

A Series of Archival Computer Sculpture Altars

Counter-Hegemonic Narrative Development through Interactive Archive Technologies as Reality Augmentation

Core argument

I argue that interactive archive technologies can function as forms of reality augmentation: not simply by layering digital content onto physical space, but by making historically suppressed relations perceptible in the present. In post-industrial Cape Breton, where dominant narratives of progress, remediation, genealogy, and heritage often sanitize the violence of industrial capitalism, I want these technologies to become counter-hegemonic narrative machines that reconnect land, labour, domestic life, migration, ecology, and intergenerational illness.

I ground this thesis in a set of overlapping scholarly frames: deep medicine and structural causation in health, environmental epigenetics, labour and deindustrialization history, archive and media theory, feminist and decolonial critique, and research-creation methodology. Marya and Patel help me frame illness as the embodied expression of political and historical injury; Guthman and Mansfield connect environment, molecular inscription, and social relations; Meloni cautions me against naïve emancipatory uses of heredity discourse; and Tuck and Million help me ensure that environmental health storytelling does not collapse into damage-centered or purely clinical description.

Against hegemonic archival systems that centralize interpretation or conceal their own operations, I develop archival computer sculpture altars: situated digital-physical systems that invite users to query, recombine, and inhabit records differently. These altars operate through four linked methods—epiaesthetics, archivomancy, true augmented reality, and player/worker/user analysis—and are explored through case studies spanning genealogy, labour song, simulation, memorial critique, local archive infrastructure, and interactive systems of relation-making.

Table of contents

- 1. Introduction: Counter-Hegemonic Reality Augmentation
- 2. Context and Theory: Industrial Cape Breton, Environmental Injustice, and Archival Crisis
- 3. Method 1: Epiaesthetics
- 4. Case Studies in Epiaesthetics
- 5. Method 2: Archivomancy
- 6. Case Studies in Archivomancy
- 7. Interlude: Sourdough, Domestic Knowledge, and Living Archives
- 8. Method 3: True Augmented Reality (T.A.R.)
- 9. Case Studies in T.A.R.
- 10. Method 4: Player / Worker / User

- 11. Case Studies in Interaction and Reception
- 12. Comparative Archive Forms: Singular / Multiple, Hegemonic / Counter-Hegemonic
- 13. Dialectical Values: The Thesis as Archive, Interface, and Economic Simulation
- 14. Conclusion: The Thesis as Altar, Archive, and Counter-Hegemonic Machine

Introduction: Counter-Hegemonic Reality Augmentation

In this chapter, I introduce the thesis as a research-creation project grounded in Sydney Steel, the Tar Ponds, a family illness cluster, and a broader problem of narrative inequity. Marya and Patel's account of deep medicine is especially useful to me because it gives me language for treating inflammation and chronic illness not as isolated biomedical events but as expressions of land theft, extractive industry, labour exploitation, and historical injury. Guthman and Mansfield sharpen that frame by showing how environmental epigenetics links exposure, geography, and social conditions without reducing people to deterministic molecular outcomes.

I also want the introduction to establish the archive as a central problem. Rather than assuming that archives transparently preserve truth, I want this chapter to argue—via Peters, Kittler, Gitelman, and my own notes—that archives are media systems whose design shapes what can be stored, transmitted, and made sensible. This sets up my central claim: that counter-hegemonic reality augmentation means building archives that make hidden structural relations newly legible while resisting both official sanitization and extractive platform logics.

Key sources to foreground

- Marya and Patel on deep medicine and structural causation.
- Guthman and Mansfield on environmental epigenetics and caution against determinism.
- Tuck on suspending damage.
- Peters and Kittler on media infrastructures.

Context and Theory: Industrial Cape Breton, Environmental Injustice, and Archival Crisis

In this chapter, I ground the thesis historically and theoretically. For regional and political-economic context, I draw on Barlow and May, MacKinnon and Parnaby, MacKinnon's oral-history work on Sydney Steel, Frank, Earle, MacEachern, and McKay. Together these sources place Sydney Steel, labour conflict, deindustrialization, and cultural sanitization within a long history of industrial capitalism and its afterlives. McKay is especially useful to me because his analysis of cultural selection helps explain how depoliticized and marketable versions of Nova Scotia identity can erase labour militancy, environmental contamination, and industrial sickness.

I then widen the chapter into archive theory and media theory. Bentham's panopticon office introduces the archive as labour-saving information architecture; DeLillo's *Libra* and its critics introduce the archive as a field of excess and unstable interpretation; Gitelman problematizes raw data; and Manovich gives me the language of database logic and hyperlinked horizontality. Innis, Kittler, Krämer, Williams, and Peters help me theorize archive form in terms of time-bias and space-bias, storage and transmission, spatial ordering, and long media history.

Subsections

- Industrial Cape Breton and structural injury: Sydney Steel, the Tar Ponds, toxic normalization, Barlow and May, MacKinnon and Parnaby, and MacKinnon's oral histories.
- Labour history and narrative suppression: Frank, MacEachern, Earle, McKay, and The Survival of the Unfittest.
- The archive as media object: Bentham's panopticon office, Peters, Kittler, Krämer, Innis, Williams, Gitelman, and Manovich.
- Literary archive and archival crisis: DeLillo's *Libra*, Herbert, the Pivot article, and Nicholas Branch as failed archivomancer.

I want this chapter to end by showing why a new methodology is needed: existing archives and official narratives store plenty of evidence, but they fail to generate livable public understanding of structural harm.

Method 1: Epiaesthetics

In this chapter, I define epiaesthetics as the analysis and production of aesthetic forms that emerge from environmental, biological, infrastructural, and archival conditions. Guthman and Mansfield are important here because they allow me to link epigenetic inscription to geographical and social environments while resisting individualized blame. Meloni is equally important because he situates epigenetics within a much longer political history of heredity, warning me that new biological discourses can reproduce old moral or social hierarchies if treated uncritically. Carey sits in the background here as a legibility resource for explaining epigenetic mechanisms in public-facing language.

I then pivot from biology to media form. Peters, Kittler, Krämer, and Innis support my argument that archives are not just containers of content but formal systems that produce meaning through their modes of storage, transmission, and ordering. I use epiaesthetics to name the aesthetic emerging from the ensemble of multiple stored items, and from the relations users construct among them.

Subsections

- Environmental epigenetics, lived exposure, and representation.
- Political biology and the risks of epigenetic discourse.
- Archive form, storage, and transmission.
- Horizontal and vertical causality and ensemble meaning.
- Archive analysis matrices.

Case Studies in Epiaesthetics

In this chapter, I examine works through archive form and archive content, with special attention to affect, materiality, and cross-scale relation. van Manen is especially helpful to me here because his phenomenological attention to lived experience supports my emphasis on atmosphere, domestic detail, touch, sound, and movement through augmented space. Million's felt theory is equally important because it lets me position grief, unease, labour, and care not as emotional residue but as archives of knowledge in their own right.

Case studies

- Nickel Nail Curtain Kelp: I read this work through felt theory, deep medicine, and environmental epigenetics. I treat domestic cleaning labour and dust as sites of embodied knowledge, and I use the song version to extend the case study into oral and carried archive.
- Explosion Textile: I frame catastrophe as persistent fabric rather than isolated image, and use van Manen to justify the emphasis on tactile and atmospheric experience.
- Player Piano Worker Loom: I use weaving as simulation, labour form, and archive exploration method, especially alongside Williams and Innis for thinking about continuity and pattern.
- Memorial to the Victims of the Halifax Explosion as Capitalist Disaster: I read memorial form through McKay, Parenti, and my archive matrix, shifting from tragic-event memorialization toward structural causation and class history.

Method 2: Archivomancy

In this chapter, I define archivomancy as the combinatory, speculative, and generative activation of archives. If epiaesthetics is about how archive forms feel and mean, archivomancy is about how archival fragments are actively re-read, reshuffled, sung, linked, and transformed into counter-narrative. DeLillo, Herbert, and the Pivot article remain central to this chapter because they show me that archival uncertainty can be methodologically productive rather than merely frustrating.

This chapter also draws on Parenti as a historiographic model. His method of rereading elite history from below parallels my effort to reread industrial Cape Breton from the standpoint of those who bore structural violence rather than those who administered, sanitized, or profited from it. *Which Side Are You On?* becomes an important companion here because it models an archive that is not fixed in paper or stone but repeated, revised, and carried in performance.

Subsections

- From archival synthesis to archivomancy.
- Literary and historiographic precedents.
- Song, oral performance, and carried archives.
- Glitch, misfile, and excess.
- Matchmaking, linking, and relation-building as archival practice.

Case Studies in Archivomancy

- Wrong John Carre: Ellis, Adams, and Bochner help me justify the use of personal and family experience as data rather than anecdote. Autoethnographic genealogical confusion becomes a site of narrative generation.
- Nickel Nail Curtain Kelp Song: I treat this as a convergence point for Mathieson, labour history, crofting, and oral archive practice, and I place it beside *Which Side Are You On?* as a counter-hegemonic song archive.
- Which Side Are You On: I read this as a portable oral archive and collectively rewritten political refrain, using Tuck and Million to argue for a desire-based, affective archive of struggle rather than only damage.

- Valentine's Day Collaborator Matchmaking: I read this through Haraway's making-with and sympoiesis, framing matchmaking as a small relational archive engine that generates future collaboration from existing fragments.
- Large Language Models: I position these against Gitelman, Peters, and Kittler as black-box shadow archives that compress provenance. In the thesis, I use them not as authority but as a way of testing how archive and database reading becomes probabilistic and opaque.

Interlude: Sourdough, Domestic Knowledge, and Living Archives

In this interlude, I frame sourdough through Haraway and Tsing as much as through domestic method. Haraway's making-with and Tsing's attention to collaborative survival in capitalist ruins both strengthen my treatment of sourdough as a living, local, multispecies archive sustained through care, repetition, and exchange.

This chapter also sits productively beside Tuck and Million. For me, sourdough becomes a desire-based and felt method: not an escape from industrial history, but a small-scale practice of staying with damaged worlds without reducing them to ruin alone.

Method 3: True Augmented Reality (T.A.R.)

In this chapter, I define True Augmented Reality as a situated, locally hosted, politically accountable form of augmentation. The CIHR drafts are central here because they explicitly position browser-based AR as a knowledge-translation tool for environmental epigenetics and intergenerational health. Barlow and May, Marya and Patel, and Guthman and Mansfield help me make clear what exactly is being translated: not simply information, but structural accounts of contamination, inflammation, and inherited exposure.

This chapter also engages Gould and the digital-environment literature. Gould's insistence that digital media are environmental media helps me avoid treating AR as immaterial, while the sustainability literature introduces a productive contradiction: digital systems used to communicate environmental harm are themselves embedded in extractive infrastructures. That tension strengthens my commitment to lightweight, local hosting such as ESP32-based systems and browser-based deployment.

Subsections

- AR as knowledge translation in environmental health.
- Local hosting and infrastructural accountability.
- Digital media as environmental media.
- Situated versus platform augmentation.
- Object-voice and molecule-voice narration.

Case Studies in T.A.R.

- Tar Ponds AR / The Land Speaks: Barlow and May anchor the historical specificity of the contamination site. Marya and Patel support the translation of industrial injury into public health narrative, and Guthman and Mansfield support the environmental epigenetics framing.
- Archive in a Can: TallBear and the Ancestry, Blackstone, and privacy sources become especially important here. I frame this case study as a refusal of genomic and platform authority in favour of relational, place-based ancestry knowledge.

- Wrong John in Graveyard: Autoethnography, genealogy, and local hosting converge here, and Ellis helps me justify personal narrative as methodology.
- LLL Show and other activations: Gould and Peters help me read exhibition AR as infrastructural and environmental rather than purely visual overlay.

Method 4: Player / Worker / User

In this chapter, I develop the theory of archival labour through interaction, co-creation, and reception. Braun and Clarke are especially important here because they provide me with a rigorous language for moving from family story sessions, feedback, and user observations to identified thematic patterns such as dust, migration, care, confusion, recognition, and structural causation. Ellis and van Manen further support my inclusion of lived, embodied, and reflexive material as methodological substance rather than anecdotal supplement.

This chapter is also ethically anchored by Tuck. If users are co-creators and knowledge users, then their interactions cannot be reduced to confirmatory feedback about a finished art object. Instead, they become new archive matter that I want to read for desire, relation, ambiguity, and agency as much as for pain or legibility.

Subsections

- User as archival labourer.
- Thematic analysis and research-creation interpretation.
- Co-creation, editorial authority, and knowledge users.
- Reception as new archive matter.
- Desire-based and affective interaction analysis.

Case Studies in Interaction and Reception

- Family story sessions: Braun and Clarke support thematic synthesis from guided sessions, while Ellis supports the autoethnographic grounding.
- Nickel Nail Curtain Kelp: Million and van Manen help me interpret touch, memory, grief, and domestic recognition as knowledge forms.
- Player Piano Worker Loom: Here users become interpreters of probability, fragility, and structure, and I use this case study to think about how simulations teach structural reasoning.
- Valentine's Day Collaborator Matchmaking: Haraway's making-with offers me a strong conceptual language for collaboration as method.
- Public deployment feedback: Tuck helps me ensure that I do not reduce public response to damage confirmation.

Comparative Archive Forms: Singular / Multiple, Hegemonic / Counter-Hegemonic

In this chapter, I compare archival forms systematically using the conceptual scaffolding I have built in the seminar tables and bibliography. TallBear is essential for my critique of DNA-based and platform genealogy; Liboiron helps me reframe archives as governed by relations of consent, obligation, and colonial power; McKay supports my critique of official and touristic memory; and Peters, Kittler, Innis,

and Manovich provide the media-theoretical vocabulary for comparing architectures of storage and transmission.

I still want to structure the section comparatively, but now with clearer scholarly anchors:

- NS Archives: Official provincial memory; McKay and Liboiron help me ask what counts as significant and for whom.
- Beaton Institute: A regional and community archive preserving labour history while remaining institutionally bounded.
- Ancestry.com: TallBear plus Blackstone and privacy sources clarify genealogy as commodification and platform governance.
- Archive in a Can: A counter-hegemonic local archive informed by TallBear, Peters, and my own project documents.
- PROMIS: An operational state archive, useful against Gitelman and Kittler for thinking about infrastructure and encoded priorities.
- Large language models: Gitelman, Peters, and Kittler help me theorize them as shadow archives hiding provenance.
- Which Side Are You On: Tuck, Million, and labour history support my reading of it as portable counter-memory.
- Memorial to the Victims of Communism: McKay and Parenti help me critique singular official historical framing.
- Memorial to the Victims of the Halifax Explosion as Capitalist Disaster: A Parenti-style rereading from below; memorial as counter-hegemonic reframing.

This chapter may become one of the thesis's most original sections because it synthesizes the whole bibliography into a vocabulary for comparing archives across medium, institution, politics, and use.

Dialectical Values: The Thesis as Archive, Interface, and Economic Simulation

In this chapter, I turn the thesis back onto itself as a system of labour, value, and narration. Williams becomes more important here because his long historical view helps me situate digital archive practice within a broader communications transformation rather than as a novelty. Peters, Kittler, and Innis help me read the thesis as a specific storage and transmission arrangement, while Gould and the sustainability literature remind me that even low-weight digital infrastructures remain environmental actors.

This chapter also mobilizes Tsing and Haraway. Their attention to collaborative survival, damaged worlds, and making-with provides me with a way to think about the thesis not as a heroic master narrative but as a small, relational, infrastructural experiment within capitalist ruins. The result is a self-conscious archive machine that tries to generate use value, public legibility, and community relation while remaining alert to institutional contradiction and extractive economies.

Conclusion: The Thesis as Altar, Archive, and Counter-Hegemonic Machine

In the conclusion, I argue that the thesis is itself an archival computer sculpture altar: a locally hosted, materially situated, interpretive system that stores and transmits fragments while inviting their

recombination into new public narratives. It does not simply discuss archives; it builds one in dialogue with labour history, environmental injustice, feminist and decolonial critique, and media theory.

My final claim is that counter-hegemonic reality augmentation depends on designing archives that are explicit about their methods, accountable to their sources, open to multiplicity, and resistant to extraction. Tuck, Million, Haraway, and Tsing help me ensure that this remains a project not only of exposing damage but of making relation, carrying memory, and building forms of survival and narration in capitalist ruins.