime case study for an archive that functions on the basis of the Web and privileges wide access over long-term material preservation of the files per se. Whether flawed or visionary as an archival approach, the Mediatheque is a conceptual challenge to video art distribution and notions of access, through an online archival framework that inadvertently redefines preservation.

The separation of collection (in this case the video) from container (the archive) is central to this case study. As part of the Canadian Content Online initiative, the Mediatheque fit into the segment that saw digitization as an important part of the overall preservation of Canadian culture through the Web. However, digitization is not the final step to preservation, as many material (analogue) supports outlast the digital, yet demand their own upkeep. Digitization remains rooted in the preservation ideal that understands access and distribution as integral, but also as only a component of an ongoing activity and strategy, continually rethought and re-activated. Strategically, preservation serves to counter loss, and as such, always anticipates a 'crash.'

Within a Canadian cultural context, the online archive is first and foremost framed by definitions proposed and maintained by LAC (Library Archives Canada), where Mediatheque technician, Smalley, currently works and specializes in video preservation. Archivists have come to adopt key definitions that form the basis of a shared vocabulary, playing a role in determining what the archive is, what role context and platform play in re/shaping these definitions, and how emergent technologies transform archival philosophies.[211] At LAC, preservation is defined as:

[211] http://collectionscanada.gc.ca/preservation/003003-3200-e.html

> all actions that can be taken with the aim of ensuring the current and long-term survival and accessibility of the physical form, informational content and relevant metadata of archival records, including actions taken to influence records creators prior to acquisition or selection.[212]

By LAC's definition, the Mediatheque is not a preservation project. However, SAW Video would not only rebuild the portal as an archive that accounts for the Mediatheque collection, but it would also feature the Video Cache intervention documenting the crash, which together certainly accounts for various layers—albeit complex—of preservation.

In hindsight, for Smalley the Mediatheque was not really a preservation project, even though it was often presented at such to reflect the archival mandate. Revising this several years later, Smalley insists that the Mediatheque "was approached as strictly an access project." Smalley explains that in the construction of the archive, they "violated many rules when it comes to preservation: compressed master files, proprietary codecs, insufficient metadata and provenance records, highly volatile storage mediums (i.e. consumer grade DVD-R discs)." Smalley, who is now developing workflows with the primary goal being video preservation, is in a privileged position to explain how and why the Mediatheque would have needed to approach things very differently for a proper preservation project. However, this is from the perspective of almost decade of insights on the matter, which only in hindsight may seem all too obvious.

For the Mediatheque, nothing of a coherent collection or context remains aside from the project's institutional memory garnered in the various people invested in the Mediatheque and willing to reflect on the project several years later, and in very few

[212] http://collectionscanada.gc.ca/preservation/003003-3200-e.html#B

grant reports. There is also no formal documentation about this archival project, save for two or three local papers announcing the launch—and no media coverage of the crash. When the Mediatheque was no longer online in 2009, it generated little interest by curators, educators or artists, despite its symbolic, historical, and cultural significance for (Canadian) video art history and Web archives. In this way, the crash was both 'real' and metaphorically invoked.

Activating the Archive: Video Cache

On June 19, 2011, Corina MacDonald, editor of the online art publication Vague Terrain, published an article about Video Cache, my doctoral research-creation thesis. The article —which was a rather long interview with me about the insights and shortcomings of the archive—was entitled "Video Cache: Activating the Archive." I recycle that subhead here, and reflect on the notion of 'activation' to establish the final part of this chapter.[213]

As I state in the online digital cultures blog, Vague Terrain, "Until the Mediatheque is revived, Video Cache and the trail of documents that have come out of it (like this interview) constitute its main preservation efforts" (Hogan in MacDonald 2011). To activate the archive, then, is to acknowledge efforts made to recover and make sense of traces that lead, or have led, to fuller contexts and stories. In this sense, to activate the archive means to engage with it; to understand the role it plays, and in so doing, decipher its politics, which shift over time. Activation also means to dig into the archive, extract from it, and contextualize its fragments. Activating the archive is about recovery, reiteration, and renewal, and the back and forth required to actuate ideas, histories,

[213] http://artengine.ca/blog/?p=2365

trajectories, and memories.[214]

The screening component of my research-creation intervention, Video Cache, took place November 24, 2010 at GIV (Groupe intervention video) in Montreal. I had approached GIV as early as February 2010 to propose a collaboration, though the idea of what would be presented and in which manner changed considerably based on my involvements at GIV, and SAW Video. Over time, my ties with Penny McCann (SAW Video Director) intensified and together we developed a plan that would serve the research and commemorate the then 'lost' Mediatheque archive. As such, the research creation component of this project arose from research (this is a point I will reflect on in more detail, against Chapman and Sawchuk's (2012) delineated contours of creation (in Chapter 2, Methodology: Research-Creation).

There were three important collaborators in Video Cache: GIV, SAW Video and wayward.ca. Video Cache was co-organized by GIV, who paid artists fees, promoted, and hosted the event.[215] SAW Video is the organization from which the Mediatheque–the crux of Video Cache–emanates. And, under the name of Wayward, video artist Nikki Forrest and I discussed the Web's potential for video art, and for Video Cache. Our discussion can be found in the Video Cache catalogue available for free online or ordered via print-on-demand.[216]

Video Cache consisted of three important components: a public screening and

[214] This activation process is concretized by SAW Video's plan to embed and showcase Video Cache into their revised portal—a replacement of the Mediatheque—due to launch sometime in the Fall of 2011, according to SAW Video Director, Penny McCann.
[215] Since the mid 1970s, GIV has been supporting women in video-related projects, though by no means restricting support to video production; GIV also facilitates curatorial and community-based events organized by women.
[216] http://www.wayward.ca/videocache/wayward/

presentation, a month-long online exhibit, and a catalogue of the event that would live on to document the project long after it went offline, a month later. Each of these iterate elements conceived of in terms of the level of access they provided and the type of contextualizing elements they afforded. For example, the public screening was largely defined as the event from which the other materials follow, but given the particularities of the Mediatheque, as online storage, database, and archive, the public screening could be positioned, instead, as derivative of the online showcase. This has always been part of the fluid nature of the Mediatheque; while it was never conceived of as a material collection, it was only via its material (re DVD) back-up that a screening was made possible.

The screening, online showcase, and catalogue each allow for a different connection to the materials, and each present their limitations as means to then characterize the project, as documents for the archive. In 2011, when SAW Video re-launched their Website to include a significant portion of the Mediatheque collection, they also opted to showcase Video Cache as a Curated Program from the archive. In this way, the documentation of the archive through research-creation has become embedded into the archive, alongside the collection. This offers a great sense of closure in terms of my own project, but also a sense of opening for the ways in which it serves as the first curated segment of the new Website. Its duplication onto SAW Video servers also ensures, or at least makes probable, its accessibility well beyond what I could promise to maintain at wayward.ca. The reason for this being simply that SAW Video is mandated to preserve its Mediatheque collection and SAW Video Website hosting Video Cache, while the Wayward site is intended for temporary showcases and, in turn, impermanence.

Launched on November 24, 2010, Video Cache was a one-night screening and presentation about the Mediatheque archive; as collaborators, Penny McCann and I, discussed how it has been sustained, documented and re-presented through Video Cache. At the time of the event, Video Cache was the only remnant, trace, and interface to the Mediatheque's lost collection alongside the IWM screen grabs of the archive. McCann and I used the IWM during our presentation at GIV to showcase the lost Mediatheque, by demonstrating to the audience how to locate traces of the Mediatheque, as well as to show the site as it appeared from 2004 until 2009. The audience was fairly split as to who had used the Mediatheque while it was online and those who were seeing it for the first time through the IWM.

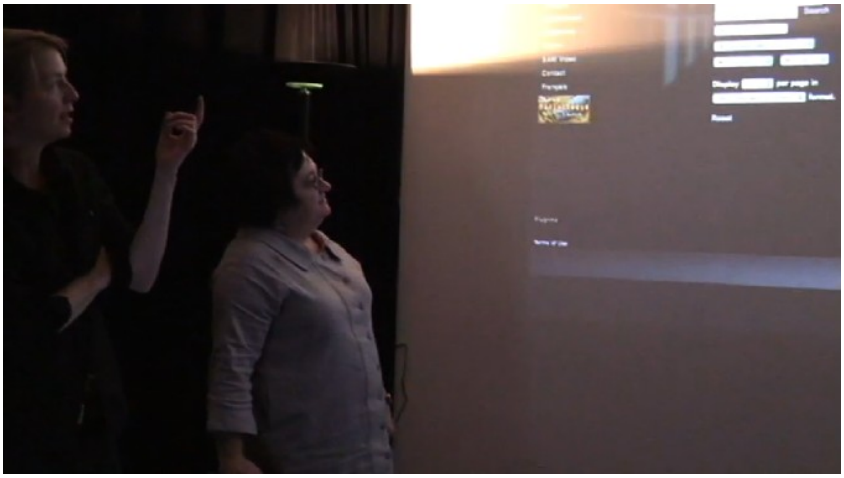


Figure 14 McCann and Hogan, Video Cache: Using IWM

For the Video Cache screening, McCann selected ten works from the original database of 496 videos. As stated in her curatorial statement, she chose works that could 'stand in' for others: works that were of a particular era at SAW Video, defined by a group of artists working with emergent video technologies in the late 1980s and early 1990s, in Ottawa

and its surrounding regions.

As a researcher, this was for me a means to get McCann to speak of the value of the collection in relation to SAW Video's past, beyond the standard interview format. Video Cache was also the component of the project that dealt with the content of the collection most directly—which is not the focus of my research yet remains a necessary consideration (as the collection presumably underlies the value, distinctiveness, and historical context for the Mediatheque archive.)

As the Video Cache organizer, I asked McCann to curate works, as she was in the best position to select works, as someone who knows the collection in depth, has worked on the archive, and has herself contributed work to the collection in 2003. In her curatorial statement for Video Cache, McCann writes: "Collectively the works selected represent the composition and spirit of the Mediatheque–independent, Canadian, with the large majority of the work–75%–from the Ottawa-Gatineau region."[217] The ten works selected by McCann are explained in detail in her curatorial statement featured in both in the catalogue and online. From a feminist standpoint, collaboration in this way is also a necessary ethical consideration: to work with rather than coopt an organisation's resources and energy, or impose representation.[218]

The Video Cache screening and the online exhibit preserve and regenerate the Mediatheque, and do so by raising important issues made all the more tangible by their anticipated contrast. The multiplicity of formats and viewing opportunities emphasize, mainly through issues of quality and access, the limits of technology for recording,

[217] http://wayward.ca/videocache/documentation/curatorial/
[218] As counted by McCann, eight artists who had work in the original Mediatheque were present for Video Cache on November 2010, and two of these eight artists had their work featured in the screening. Also present was digital archivist for the Mediatheque, Anatoly Ignatiev.

collecting, and preserving media. Video Cache served to document the Mediatheque project by updating the online context and addressing, in a practical, creative, and applied manner, what it means to bring the archive to life, by showcasing works made prior to the Web, online, and works made for the Web, on the big screen. Activating the archive through a collaboratively curated event also serves to document it better than written documentation alone could.

Video Cache was online for one month, between November 24, 2010 to December 24, 2010, at http://wayward.ca/videocache. The ten curated works were presented alongside various contextualizing documents: a curatorial statement by Penny McCann, a document I wrote explaining the context of the project, an interview-conversation between video artist and Wayward participant, Nikki Forrest, and I, and two videos marking the history of SAW Video and the launch of the Mediatheque, in 2003 and again in 2011. These two videos are of utmost importance for the contextualizing of SAW Video, as the place from which the Mediatheque emerged in the late 1990 into the early 2000s. Ignatiev, who was the digital archivist for the Mediatheque project, and holds a particular place in its history, created the video *SAWdust* which documents the late 1990s at SAW Video.[219] *SAWdust* was commissioned especially for Video Cache and arrived in a special package by Greyhound bus only hours before the event. The other (untitled) video to Video Cache is the promotional video for the Mediatheque launch, originally screened in 2003. It too situates SAW Video within a particular history and technological climate. This video is untitled and remains online through the Video Cache online exhibition space.[220] The link to the Video Cache exhibit is still live and all contextual

[219] http://wayward.ca/videocache/documentation/SAWdust/
[220] http://wayward.ca/videocache/documentation/mediatheque2003/

elements are still readily available online except the videos.[221] These have been replaced by screen grabs (video stills), in agreement that works would be showcased for one month only, or until they were revived by the new Mediatheque, through SAW Video.

Of the ten videos selected by McCann for Video Cache, we were given permission to show only nine online. On September 30th, 2010, Wanda Vanderstoop at VTape, in Toronto, responded to McCann's email regarding her request for a screening copy of Gunilla Josephson's *Hello Ingmar* (2000) and explained that a separate (but undisclosed) fee should be included for the online portion of Video Cache. Despite already being online for several years as part of the Mediatheque portal, VTape objected to the fifty-dollar fee offered by GIV for Video Cache as one that would be too little to also encompass the online month-long screening of *Hello Ingmar*. In her email to McCann, Vanderstoop outlined considerations for online video:

> I wanted to use this opportunity to let you know that a guideline is being developed with minimum fees, terms with regard to size/resolution, download protection, expiration date, removal after exhibition or 'license term' and a renewal fee if the work remains on-line (personal correspondence 2010).[222]

Despite this refusal, Josephson's *Hello Ingmar* appears in its entirety on the new Mediatheque. Still, no guidelines exist as of yet from any Canadian media arts organisation that detail specific fees or license agreements based on these aforementioned

[221] http://wayward.ca/videocache/

[222] This is, of course, not VTape prerogative alone. Many distributors in Canada cling to the scarcity model as a business model. Those who consider value to be generated in a variety of ways given the low barrier to entry of the Web, and its incredible reach. In Canada, most if not all video art distributors want to retain the scarcity model but are struggling with ways to effectuate the model given the explosion of means to showcase video online. These are some of the inevitable issues explored in this case study; issues that constitute an important part of what shapes the politics of the online archive.

criteria. The Web remains a space for which value is difficult to assess, as it challenges the notion of scarcity and in turn, complicates control over circulation—an issue that has progressed very little since the very early days of the Internet and remains puzzling if not contradictory when applied in case such as this one.

New Mediatheque, Old Debates

The hundred or so videos now featured on the Mediatheque range in original media: from 16mm film for works from the 1970s; VHS, 3/4 inch, Betacam, Hi8 video into the 80s; and, a variety of formats from analogue and digital from the 1990s, including DV, Super 8, and MiniDV (which may explain the 'media arts' as opposed to 'video' archive.) The collection does not offer a genealogy from obsolete media to so-called new media; instead, it shows that media artists adapt but continue to make use of analogue formats, converted to Web formats when needed, but not determining the modes of creation per se. In 2011, SAW Video continued to define the Mediatheque as an "ever-expanding public video archive," and houses more than 300 Canadian independent films and videos online, a substantial portion of the original 496 videos.[223] In 2003 as in 2011, the Mediatheque archive showcases independent video productions from across Canada on the Web, in full length, and at no cost to the viewer.

The oldest work carried over to the 2011 Mediatheque dates from 1971, is entitled *Spectrum in White* by Lois Siegel. The video was created for a "mixed media spectacle" and combines sound and scratched film as image.[224] At the time of the re-launch of the

[223] http://sawvideo.com/mediatheque/about
[224] http://sawvideo.com/programming/mediatheque/video/spectrum-white

Mediatheque, in 2011,[225] the newest video was a 2003 production, titled 02-02-02, made in Hi8/Super8 by SAW Video Director Penny McCann.[226] To those looking closely, this 2003 date is evidence to the archive's past, as 2003 was the original launching date for the online collection via the original Mediatheque portal, as Independents On Line.[227] Thus, while the current version of the Website gives a cursory overview of the archive's trajectory, this chapter explored in depth the trials and tribulations of the Mediatheque, a site simultaneously revived and erased by the new Mediatheque portal.[228] Conversely, and somewhat ironically, the work I have done to document the project, by way of research-creation intervention is now featured (and in some ways archived) within the new Mediatheque. As I explain in detail in the Methodology section, Video Cache was intended to reflect the living, palimpsestic, and enduring archive, which seems to be finally concretized—and yet further complicated—by this pairing of archive and documentation.

From the moment of the Mediatheque's crash in 2009, plans were underway reconsidering the Mediatheque as an archive, though much remained speculative. As the project Director, McCann weighed the success of IsumaTV against the rumours (later confirmed) of legal setbacks from Vidéographe, with the lack of innovation with the Web from numerous other organisations in Canada, to the explosion of video online through UGC sites like Vimeo and YouTube, as a means to assess not only the place of the

[225] http://melhogan.com/Website/video-cachesaw-videos-new-Website-launch/
[226] http://Mediatheque.sawvideo.com/programming/mediatheque/video/02-02-02
[227] I was able to locate the job posting (February 8, 2003) for a web developer and designer to create the pilot project, Independents On Line. The hours were negotiable, but the work contract was for 7500$.
http://web.archive.org/web/20030208003623/http://sawvideo.com/news/Jobs.htm#website
[228] When the site was offline, there may have been an urge for researchers to seek it out—as I did—while its current version can only hint at a history of experimentation with the Web; it does not leave a void as entry point or fissure at which to chip away.

Mediatheque but the concept that motivated the archive in 2003. In 2009, SAW Video was adamant that it was not going to hastily re-construct the Mediatheque portal based on fragments of what it once was. In anticipation of the new Mediatheque, Michel Lechasseur, Mediatheque Web developer, explained:

> we could have re-launched what we had, with effort, however the decision was made to forge ahead with the development of our new site, and to address the Mediatheque in that context. With our limited resources I think that was a good decision, but unfortunately it leaves the Mediatheque offline until our new site is up in the Fall of 2010. The benefit is that we eventually end up with a better product both content wise and technically speaking (personal correspondence 2010).

Perhaps, almost a decade after the original Mediatheque launch, into the age of social media, the Mediatheque could not again exist as it did: its re/creation poses a different series of tribulations.

For McCann, the loss of the original Mediatheque is important, but her focus in 2009 was already on the project's potential and rebuilding. In attempting to remodel itself as a large-scale media art repository, the revised Mediatheque, and the kind of project it typifies, was no longer a rare instantiation. Video streaming technologies had greatly improved, culminating in the likes of YouTube and Vimeo as well as numerous repositories built from customizable Web templates known as CMS (content management systems): ArtFem TV (http://artfem.tv); Nederlands Instituut voor Mediakunst (http://catalogue.nimk.nl/); Vithèque (http://vitheque.com). Together, these CMS

platforms and UGC (user generated content) sites shape the archival contours of video online, even as the base definition of the archive is altered within these Web structures.

While video streaming standards (still) do not exist per se, large-scale UGC repositories do set format trends in motion for online access and viewing. Flash, HTML5, and open video have greatly enriched the online video viewing experience (compared to the limited capacities of the late 1990s and early 2000s) including extensible mobile deployments and scalable screens.[229] Issues of format are important, though arguably less for matters of quality in their own right, and more for the links between quality and establishing value for video art through copyright and artist fees.[230]

In 2011, the Mediatheque uses Flow Player 3.2 to showcase its video collection online. Flow Player is a service and an open source application that has free and commercial options. It provided a video player that converts numerous formats into what it calls a 'Web-friendly format.'[231] The new Mediatheque also seriously reconsidered the role of networks and the quality of media offered. The 2011 Mediatheque shares the Web with growing UGC media repositories, emphasizing communities of users with disparate notions of ownership over media (theirs and others') and diverging needs around access (for legitimate or illegitimate uses, depending on who is making that assessment).

YouTube is now, by most accounts, the point of contrast of online video

[229] "Extensible" in the sense of accounting for future developments http://en.wikipedia.org/wiki/Extensibility

[230] Value is a core issue that remains largely unresolved and arguably has become increasingly complex in its application. Parameters of use, those that determine value through usefulness and/or cost, such as terms of use, copyright, and artists' fees for online streaming and digital distribution, shape the discourse of value for video art within the archive. Online, access is entrenched in Web culture and, often in opposition to, established laws for controlling intellectual property. Technological advancements are not always (or ever) synched to social consensus and law—and this lag seems all the more apparent as the speed of access increases (presumably with our sense of entitlement.)

[231] http://flowplayer.org/documentation/index.html

repositories, and the one against which others are measured (positively or negatively). Speaking as an artist, curator, and as the director of SAW Video, McCann suggests that YouTube (and Vimeo) can 'scare off' artists with their sticky terms of use, but remains alluring for their unparalleled reach. Many artists are also not particularly invested in copyright debates, are not fully aware of their rights and responsibilities, and, in turn, have no known apprehensions about sharing content through the UGC, with which they inevitably share copy rights with, for their work. The flipside is also true: those who want to retain full control over their media opt out of Web distribution and are likely to police their content to ensure that it is not made available online, by others. However, either case—the urge to free or protect content—appears only rarely based on an informed decision about copyright.

For Smalley, who was the technician for the Mediatheque in the early 2000s, the advantages of using existing UGC sites outweigh the cons:

> My biggest piece of advice to someone undertaking a distribution project like the Mediatheque would be, do not build anything from scratch. Take advantage of established service providers like YouTube. If, however, strict content control requires you to manage your own infrastructure to better protect and present your assets, there are many off-the-shelf solutions available now that can manage your front end access and back-end streaming of content (personal correspondence 2010).

Here Smalley positions 'the controlled' and 'the networked' as two ends, again reinstating the idea that the Web's wide reach is not always or inherently desirable for artists or

distributors. While ‘off the shelf solutions’ can allow artists to retain a certain amount of control over distribution—they do not click ‘agree’ to share copyright with the UGC—they do not come with built-in social networks. To create social networks, (those required to actively and effectively distribute video) the issue is fundamental: the reliance on social media such as Facebook and Twitter, and other means to draw attention to one video in a enormously vast pool of online video. As such, delimiting access through UGC sites became an important point to consider in revising the Mediatheque’s, and one that was seriously considered for the online showcase of Video Cache. For Video Cache, a non-database dependent CMS (content management system) was used in order to stream content from my own server, and to easily transfer the showcase to SAW Video after the month had passed.

The debate between UGC and CMS is relatively recent however. In 2003, SAW Video did not have the option of building the archive from a template; the site had to be hand-coded by programmers and organised by designers. The original Mediatheque was created before the so-called Web 2.0—the ‘version’ of the Web that emphasized the social components of the Web, which for many have now become synonymous with the Web. To not have had social media built into the site now means to miss out on important layers of the Web: namely the capacity to include participatory and curatorial features. For Morris, this lack now amounts to the obsolescence of the Mediatheque as a concept, due to the lack of interoperability (the capacity to work within other systems or interfaces) and community-based collaboration: “Now it is almost an anachronism to revive it – who is going to use it?” For SAW Video, social media not only allows connectivity between artists, but also increases the likelihood of having works selected

from the portal and showcased in other (paid and unpaid) contexts.

McCann explains that one of the goals set prior to the Mediatheque re-launch in 2011 was to improve the resolution of the video works, for online viewing. Of course, some of the reservations about offering better quality video online remained tied to issues of value and ownership, and more specifically, the perceived risks of inadvertently eliminating the hard copy (as the material authentic original, which remains more easily managed) (Lütticken 2011). The limited edition or material copy still offers more value within a scarcity model, which has served artists, distributors, and archives alike in maintaining a kind of aura around a particular (limited edition) object; a phase that grew out of the need to preserve works deemed historically and culturally (and in their marginality) valuable (TechDirt 2007).

As such, the Web did not invent this value 'problem,' but, arguably, forced it to resurface with its own particularities. Online, artists have to choose between wide exposure and control of their works (and distributors, over their collections). Morris sums up, "once you put video online, it's there for the world." As evidence of this sprawl, Ignatiev came across videos from the Mediatheque collection on the torrent-sharing site, Rapid Share. While there was no way for Ignatiev to determine with certainty that the videos were pulled from the Mediatheque portal itself, he concludes from this that video that goes online "belongs to everyone, or, no longer to anyone."

Concluding Remarks

> *...because of the speed of events, there is a real danger that an online phenomenon will already have disappeared before a critical discourse reflecting on it has had the time to mature and establish itself as institutionally recognized knowledge (Lovink 2003, 8).*

The concluding chapter is an opportunity for me to reflect on the original contributions of my doctoral project and the effectiveness of the arguments presented, with special attention paid to the process undertaken. It is also a moment to consider both the limitations of the intervention and the future directions for research.

My objectives were to analyse the dynamics between access, distribution and preservation, which I undertook in collaboration with SAW Video as an in-depth study of an important Canadian online archive, the Mediatheque. My research-creation intervention into the Mediatheque was titled Video Cache, which highlighted both the archive's crash and its cache, which together helped define the layers of the archive. Video Cache constituted a public screening, an online showcase, and multimodal documentation, which saw that the contents of the Mediatheque archive could and would be used in a new context; that media archaeology was an effective means by which to activate and recover the archive.

In 2003, SAW Video imagined, conceptualised, and developed Canada's first large scale video art repository online, hugely funded through a Partnership Grant from the Canadian Culture Online division of the Department of Canadian Heritage. With almost half a million budgeted for the actualisation of this repository, SAW Video had to not only conceive of the Web's potential for archiving, but also anticipate the ways in which

the technologies themselves would transform users, artists, curators, and distributors' relationship to the circulation of video art. In many ways, the Mediatheque was a deeply political project that enacted the utopic ideals of the Web: that art could and should circulate freely online. This ideal, however, was not shared by all ensuing initiatives, many of which continue to resist the notion of free flows as afforded by digital networked technologies, for the ways in which they demean the value of art and the artist, which are so central to building Canadian culture. The politics of the project, and a resistance to the online archive, lie in the tension between the notion largely instated and anchored by CARFAC in the early 1970s, which saw to it that artists were paid for their work when it was shown in galleries. Canada was the first country to implement this strategy, and as a result, to see art and the artists as owners of their work, which also entitled them to copyright over their works.

The politics of the online archive are therefore interconnected to various 'copy' rights, which include control over replication and distribution. What the Mediatheque represented, however, was not a position against copyright, but rather one that accounted for the impacts of technology as also imparting change in ideals of cultural circulation and the laws that enforce them. In this way, the Mediatheque continues to put into question the relationship between access, distribution, and preservation by nuancing the layers and levels of archival engagements. After the Mediatheque, numerous projects emerged online, though to arguably different ends. In the following eight years, numerous projects would engage with online video distribution or display, though each would face financial (IsumaTV), legal (Vithèque), and/or technological (VMC) setbacks as well. These examples continue to push and disrupt the utopic imaginary of the online realm as

archive, yet reinstate our desire to adopt the technologies to varying political and preservation ends.

As such, part of the expertise I have gained in doing my doctoral work is an understanding of the overarching theoretical problems that pertain to the dynamics of the online archive, and how creative methodologies serve as tools for intervention, collaboration, and analysis. Like Chapman's (2007) research-creation project, which I consulted for insights on both style and scope, I anchored my intervention in collaboration (with SAW Video and GIV) to provoke discussion and investigate broad research questions. In this way, research-creation allowed for an approach that did not make necessary the distinction between the screening, online display, multimodal documentation, collaboration, or interviews; rather as a process it understands itself as requiring each of these elements *as* analysis and as theoretical intermediation.

Within that framework, Video Cache is a project inserted between promise and failure. As an intervention into the archive, it vacillated from the notion of archival activation through use, as a priority in the online realm, to the more traditional long-term protectionist view that understands preservation as extension of meaning and material life. This is a point that became more clear as my research progressed: that issues of materiality and ephemerality are neither at opposing ends (of the archival spectrum) nor a matter of online or offline locations. Rather, as demonstrated through the various Canadian Culture Online initiatives (Mediatheque and Vithèque in particular), the archive can only be asserted through the careful consideration of the dynamics between access, preservation, and distribution, as afforded by media and technology at particular artistic, political, and technological junctures. Without these, the archive is foremost an ideal or

metaphor, but always with very real impacts and consequences.

Another important lesson learned from my intervention, including interviews at SAW Video, was that it became difficult to assign value or meaning to the archive outside of human interaction with and within the archive; not only as 'users', but also through the effects of discourse, and the implementations of strategies that responded to the excitement and demands of the moment. Time and again, SAW Video staff asserted that technology is futile without human drive and passion, which they felt was evidenced by the trials and tribulations of the Mediatheque. This is a claim that becomes all the more complex for projects that attempt to capture the past, because both—technology and memory—are rapidly shifting targets, and yet remain integral to the grid of possibilities that define the archive. Simply put: while past SAW Video staff insisted on a particular vision of the Mediatheque in 2003, various traces made accessible through assorted technological means, cached in the layers of the Web, betrayed or contradicted their memories of the project in 2010 and beyond. As one of the most important takeaways from this doctoral project, the limitations of memory and its multiple trajectories did not become an obstacle, but rather one of the most insightful contributions to the idea of 'activating the archive.'

Seeing my intervention as part of the archive it drew from, I can confidently claim that Video Cache has become an important part of SAW Video's documentation about the Mediatheque. But more importantly perhaps, it gave the organisation insight into the importance of the archive it had created in 2003, through the crash, and in what it has become in 2012. Furthermore, as the new Mediatheque's first Curated Program, Video Cache marks an important shift in value, not only for the intervention's ongoing potential

for drawing attention to the archive itself, as subject and as site of inquiry, but also for the ways it has highlighted the very means by which to 'dig' into the archive and make use of it.

Drawing from the invaluable insights from Stoler (2010) and Arondekar (2005; 2009) to Parikka (2008) and Chun (2008) outlined in the Literature Review, Video Cache can be framed as much as a tool for intervention as an opportunity to present evidence from and for the archive. Perhaps the biggest limitation to this kind of work is that it is specific to the Mediatheque. However, instead of leading to widely applicable recommendations for the online archive as a generalizable concept, my intervention suggests that case-by-case documentation for online archival initiatives remains necessary at this particular juncture; the Web is finally old enough as a medium to see projects attempt—and largely fail—at archiving, but for which little documentation exists at the level of critical discourse.

Future directions for my research include an interest in further developing research-creation methodologies, and a continued exploration of the relationship between Web technologies and the archive as medium, model, and discourse. I anticipate my academic efforts and endeavours going toward an attention to methodology in and for the archive, and the role of the amateur (or rogue) archivist of the Web. In particular, the popular shift toward mobile deployments and cloud storage, and the growing initiatives to connect people to their digital pasts (as evidenced through applications and initiatives like Facebook's Timeline,[232] Timehop,[233] and 1000 Memories' Shoebox,[234] for example)

[232] http://www.facebook.com/about/timeline
[233] http://timehop.com/
[234] http://1000memories.com/shoebox

each bring attention to issues regarding the possibilities for cultural circulation through a framework that draws from and markets memories. Together these suggest that the Web cannot be referenced outside the particular moment that defines its use, and yet that its flows are increasingly difficult to arrest and to situate in time. This invariably alters users' expectations, when uploading content to the Web, and to free UGC sites in particular, but does it make each user the archivist of her or his own life? Is there an assumption that content online will somehow preserve itself, or that the archive is in some way built into Web culture itself, through the act of uploading, sharing, or duplicating files? Or, is the assumption that there is a corporate responsibility to preserve material long-term, especially as the materials are being provided freely such as through UGC sites, like Facebook? If memory risks becoming commoditized, and sold back to its creators, what role can users or citizens play in shifting the politics of preservation towards a more socially responsible platform? How is the Internet's social architecture shaping the discourses of the online archivists and archive? How do participation and other elements of 'live interaction' through social media challenge current notions of preservation, anchored in storage and retrieval procedures? These research questions emanate from my doctoral work, but serve to expand and highlight the political implications of the increasingly networked and social online archive, and the role of researchers, artists, and rogue collectives, always already illuminating technological and political ideals of the present.

These concerns all grow directly out of my research over the course of the last seven years, including my Masters work, which looked at the intersection of social movements and the way their politics shaped their archival policies. In this way, I have

moved from material institutional repositories in early graduate work, to the online realm with my doctorate work, and hope to bring the knowledge from these years of experience into my future research, on and through the archive, as the concept becomes increasingly abstracted and critical.

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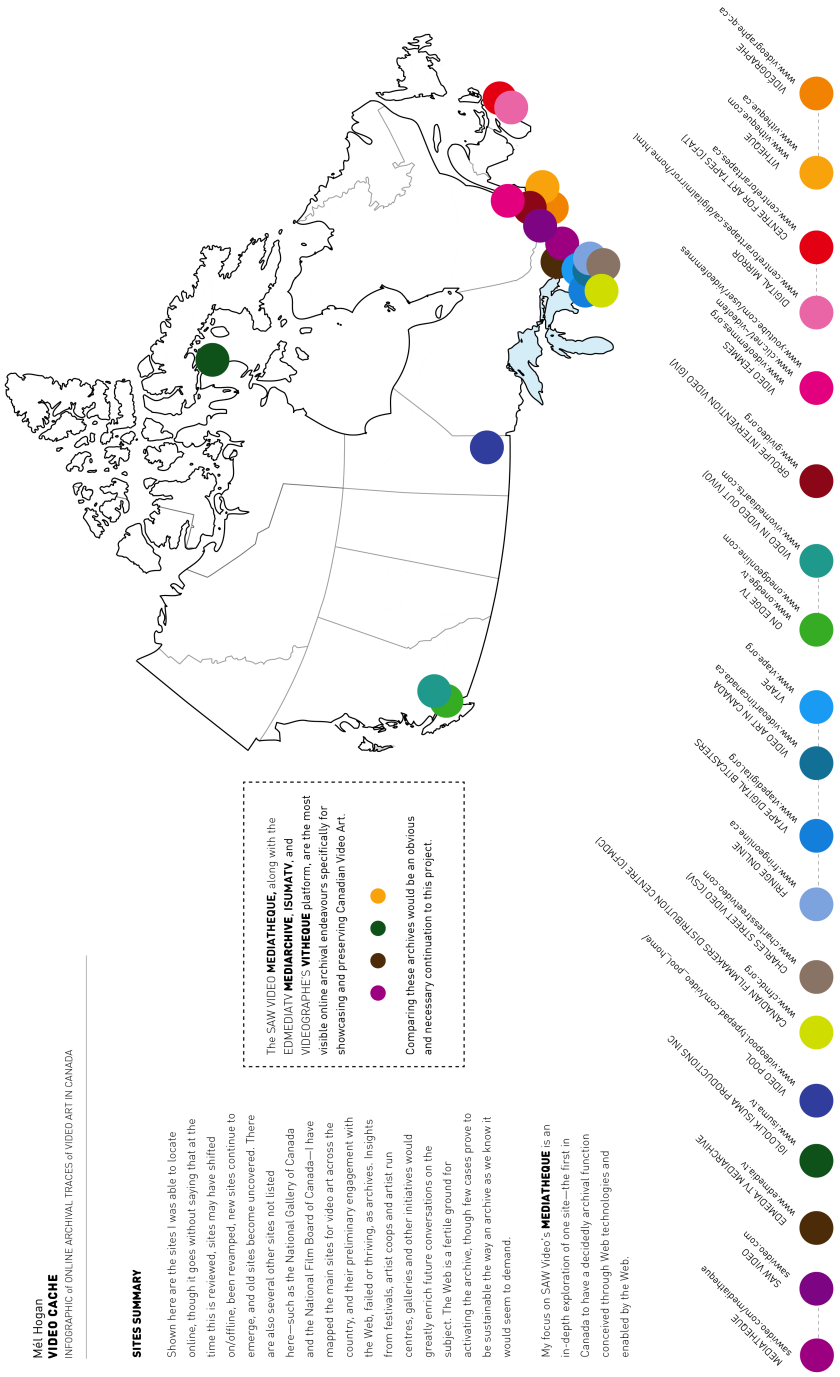
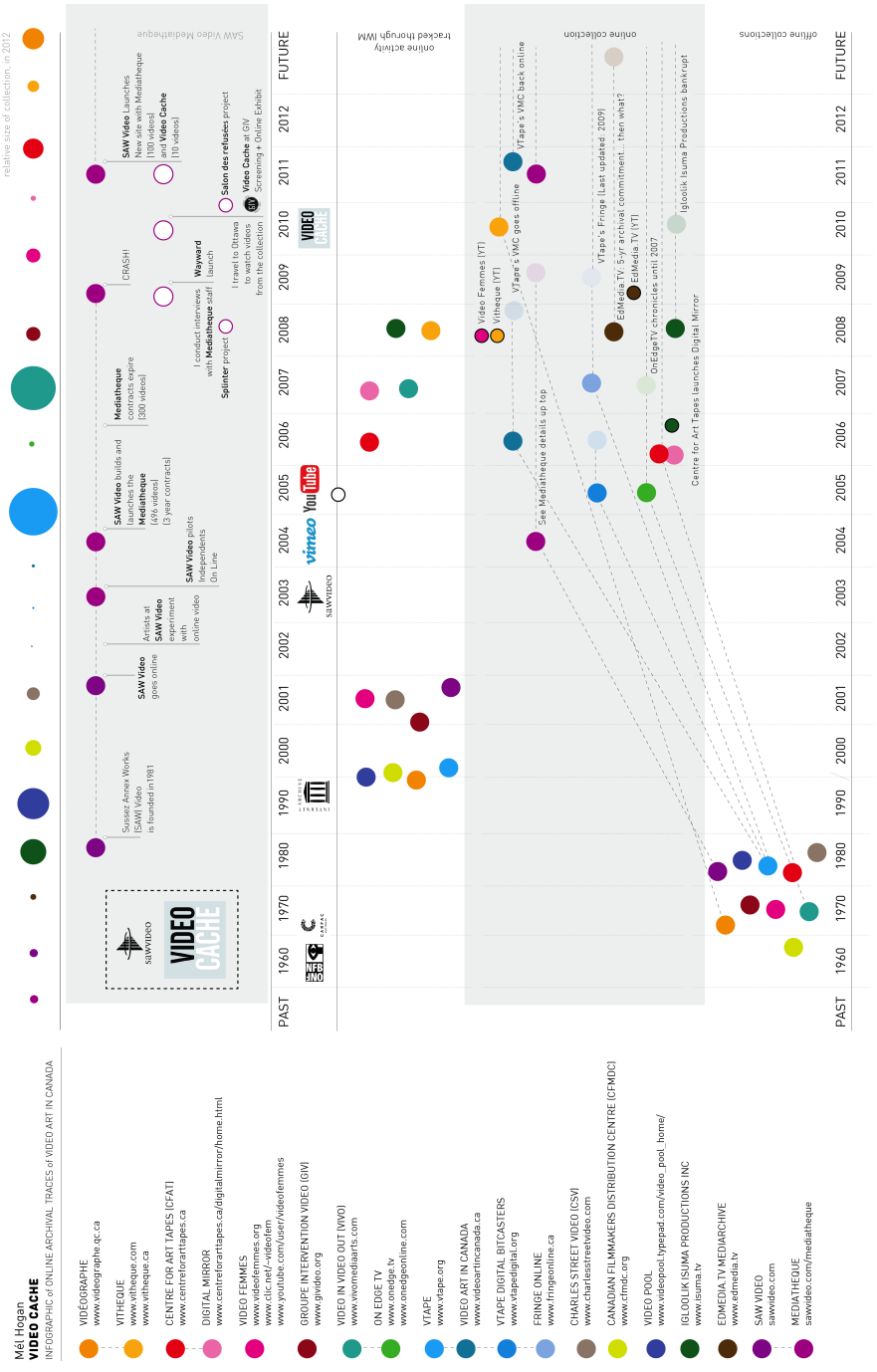
Appendix 1: Infographic: Online Archival Traces (in Canada)



Appendix 2: Infographic: Online Archival Traces (Trajectory)



Appendix 3: Infographic: Archival Differences and Changes

Appendix 4: Screen Grabs (Additional Figures)

Figure 15 GIV Laissez-passer for Wayward's Video Cache

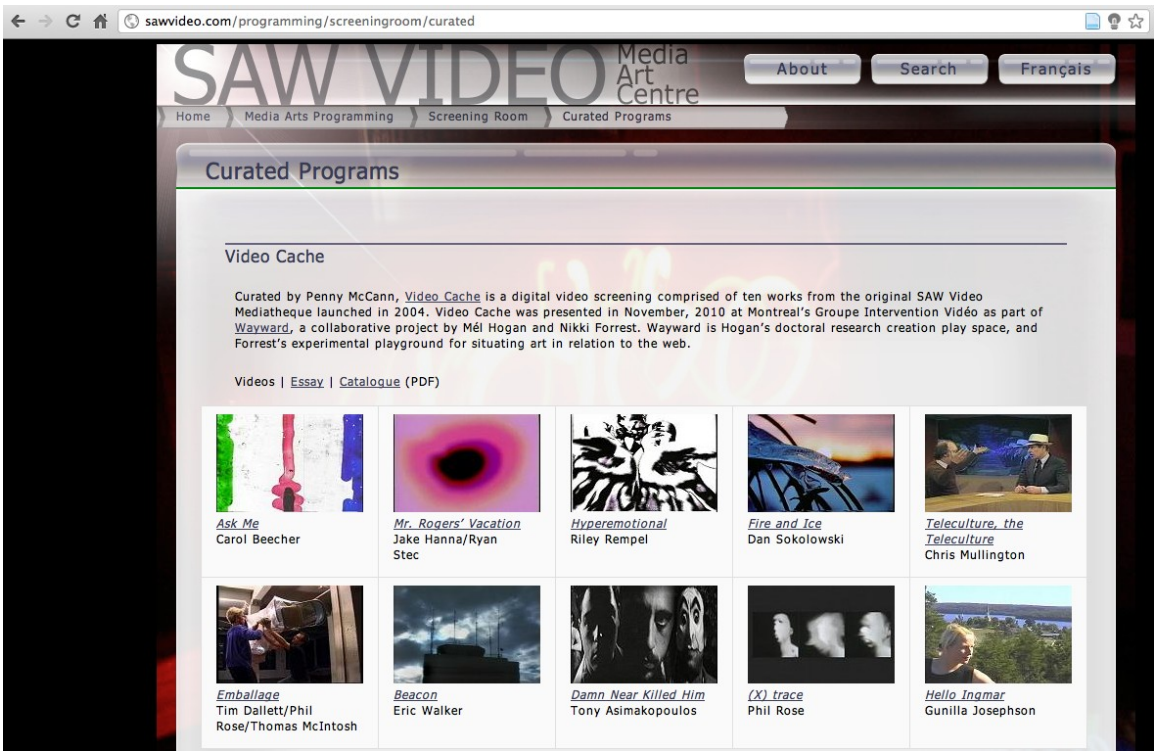


Figure 16 Video Cache on SAW Video site 2011 Curated Program (http://sawvideo.com/programming/screeningroom/curated)

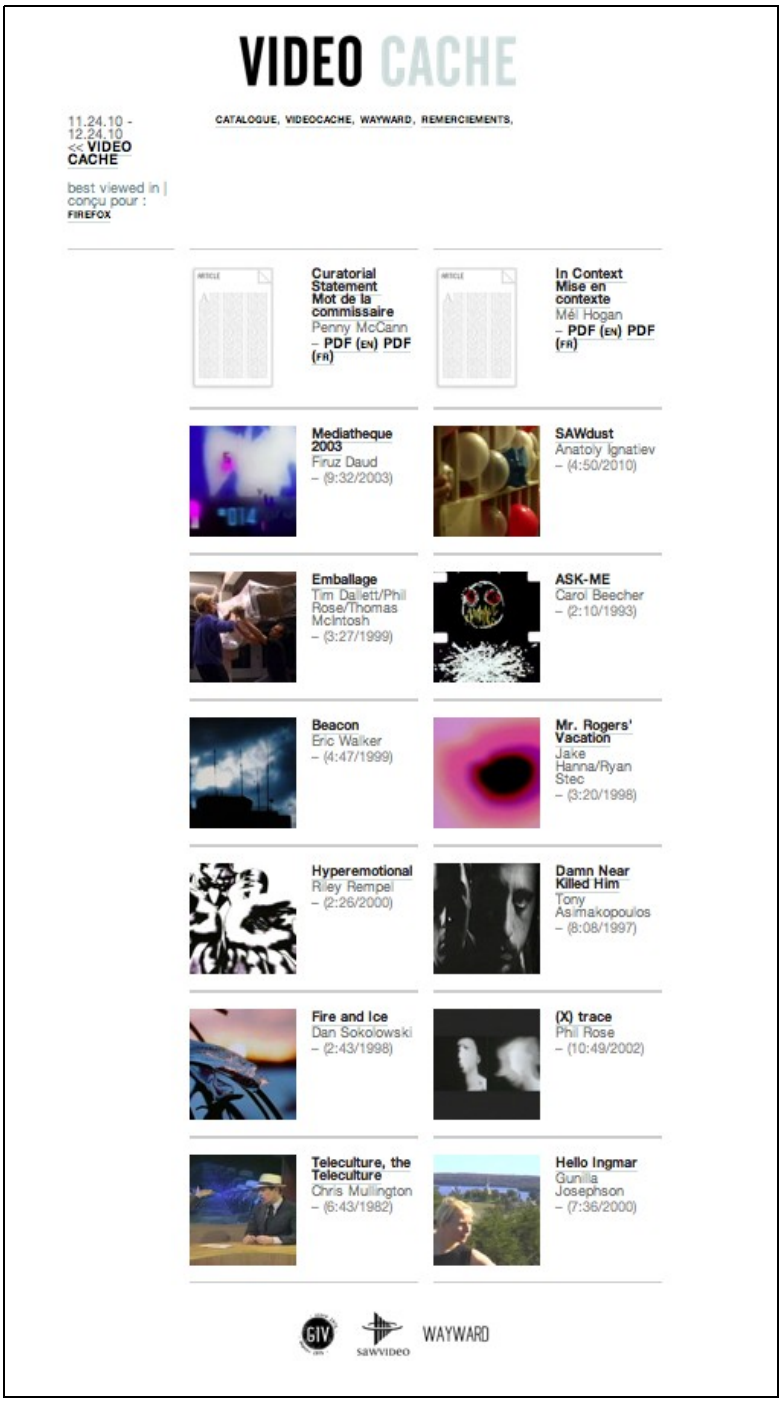


Figure 17 Video Cache overview

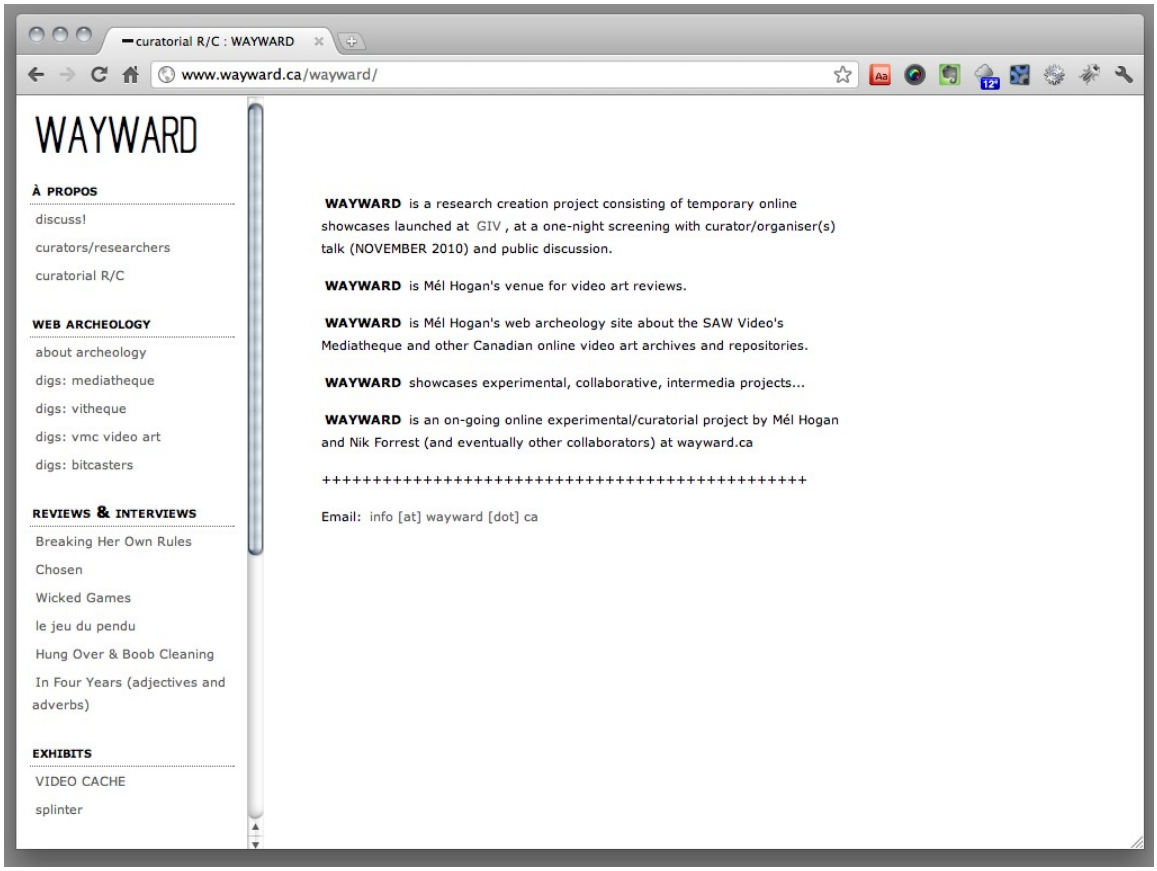


Figure 18 Home base for Wayward exhibits

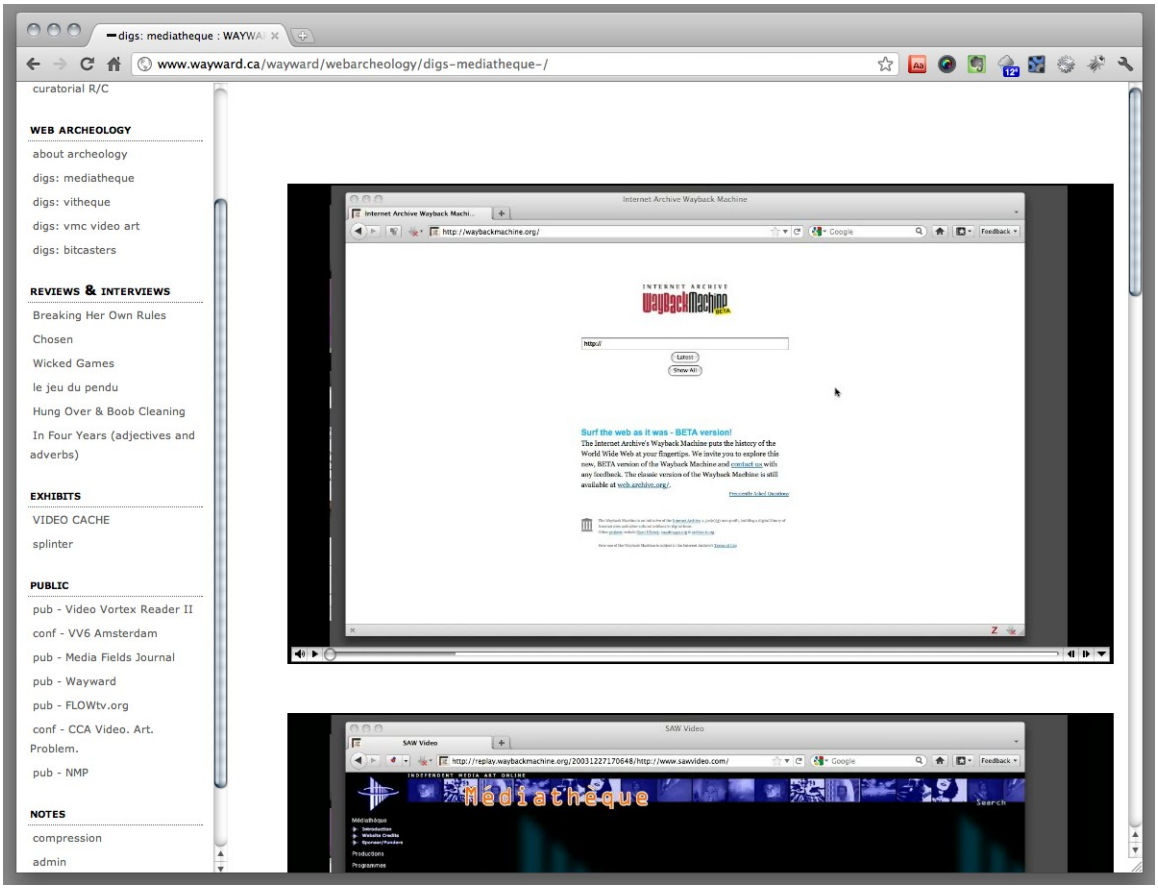


Figure 19 Screen Grab of video digs in Wayward.ca (See DVD for video files)

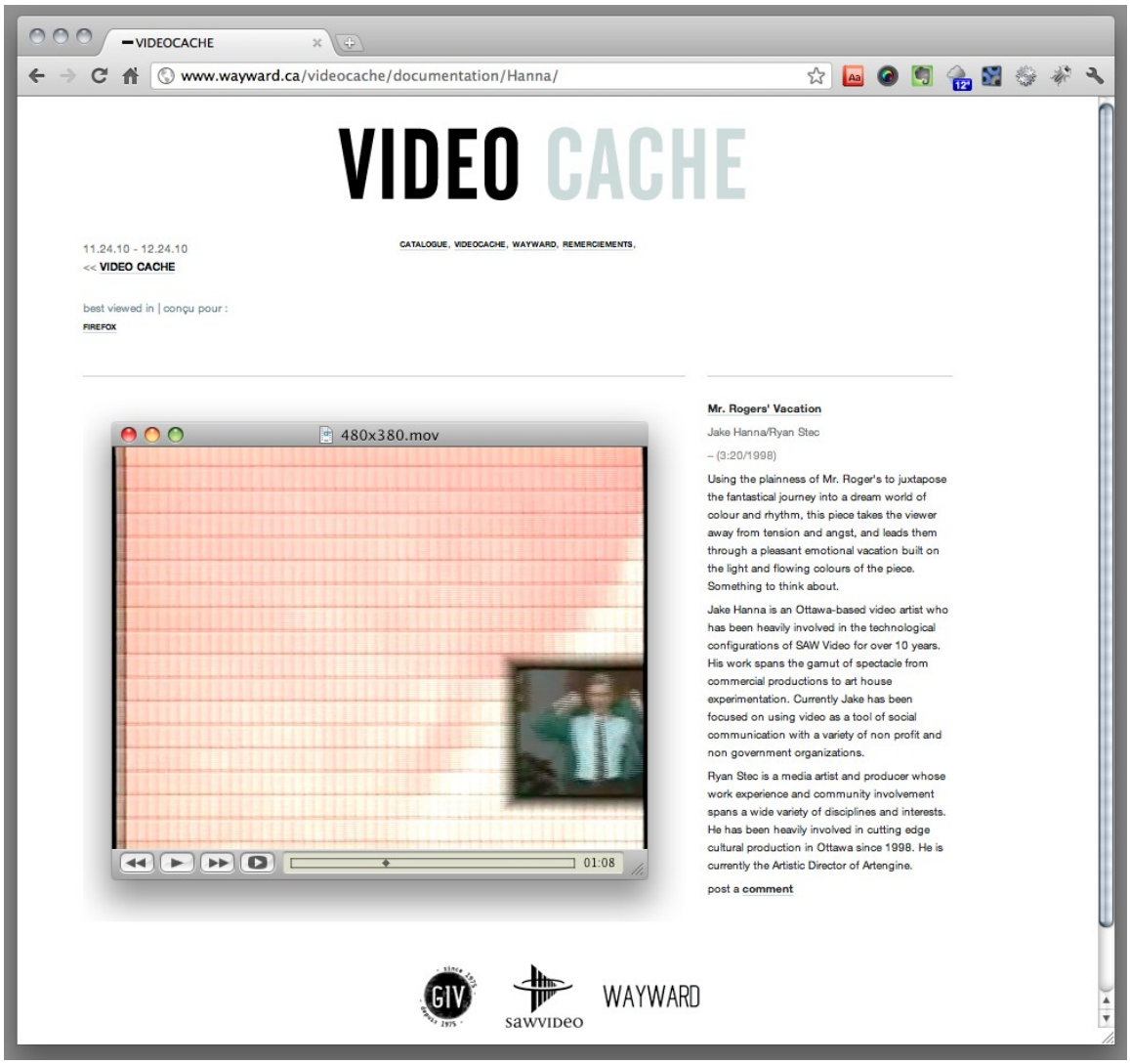


Figure 20 Screen Grab replacement of video file after Dec 24, 2010

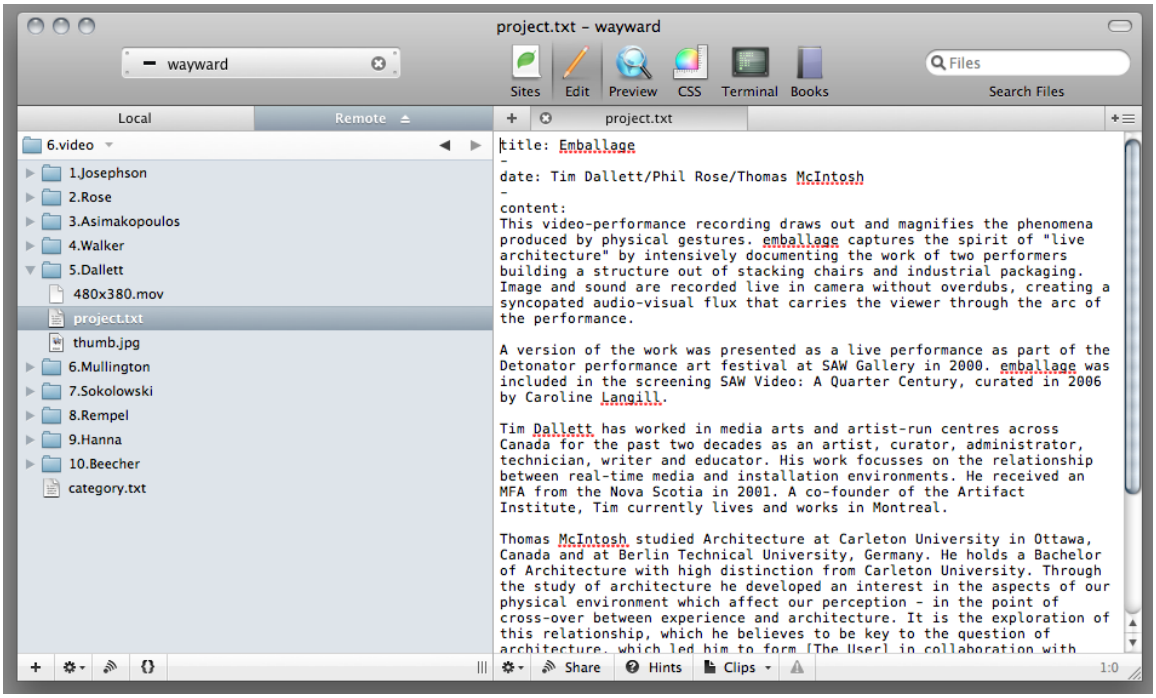


Figure 21 Back end of Video Cache - curatorial organisation

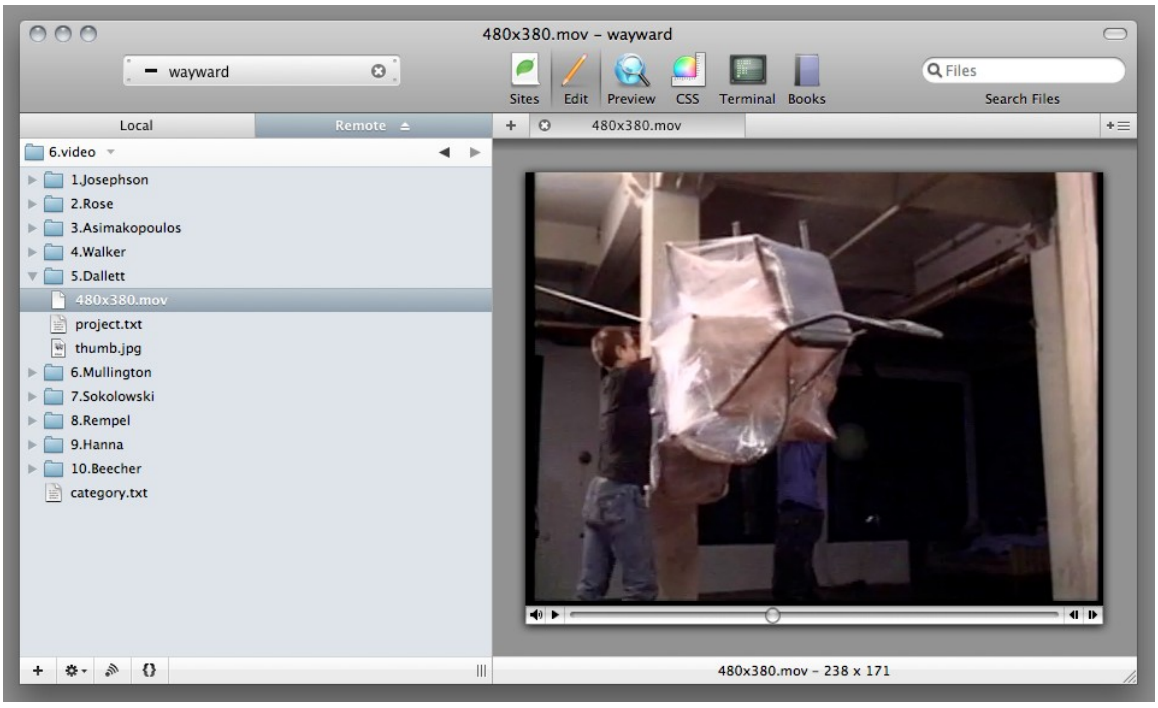


Figure 22 Video at 480x380 as .mov for online showcase

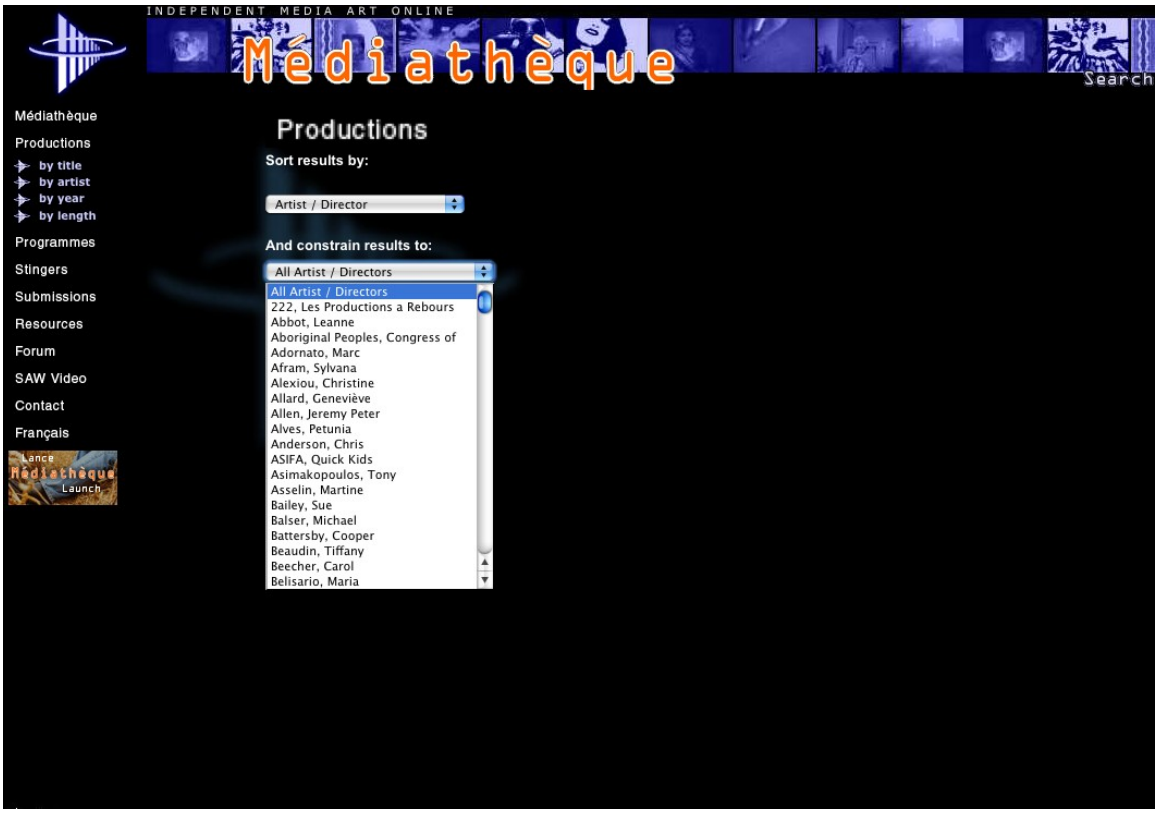


Figure 23 Mediatheque Portal IWM 2006

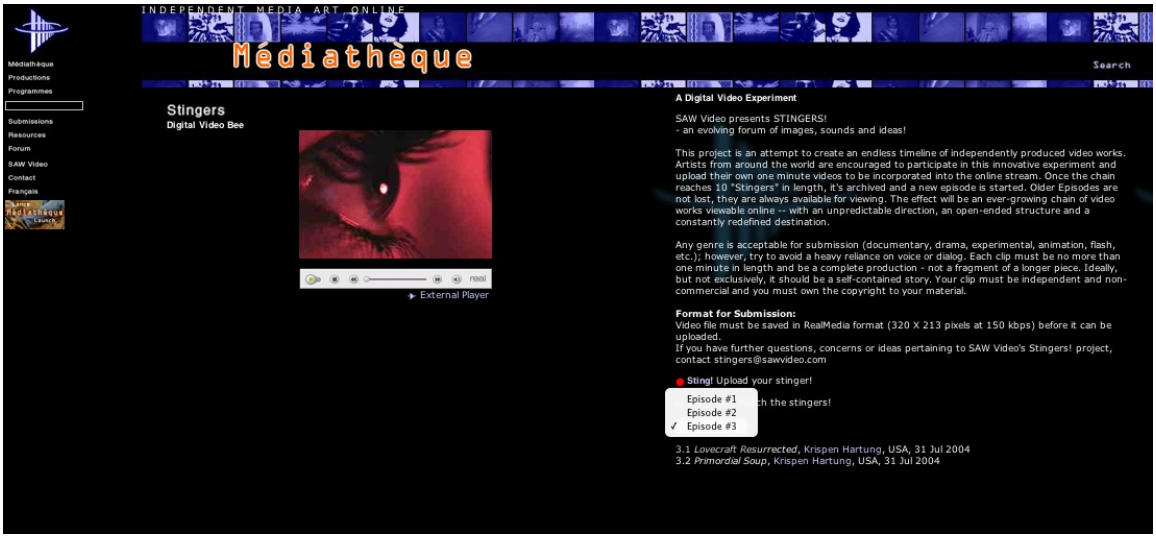


Figure 24 Stingers episodes (3) IWM 2005