ALMA MATER
Journal of Interdisciplinary Cultural Studies

Alma Mater – Journal of Interdisciplinary Cultural Studies
Research Article, JISC 2025:3, 15–25
DOI: 10.29329/almamater.2025.1360.2

Algorithmic Realities and the Canadian Aporetic Condition Digital Counterpublics and Epistemological Justice

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Abstract

Interactive projects from the National Film Board of Canada demonstrate how algorithm-driven storytelling can illuminate the structural tensions that define the Canadian aporetic condition. Through a close study of *Bear 71*, *The Space We Hold*, *Biidaaban: First Light*, and *Do Not Track* this paper demonstrates how code-based interfaces encourage participants to co-produce knowledge that challenges settler governance, data capitalism, and extractive ecological logics. The analysis blends media studies, public-sphere theory, and the aporetic framework to trace connections among wildlife surveillance, urban futurism, testimonial memory, and personalized data dashboards. Each project cultivates digital counterpublics in which Indigenous sovereignty, ecological interdependence, survivor authority, and data-justice activism gain discursive traction. The findings suggest that immersive design can promote epistemological justice – fair access to knowledge production and recognition of diverse ways of knowing – by redistributing representational power, visualizing previously hidden infrastructures, and expanding civic imagination within a publicly funded platform. These insights suggest practical pathways for cultural institutions seeking to align interactive media with democratic resilience and equitable futures.

Keywords: interactive documentary, Canadian aporetic condition, digital counterpublics, epistemological justice, data privacy

1. Introduction

Interactive digital media now delivers immersive, data-driven storytelling that blends database structure with real-time user agency (Manovich, 2001). The National Film Board of Canada (NFBC) advances this practice through interactive documentary experiences such as *Bear 71* (2012), *The Space We Hold* (2017), *Biidaaban: First Light* (2018) and *Do Not Track* (2015). These works invite participants to serve as witnesses and co-authors through code-based interfaces that share narrative authority. Each experience foregrounds marginalized perspectives and knowledge systems and expands public dialogue on state power and cultural sovereignty (Druick, 2007), ecological responsibility (Parikka, 2015), and data capitalism (Zuboff, 2019). T They unfold inside the structural tensions that define the Canadian aporetic condition – a condition marked by unresolved contradictions in national identity, policy frameworks, and cultural sovereignty, particularly the ongoing interplay between settler governance and Indigenous sovereignty (Bessai, 2024). They unfold inside the structural tensions that define the Canadian aporetic condition,

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How to cite this article: Bessai, J. (2025). Algorithmic Realities and the Canadian Aporetic Condition: Digital Counterpublics and Epistemological Justice. In: *Alternative Realities, Special Issue of Alma Mater – Journal of Interdisciplinary Cultural Studies, 2025:3, 15–25.*
Submitted: 05.07.2025
Accepted: 10.07.2025

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particularly the ongoing interplay between settler governance and Indigenous sovereignty (Bessai, 2024).

This study joins media studies, public-sphere theory, and the aporetic framework to show how NFBC interactive projects cultivate digital counterpublics and advance epistemological justice. The analysis traces interface design, narrative choice, and user engagement to reveal pathways toward democratic resilience and equitable futures.

2. The Canadian Aporetic Condition

The aporetic condition gathers structural conflicts that persist in Canadian policy and identity. Indigenous treaty rights intersect with colonial governance, bilingual frameworks coexist alongside multicultural realities, and economic pragmatism intertwines with social-justice commitments (Truth and Reconciliation Commission of Canada, 2015). The NFBC draws on public funding while preserving artistic autonomy and works inside these tensions, amplifying counter-narratives that challenge official culture (Druick, 2007).

- *Bear 71* situates wildlife surveillance alongside ecological stewardship, highlighting the friction between technological control and wild autonomy (Allison & Mendes, 2012).
- *The Space We Hold* introduces a participatory mode of testimony shaped by survivor voices and interface ethics – topics explored further in Case Study III (Hsiung et al., 2017).
- *Biidaaban: First Light* envisions an urban future informed by Indigenous language and land ethics, and reconfigures colonial spatial orders (Jackson, 2018).
- *Do Not Track* visualizes browser fingerprints and live advertising bids, bringing the political economy of data capitalism into view (Gaylor, 2015).

Together, these works advance epistemological justice, validate multiple ways of knowing, and build digital counterpublics that circulate dissenting voices (Fraser, 1990; Warner, 2002).

3. Organization of the Paper

The Methodology section outlines an interdisciplinary approach that joins media analysis, public-sphere theory, and the aporetic framework. The case studies examine *Bear 71*, *Do Not Track*, *The Space We Hold* , and *Biidaaban: First Light* in separate subsections, focusing on narrative design, interface affordances, and ideological critique. The discussion draws cross-cutting patterns – algorithmic critique, counterpublic formation, and experiential pedagogy – while the Conclusion reflects on the capacity of immersive storytelling to navigate national contradictions and envision equitable futures. Throughout, the prose maintains an analytical register that demonstrates how interactive media can widen dialogue, interrogate algorithmic power, and amplify diverse epistemologies.

4. Methodology

This study employs a qualitative, multiple-case design rooted in critical theory and media studies (Yin, 2018). Four interactive NFBC projects anchor the analysis, each examined through the Canadian aporetic-condition framework (Bessai, 2024). This lens highlights

paradoxes inside each narrative experience and links them to wider societal contradictions. The procedure combines close textual and visual scrutiny of narrative, aesthetics, and interface features with contextual interpretation drawn from interviews, production notes, and scholarly commentary. Albert Murray's insight that style shapes cultural meaning informs the reading of interface choices, framing *stylization of experience* as the process that converts raw encounters into public narratives (Murray, 2016; Bessai, 2024). Public-sphere theory guides the inquiry into discursive space. Nancy Fraser (1990) outlines subaltern counterpublics, and Michael Warner (2002) defines counterpublics as arenas where marginalised voices circulate and contest hegemonic norms. Global-citizenship education theory sharpens the pedagogical lens: Andreotti (2006) emphasises empathy, cross-cultural understanding, and critical self-reflexivity, qualities that immersive media can cultivate.

The analytic toolkit blends critical discourse analysis, cultural studies, and political theory. Each interactive work functions as a text that stages social critique (Fairclough, 2015). Particular attention falls on algorithmic design choices and their ideological weight (Noble, 2018). Holding a key to hear a survivor's voice in *The Space We Hold* signals assumptions about agency, attention, and care, whereas the animated telemetry in *Bear 71* foregrounds surveillance and stewardship dynamics. Together, these methods reveal how NFBC experiences articulate, challenge, and re-shape Canadian public discourse.

Primary data consists of the interactive projects experienced first-hand, production dossiers, press kits, and Bessai's dissertation materials. Supplementary sources include creator interviews, trade-press articles, and critical reception in venues such as *Hyperallergic* and *Filmmaker Magazine*. The four projects under review present distinct alternative realities – ecological, futurist, mnemonic – while collectively addressing governance, cultural sovereignty, and environmental ethics. Aligning with the edited volume's emphasis on epistemological justice and algorithmic critique, the analysis regards the Canadian aporetic condition as a dynamic arena for debate. Each creative work serves as an intervention that sustains and steers this dialogue toward greater justice and inclusivity.

5.1. Case Study I – *Bear 71* (2012): Surveillance, Ecology, and the Human–Wildlife Divide

Leanne Allison and Jeremy Mendes's *Bear 71* (National Film Board of Canada, 2012) combines trail-camera footage, GPS telemetry, and a stylized monochrome map to recount the life of a female grizzly monitored in Banff National Park from 2001 to 2009 (Allison & Mendes, 2012). The interface renders each collared animal as a moving node; users click, zoom, and pan across an ever-shifting data landscape, thereby occupying the position of an all-seeing observer (Andersen, 2012). The narration, voiced by Mia Kirshner from the bear's perspective, inverts conventional wildlife-film hierarchies and immediately signals the project's critique of human-centred environmental discourse (Meier, 2017).

Bear 71 interrogates two intertwined narratives: technocratic wildlife management and human separation from nature. Park authorities frame collars, cameras, and rail-line grain mitigation as tools of scientific stewardship; however, the interactive documentary highlights the psychological and physical strain these devices place on the monitored animal. The bear's first-person commentary connects each layer of surveillance to a loss of autonomy and exposes an ecological trade-off that shapes governance practice. At the same time, the first-person narration and interactive map dissolve the spectator–specimen divide. Empathy arises when viewers trace the bear's movements, read her reflections on rail traffic, and watch grainy night-vision clips that mirror the aesthetics of human closed-

circuit monitoring (Castellano, 2018). This design strategy accords the non-human subject epistemic authority, satisfying a key demand of epistemological justice by relocating knowledge production from the researcher to the researched (Fricker, 2007).

The Canadian aporetic condition surfaces in the tension between conservation rhetoric and infrastructural encroachment. National mythologies often celebrate wilderness protection, yet roads, railways, and digital surveillance systems often bisect habitats and contribute to wildlife mortality. Bear 71 dies in a train collision despite years of data-driven oversight (Meier, 2017). The contradiction between stewardship ideals and extractive mobility networks typifies the unresolved policy paradoxes Bessai (2024) identifies. *Bear 71* converts that abstract contradiction into an experiential dilemma: the interface grants users informational power while simultaneously exposing their complicity in the structures that endanger the bear.

The project leverages stylization – monochrome cartography, glitch aesthetics, and a subdued soundscape to translate raw telemetry into an affective narrative, a process Bessai attributes to Albert Murray's "stylisation of experience" (Bessai, 2024). Audience surveys and press coverage reports have heightened concern for non-human agency and increased awareness of technological overreach in environmental governance (Meier, 2017). Such perspective-taking aligns with global-citizenship education goals by expanding moral imagination beyond the human (Andreotti, 2006).

Bear 71 reframes Banff National Park as an algorithmic reality in which surveillance both illuminates and endangers the wild. By granting narrative voice to a tagged animal and exposing the infrastructural web that constrains her, the project questions the efficacy and ethics of data-driven conservation. The interactive form thus functions as a digital counterpublic, circulating a dissenting ecological narrative, inviting critical reflection on technology's reach, and embodying the aporetic impulse to hold contradictory impulses – protection and control – within the same frame. In doing so, the documentary fulfils the NFBC's public-service mandate and demonstrates how immersive media can spur democratic debate on environmental governance in Canada's wired wilderness.

Case Study II – *The Space We Hold* (2017): Bearing Witness in the Digital Global Sphere

Tiffany Hsiung, Chris Kang, and Patricia Lee created *The Space We Hold* (National Film Board of Canada & Cult Leader, 2017) as an interactive web-documentary that confronts visitors with the testimonies of three survivors of Imperial Japan's military sexual-slavery system – Grandma Gil (South Korea), Grandma Cao (China), and Grandma Adela (Philippines). A minimalist interface greets users; progress depends on continuously pressing and holding the space bar. Releasing the key pauses the testimony, making attention a visible ethical act. Design elements – such as a monochrome palette, archival inserts, and a constellation of messages left by previous participants – transform private listening into a collective ritual of remembrance.

Official histories long obscured the organized nature of wartime sexual slavery, and survivors endured decades of denial (Hsiung, 2016). By foregrounding first-person testimony, the project asserts these accounts as indispensable historical records and positions global audiences as responsible witnesses. The hands-on-keyboard mechanic tests commitment; testimony proceeds only when the listener demonstrates active

presence, thereby reversing passive consumption norms and challenging media habits that fragment attention.

The experience also resists cultures of shame surrounding sexual violence. Survivors speak with authority, and the interface centres their agency. Users receive subtle prompts to reflect and, in some versions, add supportive messages that appear as luminous stars – an image of networked solidarity. This design shifts power from voyeuristic spectatorship to participatory witnessing, aligning with public-sphere expansions that bring private trauma into collective discourse (Fraser, 1990).

Canada brands itself a defender of global human rights while grappling with its histories of gendered and colonial violence. By hosting a platform for transnational justice stories, the NFBC acknowledges this tension: a state agency funds artwork that exposes unresolved systemic harm elsewhere, and by implication, at home. The project, therefore, exemplifies the aporetic impulse – holding contradictory positions, such as advocating for national pride and acknowledging domestic shortcomings without resolving them (Bessai, 2024).

Physical effort – the sustained press of one key – produces embodied empathy. Listeners feel a mild strain, mirroring the survivors' sustained courage. The mechanic also offers built-in pacing: releasing the key allows emotional regulation without abandoning engagement, an ethical safeguard uncommon in linear documentary. Awards such as the Peabody-Facebook Futures of Media prize acknowledged this innovative fusion of form and ethics.

Creators extended the documentary's reach through moderated Twitter dialogues that asked, "How do we hold space for survivors of sexual violence?" – prompting public reflection on digital witnessing. Such outreach situates the work within a digital counterpublic that values survivor-centred discourse and collective accountability.

The Space We Hold transforms spectators into active witnesses, linking tactile interaction with moral responsibility. The work integrates survivor testimony into the digital public sphere, contests historical erasure, and exemplifies how interactive design can uphold epistemological justice. Within the Canadian aporetic landscape, it illustrates the role of public institutions in amplifying marginalized voices while provoking introspection about national commitments to justice. These qualities affirm the volume's proposition that alternative digital realities can model more equitable potential worlds.

Case Study III – *Biidaaban: First Light* (2018): Indigenous Futurism and Decolonial Urban Imaginaries

Lisa Jackson's *Biidaaban: First Light* (2018) immerses viewers in a room-scale virtual-reality vision of future Tkaronto/Toronto reclaimed by water, vegetation and Indigenous presence (Jackson, 2018; Astle, 2018; MIT Open Documentary Lab, n.d.; NFB MediaspaceFilmmaker MagazineMIT/Docubase). Nathan Phillips Square appears familiar yet transformed: the square is flooded, vines cover south-facing walls, mature trees push through cracked concrete, people commute by canoe, and rooftop gardens thrive (National Film Board of Canada [NFB], 2018; NFB Mediaspace). The title term *biidaaban* – "the first light before dawn" in Anishinaabemowin – signals renewal and continuation (Astle, 2018; Filmmaker Magazine). Jackson designed the experience as open exploration rather than a didactic lesson: participants physically move through the space, guided by a soundscape of Indigenous voices and by gaze-based interactions with written Wendat, Kanien'kehá:ka

(Mohawk) and Anishinaabe (Ojibwe) text – not conventional signage (Astle, 2018; MIT Open Documentary Lab, n.d.; NFB, 2018; Filmmaker MagazineMIT/DocubaseNFB Mediaspace).

Canadian cities often frame Indigenous cultures as historical footnotes while casting Euro-Canadian architecture as the self-evident index of progress (Coleman, 2006). *Biidaaban* contests this by making Indigenous language and ecological principles architectonic in a future Toronto. The written Indigenous words function as assertions of linguistic sovereignty rather than as translations for outsiders. Their presence affirms that Wendat, Kanien'kehá:ka and Anishinaabemowin continue to shape the city's meaning, challenging a state bilingual regime that privileges English and French while historically marginalizing Indigenous languages (Truth and Reconciliation Commission of Canada, 2015).

The work also reframes "urban nature." Where popular media might read vines and flooded transit infrastructure as collapse, Jackson offers gentle renewal: commuters paddle through wetlands, rooftop gardens flourish and urban life is "thriving" (NFB, 2018; NFB Mediaspace). Jackson explicitly rejects a post-apocalyptic framing, describing the piece as contemplative and "ambient" rather than catastrophic; the sound design foregrounds Indigenous languages, birds and crickets to create space for reflection (Astle, 2018; Filmmaker Magazine).

Biidaaban visualizes a core Canadian contradiction: reconciliation discourse versus colonial urban practice. City Hall's concrete – now seen alongside living trees – suggests that any reconciled future demands spatial and linguistic transformation, not ceremonial acknowledgements alone (Bessai, 2024). By placing Indigenous epistemologies at the centre of the city's fabric, the piece exposes the gap between multicultural rhetoric and material reality.

Room-scale VR here enables embodied engagement. Participants walk a mapped play-area, explore to-scale models of Osgoode subway station and the buildings around Nathan Phillips Square, and engage written Indigenous text via gaze (Astle, 2018; NFB, 2018; Filmmaker MagazineNFB Mediaspace). Reviews and audience accounts consistently report calm, wonder and reflective discomfort – feelings intensified by hearing Indigenous languages in the urban core and by the work's invitation to linger rather than "solve" a narrative (Astle, 2018; Rockbrand, 2019; Filmmaker Magazinethelinknewspaper.ca). These affective triggers plausibly foster humility, cross-cultural curiosity and ecological empathy – outcomes consistent with critical global citizenship education (Andreotti, 2006).

Finally, *Biidaaban: First Light* advances Indigenous futurism by depicting a decolonized Toronto grounded in ecological reciprocity and linguistic resurgence (MIT Open Documentary Lab, n.d.; MIT – Docubase). The immersive form also functions as a digital counterpublic – a circulating space of address that centres Indigenous knowledge and contests dominant urban imaginaries (Warner, 2002) – inviting Canadians to imagine governance rooted in treaty relationships rather than extractive logics.

5.4. Case Study IV – *Do Not Track* (2015): Data Capitalism and Participatory Privacy

Conceived and directed by Brett Gaylor, *Do Not Track* (2015) is a seven-episode personalized web documentary co-produced by Upian, ARTE, Bayerischer Rundfunk, and the National Film Board of Canada (NFB). The series invites viewers to opt in to data sharing so the platform can demonstrate – in real time – how tracking and profiling operate on the open web. By turning the web's analytics infrastructure into a live object of inquiry, *Do Not Track* situates participants inside the political economy of platform capitalism and

prompts reflection on their own roles within it (MIT Open Documentary Lab, n.d.; National Film Board of Canada [NFB], 2015; Upian, n.d.; Zuboff, 2019).

Viewed through an aporetic lens, the project also registers tensions within public-service media. An NFB-backed investigation into opaque platform practices unfolds through an international co-production that coordinates across Canadian, French, and German public broadcasters and digital partners, aligning creative goals with heterogeneous regulatory contexts and distribution arrangements (Media Impact Funders, 2016). Episode 3 centers social-platform activity and shows how seemingly harmless interactions generate inferences and reach; the episode combines personalized sequences, code visualizations, and expert interviews to clarify a democratic dilemma: liberal orders prize openness while data infrastructures remain largely proprietary and inscrutable (NFB, 2015).

Interface mechanics reinforce the argument. Choosing "Share My Data" yields live, personalized outputs inside the player – location cues, social signals, and browser context shape what the viewer sees – and the narrative deepens as participation increases (Media Impact Funders, 2016; MIT Open Documentary Lab, n.d.). The self-implication at work here echoes other interactive documentaries that visualize tracking to prompt ethical and political reflection (Allison & Mendes, 2012).

Reception indicates reach beyond a niche counterpublic. The series received a Peabody Award and the International Documentary Association's Best Short Form Series honor, was distributed in multiple languages with public-service partners, and engaged hundreds of thousands of users during its initial release cycle (IDA, 2015; Media Impact Funders, 2016; MIT Open Documentary Lab, n.d.; Peabody Awards, 2015). Educators incorporated the project into civic and digital-literacy courses, using its personalized demonstrations to open discussion about consent, algorithmic bias, and media concentration (Media Impact Funders, 2016).

The narrative architecture supports this pedagogical ambition. Episodes alternate concise explainers with interactive segments that require clicks or gestures; each interaction queues server-side scripts that personalize animations and textual overlays, producing outputs that evolve with continued engagement. This temporal elasticity resists tidy closure and aligns with an aporetic frame: surveillance capitalism appears as an ongoing relation that participants inhabit whenever they connect (MIT Open Documentary Lab, n.d.; NFB, 2015).

By embedding personalized data reveals into the episode flow, *Do Not Track* cultivates a practice of bearing witness to one's own digital traces, pairing self-reflexive exposure with collective critique (Fine, 2006; Fine & Torre, 2019). Viewers see their volunteered and passively collected data reassembled into inferences and profiles, then hear from activists, scholars, and technologists who contextualize those practices within the web economy and surveillance-capitalist incentives (NFB, 2015; MIT Open Documentary Lab, n.d.). The series' options-oriented finale and its between-episode explainers position the project as a pedagogical commons, where lived, personalized demonstrations and expert testimony circulate in tandem – linking intimate routines (searches, clicks, location patterns) to systemic political-economic logics (NFB, 2015; Media Impact Funders, 2016). While DNT itself does not advance specific regulatory blueprints, its critique sits alongside policy debates – such as information-fiduciary proposals – that seek to realign platform duties to users (Balkin, 2016, 2020). Read as a digital counterpublic, the project thrives on

dissonance rather than consensus: it stages tension between affective self-exposure and structural critique to widen the space of public argument (Fraser, 1990; Warner, 2002).

In relation to the earlier case studies, *Do Not Track* enlarges the analytic frame by shifting from ecological or testimonial arenas to the everyday economics of attention. *Bear 71* interrogates remote-sensing apparatuses aimed at non-human life; *Biidaaban* re-imagines urban futures through Indigenous language; *The Space We Hold* foregrounds survivor memory within a global-justice landscape. *Do Not Track* complements these interventions by illuminating how algorithmic infrastructures mediate even the act of consuming activism or environmental news. Together, the four works trace a continuum of mediated governance – from wildlife telemetry to data brokerage – highlighting the multiple fronts on which Canadian public media can cultivate counterpublic awareness.

Finally, the project amplifies calls for epistemological justice by decentering expert authority. While prominent scholars appear on screen, the documentary's argumentative spine rests on each viewer's embodied data encounter. Knowledge emerges through direct engagement with tracking scripts, rendering technical systems legible without demanding advanced coding skills. This approach mirrors Indigenous protocols of situated learning, as articulated in Biidaaban, and testimonial sovereignty, as expressed in *The Space We Hold*. In each scenario, the NFBC's digital storytelling resists universal claims and instead animates plural epistemologies.

Do Not Track, therefore, supplies the study with a vital fourth vantage point: it makes the financial and technical substrata of algorithmic realism visible while modelling participatory inquiry. The series confirms that public institutions can harness interactive media to democratize digital literacy, challenge extractive data economies, and extend the moral geography of Canadian storytelling well beyond territorial borders. Within the aporetic condition, such work opens conceptual bandwidth for re-imagining governance frameworks that respect sovereignty, privacy, and ecological integrity in equal measure.

6. Discussion

Interactive works from the NFBC reveal a common design logic that blends code-driven interfaces with civic commitments. *Bear 71*, *Biidaaban: First Light*, *The Space We Hold*, and *Do Not Track* each invite audiences to engage directly with datasets, maps, or dashboards. This engagement turns spectators into active interpreters who trace relationships among land, memory, and data. As participants navigate these environments, they encounter perspectives that usually remain outside mainstream media circulation. The projects, therefore, build digital counterpublics that expand collective deliberation and strengthen the conditions for epistemological justice (Fraser, 1990; Warner, 2002).

A shared emphasis on situated experience anchors each narrative. *Bear 71* situates users inside a wildlife-tracking grid where every click alters a living map. *Biidaaban* immerses visitors in a future Toronto that draws on Anishinaabe language and land ethics. *The Space We Hold* orchestrates a dialogic interface in which viewer choices shape the pace of survivor testimony. *Do Not Track* exposes browser fingerprints and real-time ad bids, framing data traces as personal evidence. Through these mechanics, the viewer gains a sense of world-making agency. Interface actions carry significant ethical weight, as they link micro-level decisions to broader ecological, social, and economic structures.

Algorithmic critique emerges through clear visualizations rather than abstract exposition. Each work renders invisible infrastructures – such as tracking collars, colonial grid plans,

silences surrounding sexual violence, and ad exchanges – into legible forms. Visualization serves as a pedagogical tool, training perception and sharpening analytic skills without relying on technical jargon. By aligning form and argument, the projects model an applied media literacy that resists technocratic gatekeeping. The code, therefore, serves an educational purpose while maintaining narrative momentum.

Public-service mandate shapes another pattern. The NFBC funds creators to explore themes that intersect with policy debates on surveillance, Indigenous sovereignty, ecological stewardship, and platform regulation. This institutional backing signals collective ownership of cultural infrastructure. At the same time, artists retain autonomy in storytelling methods, enabling experiments that commercial platforms rarely accommodate. Viewers thus witness a publicly accountable system in action: state resources support critical reflection on state power and corporate influence.

The four case studies further demonstrate how immersive design encourages affective resonance. Soundscapes of forest and freeway in *Bear 71*, immersive VR vistas in *Biidaaban*, intimate video diaries in *The Space We Hold*, and personalized data dashboards in *Do Not Track* each cultivate emotional involvement. Empathy grows through sensory cues, narrative pacing, and interactive choice. Emotional engagement then nourishes cognitive insight, aligning with experiential-learning research that links affect with durable understanding. Together, these observations suggest a model of cultural democracy grounded in shared infrastructure, plural epistemologies, and participatory literacy. Interactive storytelling distributes narrative authority across users, creators, and datasets. Counterpublics that arise through this distribution do more than voice dissent; they generate actionable knowledge on environmental ethics, reconciliation, survivor justice, and data capital. The NFBC approach, therefore, aligns with policy frameworks that value openness, inclusion, and sustainability. While these works aim to democratize digital storytelling, future development must also attend to access disparities, ensuring that broadband infrastructure, hardware compatibility, and language localization do not limit participation. Future practice can draw on this model in several ways. Designers may pair transparent data pipelines with Indigenous knowledge protocols to honour sovereignty and consent. Educators can embed these projects in curricula that couple interactive exercises with reflective discussion. Policymakers might reference the NFBC model when crafting oversight mechanisms for platform governance. Each pathway advances epistemological justice by ensuring that diverse communities define the terms of technological engagement.

The paper's analysis thus affirms interactive media as a fertile site for public inquiry within the Canadian aporetic condition. Creative teams utilize algorithms, spatial audio, and responsive video to expose historical contradictions and contemporary power dynamics. Viewers step into roles that blend witness, analyst, and collaborator. Through these collective experiences, digital counterpublics chart routes toward ecological balance, social equity, and responsible data futures.

6. Conclusion

Interactive projects, such as *Bear 71*, *The Space We Hold*, *Biidaaban: First Light* and *Do Not Track,* demonstrate that algorithmic storytelling provides a platform for social critique and civic imagination. Each work bends digital systems – GPS telemetry, game-engine world-building, keyed video streams, and live data dashboards – toward exposing hidden injustices and elevating voices that commercial media often overlook. By foregrounding a

grizzly's sensory map of its habitat (Allison & Mendes, 2012), Anishinaabe ecological insight (Jackson, 2018), survivor testimony (Hsiung et al., 2017), Anishinaabe ecological insight (Jackson, 2018), and personal browser traces (Gaylor, 2015), these pieces advance epistemological justice through direct design choices. They engage algorithmic culture from within and turn surveillance tools into engines of empathy, land-based futurity, accountable witnessing, and data literacy.

The Canadian aporetic condition frames this analysis, revealing how enduring tensions can energize democratic creativity when a public institution supports critical art (Bessai, 2024). The NFBC finances projects that probe state narratives and stimulate national dialogue, illustrating a model of "creative dissent" similar to Gramsci's organic catalyst in cultural life (Gramsci, 1971/2020). State backing and rigorous reflection therefore operate together to thicken democratic resilience.

The case studies enrich global-citizenship learning, counterpublic development, and digital ethics. Immersive interfaces cultivate cross-species empathy, activate Indigenous futurisms, highlight survivor agency, and demystify data economies, answering Andreotti's (2006) call for transformative global education. Through map navigation, room-scale exploration, branching testimony, and real-time data visualizations, audiences step into co-author roles that extend counterpublic conversation (Warner, 2002). Design blueprints emphasize consent, cultural authority, and visible data flows, setting standards for responsible immersive media (Fricker, 2007; Noble, 2018).

Taken together, these NFBC productions outline potential worlds where technology aligns with ecological reciprocity, urban space honours treaty relationships, and collective listening affirms historical truth. The works encourage the public to engage with contradictions, examine complicity, and imagine equitable futures. Justice and sustainability arise through creative encounters that keep tension in sight, invite dialogue, and spark action across generations.

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