

ARTICLE

Contested Sonic Space: Settler Territoriality and Sonographic Visualization at Celilo Falls

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Abstract

In this article, I argue that “seeing with sound” is a fraught political process with the potential to both obfuscate *and* assist Indigenous claims to land. I do so by analyzing the Portland District U.S. Army Corps of Engineers’ 2007 sonar images of Celilo Falls on the Columbia River. I take up feminist materialist analytics developed by Native American and Indigenous Studies scholarship on cartography and refusal, and place them in conversation with the sonic geographies of Columbia River Indigenous writers. Namely, I use Elizabeth Woody’s poem *Waterways Endeavor to Translate Silence from Currents* (1994) to investigate how overlapping and conflicting deployments of sonic imaging play a major cultural, political, and material role in the (re)mapping of Celilo Falls. First, I present a theoretical framework that considers the role of what I call sonic knowledges in unsettling colonial visual cartographies. I use archival Army Corps’ maps and critical sonar studies literature to show how the Army Corps’ 2007 riverbed sonograms emerge from a longer context of US settler practices of enclosing land with maps and surveying water with sound. I

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then turn to a close reading of newspaper articles and state legislation to analyze how the sonograms take on a present political life in ways that repackage ocularcentrism and assuage settler guilt, thus authorizing ongoing US enclosure of Indigenous lands. Yet, I also bring to bear Indigenous sonic knowledges that position imaging processes as potentially antithetical to addressing questions of access to land and self-determination. Through examining newspaper interviews, public testimonies, and Elizabeth Woody's poem, I elucidate deployments of sonic knowledge that can help us think about what anti-colonial (re)mapping practices demand of contemporary cartographic imaging processes. Attending to sonic knowledges under conditions of settler-ocularcentrism, I suggest, might assist anti-colonial feminist science studies engagements with processes of imag(in)ing Indigenous space.

Introduction

Dislocated from one another, we are now flooded,
resting in place.
We suffocate in the backwater of decadence
and fractious contempt.
Purity of the ancient is the language without tongues.
The river elegantly marks swirls on its surface,
a spiral that tells of a place
that remains undisturbed.

Elizabeth Woody (Warm Springs, Wasco, Yakama, and Navajo), 1994,
excerpt from poem "Waterways Endeavor to Translate Silence from
Currents," p. 97

It is 2015 and just east of The Dalles Dam on the Oregon shore of the Columbia River, I am looking out across Lake Celilo from Celilo Park. I hear the steely rumble of an oil tanker train along the Union Pacific line, the resounding horn of a cargo barge plodding downriver, and the whoosh of highway traffic on the I-84. Standing at the river's edge, my face is wet with rain and ears full of wind — I hear the quick, whipping Monofilm sail of a windsurfer and the crashing crests of world-renowned mid-river waves. Between lulls in the gusts, I hear the methodical gurgle

of Lake Celilo's waves lapping at the rocky shore.

Celilo Park is a Treaty Fishing Access Site on Nch'i-Wána,¹ which (for now) is commonly called the Columbia River. Along the public recreational shoreline there is also Treaty mandated infrastructure: a boat launch, fish cleaning tables and structures for net-drying, a parking lot with electric outlets, and bathrooms with showers. The most heavily used of thirty-one sites along the river, Celilo Park is one node in a federal compensation system aimed to reserve Mid-Columbia River tribes' Treaty Right to half of the river's salmon.² Throughout the Columbia River Basin, Indigenous fisheries, villages, burial grounds, sacred places, and commercial infrastructure remain inundated — and salmon runs decimated — by twentieth-century hydropower development in what now amounts to over 60 dams. Demarcated by Congress and constructed by the United States Army Corps of Engineers (ACE), the Sites provide commercial fishing locations at the “usual and accustomed places” for fishers of the Nez Perce Tribe, Confederated Tribes of the Warm Springs Reservation of Oregon, Confederated Tribes of the Umatilla Reservation, and Confederated Tribes and Bands of the Yakama Indian Nation.

Before the 1950s and for centuries preceding, however, the visual, sonic, and geopolitical landscape of this stretch of the river did not look or sound the way I have just described. I grew up visiting the Columbia River as a white, non-Indigenous person—I conduct this research and writing as a settler — and what I cannot hear in Celilo Park at present is the sound of falling water. Beneath the floating fishnets on Lake Celilo is Wyam,³ Celilo Falls. Celebrated poet and enrolled member of the Confederated Tribes of Warm Springs, Elizabeth Woody — whose poetics of sonic geography run through this paper — has translated the Sahaptin word Wyam to mean “echo of falling water” or “sound of water on rocks” (1994, p. 9). Before inundation by the rising backwaters of The Dalles Dam on 10 March 1957, this was a geophysically complex stretch of the river. At Wyam the nearly 900-yard-wide channel narrowed to less than sixty, and dropped more than twenty feet in elevation, charging the flow drained from 237,000 square miles of watershed through basaltic

islands and outcroppings in thundering falls and rapids, whirlpools and eddies. On those rocky cliffs, fishermen constructed seasonal platforms and their dip-nets brought in a prolific catch, as millions of salmon forged the constricted current toward their spawning grounds upriver. Celilo Falls — presently inundated by Lake Celilo, the 330,000-acre-feet of impounded waters I see from Celilo Park — was part of the most productive inland fishery and hub of commercial, cultural, and political exchange for Indigenous peoples in the region.

On the heels of the 1957 inundation's fiftieth anniversary, as media outlets explain, the Portland District ACE faced pressure from environmental activists and Celilo Village descendants and residents to provide definitive evidence as to whether they had dynamited the basaltic formations in the river channel during dam construction (Patton, 2008; Rojas-Burke, 2008). The ACE turned to visual data to disprove such indictments and, in a public act of settler (re)discovery — enabled by technology that “sees with sound” (Kellogg, 1961; Ritts and Shiga, 2016) — produced new images of Celilo Falls. In April of 2007, an ACE survey team led a boat fitted with a multi-beam sonar scanner onto the flat waters of Lake Celilo to generate a sonogram of the riverbed. *The Oregonian* newspaper published the cartographic images, explaining, “new sonar maps produced by the Corps of Engineers reveal a virtually unchanged Celilo Falls beneath the murky water of the Columbia” (Rojas-Burke, 2008, para. 5). The article begins with historical and political context for the survey:

About 10 miles upstream of The Dalles, the Columbia River once thundered over fierce rapids and a big horseshoe-shaped waterfall where generations of Native Americans gathered to catch salmon by the hundreds.

The lake that rose behind The Dalles Dam swallowed Celilo Falls in 1957. As if that weren't destruction enough, government demolition teams blasted the falls to ruins...*or so the stories said.* (emphasis my own, paras. 1-2)

This narration of historic settler violence begins, as many do, with a

description of a distant and completed event, a people past, and a dismissal of intergenerational memory. The narrative erases persisting Indigenous existence and use of this place, and neglects the well-documented history of the ACE's dynamite-demolitions along the Columbia throughout the twentieth century. Historical and ongoing destruction is diminished, and the ACE is made to appear innocent in the face of allegedly fallacious accusations. Yet at the same time, the Indigenous interviewees featured in *The Oregonian's* article expressed relief to see an image that suggested their ancestral fishing grounds had not been dynamited. Further still, these interviews suggested that sonic cartography might be useful for land reclamation struggles and thus politicized the ACE sonograms as an opportunity to (re)assert the futurity of Indigenous relations with Celilo Falls.

How do anti-colonial scholars of science and technology contend with the use of technoscientific imaging processes toward seemingly contradictory ends: as tools to bolster both settler-state authority as well as Indigenous claims to land? In this paper, I extend this question to examine the role of sonic visualization in divergent conceptualizations and claims to space using an analysis of the production and circulation of images created by the 2007 ACE sonar survey of Celilo Falls. I take up the feminist materialist analytics developed by Native American and Indigenous Studies scholarship on cartography and refusal (Goeman, 2013; Simpson, 2014), in conversation with the sonic geographies of Columbia River Indigenous writers (Pinkham, 2010; Woody, 1994), to argue that "seeing with sound" is a fraught political process with the potential to both obfuscate *and assist* Indigenous claims to land.

I begin this paper with a theoretical framework that considers sonic knowledge in unsettling colonial visual cartographies. To further elucidate the political stakes of "seeing with sound," I then use archival maps and critical sonar studies to historicize the material production of sonograms at Celilo. I consider the 2007 ACE sonar survey in a much longer context of US settler and imperial practices of imaging territory, which enclose lands with maps and survey waters with sound. In the third section, a

close reading of newspaper articles and state legislation demonstrates how the sonograms take on a present political life in ways that repackage ocularcentrism, assuage settler guilt and thus authorize ongoing US enclosure of Indigenous lands. Throughout this paper, I attend to multiple political valences of sonic cartographies and the enactments of anti-colonial resistance in both constituting and contesting the sociopolitical life of the images. Thus, the final section engages with Tonawanda Band of Seneca scholar Mishuana Goeman's (2014) call to theorize spatial justice through Indigenous women's cartographic practices. I focus on the role of sound in a politics of refusal (Simpson, 2014) to the maintenance and memorialization of settler control at Celilo Falls. Turning back to Elizabeth Woody's poem (1994, pp. 97-98), I examine sonic geography as a spatial framework for thinking anti-colonial land politics and undoing the ocularcentric logics of settler cartographies.

Sound Matters

Columbia River Treaty Tribes and Columbia River Indians continue to take fish at Celilo Park in a place visually, sonically, and geopolitically (re)spatialized by the territorializing projects of settler colonial occupation. Nez Perce historian, storyteller, and elder, Allen Pinkham, has written about his contemporary relationship with Celilo Falls, in part, through sonic memory.

I have stopped at Celilo over the years, and the silence is a terrible thing to experience. There are no sounds of mothers and grandmothers cooking or washing dishes after a meal that included fresh salmon or eels. No sounds of mothers and daughters cutting salmon and eels to dry for winter storage and use. No sounds of men chopping wood for cooking or smoke-drying at the old village site. No sounds of children running, playing, and shouting at each other. Near where fish were being caught, there are no sounds of nets going into the currents or of fish being clubbed when brought onto the scaffolds and put into

fish boxes.... Now, there are no sounds of hand cable cars being pulled across to the various islands; their wheels are quiet. (2007, p. 592)

Pinkham's memory routes an historical account of life at Celilo Falls through a sonic register. His tracing of past and present sounds at Celilo affords an account of space that is gendered and persistent in its sociality and materiality. Here, women and more-than-human beings are the central agents of biological and social production. He describes an interrelated set of Indigenous socialities and technologies that are reproductive and relational. Relations between mothers, grandmothers, salmon, eels, nets and cable cars, constitute an "intact" Celilo Falls as lively and sound-full. Pinkham's repeated "terrible" experience of silence over the years — a dense and layered series of "no sounds" — registers the violence of material enclosure and social dislocation as a series of many acoustic absences. Pinkham constructs a historically specific sonic knowledge that is both an intimate claim to Indigenous social space and an indictment of the constant invisible terror of ongoing occupation (see Barker ed., 2017; Goldstein ed., 2014; Kauanui, 2016; Wolfe, 2006).

Similarly, Elizabeth Woody's (1994) poem "Waterways Endeavor to Translate Silence from Currents" (p. 97) produces a dislocated, yet animate, sonic geography. Woody is a highly acclaimed Indigenous poet, educator, and founding member of the Northwest Native American Writers Association. Her poem, an excerpt from which serves as an epigraph for this article, begins "First of the voices are innocent, from memory/" and ushers the reader into a multitudinous, resonant remembrance. The poem's scaffolding stands on images of resounding Columbia River beings — fissures hiss and songs linger — while spiraling through a flooded place of dislocation. Akin to Pinkham's insistence on the vital relations that constitute Celilo Falls, Woody's poem likewise represents Celilo Falls in its own right. Further still, Woody's poem evokes futurity through an emplaced and communicative river. The poem's final three lines depict a Columbia that might be caressing and caring for itself: "The river elegantly marks swirls on its surface,/a spiral that tells of a

place/that remains undisturbed.” The symbol of spiraling water evokes a sense of falling as ongoing movement. A place “that remains undisturbed” is a persistent place, brought into being by continuous story-making, although perhaps only legible as such to the closed and specific “we” of the poem. Neither spectacular nor ocular, Celilo is irreducible to geophysical structures that can be made sensible by visual measurement alone.

Pinkham’s sonic memories and Woody’s sonic geography turn our attention to the ways sound and silence are historical, material, and spatial. Yet, neither Pinkham nor Woody describes the social, cultural, and spatial dislocation brought on by inundation as “death” (Barber, 2010). Sound and silence figure prominently in Columbia River Indigenous peoples’ memory of an acute event of primitive accumulation, experience of ongoing dispossession, as well as the collective maintenance of their relation to the vitality of Celilo (see Pinkham, 2010; Ulrich, 2007; Woody, 1994). What I call sonic knowledges refer to the various ways in which sound is experienced, described, represented, and codified as material truth claims or ontological facts. Sonic knowledges figure centrally in contemporary contestation surrounding what counts as life, personhood, and a legitimate claim to place across interlocking social and political spheres: The historic echo of pounding waters, memories of reverberating dynamite blasts, and pings of underwater soundwaves. Multitudinous sonic knowledges converge and diverge in the imagining and imaging of Celilo Falls, but with uneven power relations and toward the production of vastly different spatial politics.

Imaging Matters

Dan Proudfit — head of the Portland District ACE’s survey section — led an outfitted boat over Lake Celilo in April of 2007. As his team cruised the reservoir’s surface, a multi-beam sonar scanner’s projector emitted pings toward the intended deflecting structure or target (i.e., the geomorphic basalt formations of the Columbia riverbed). These sound pulses

reverberated from their target back to the water's surface and were received by the scanner's hydrophone. A transducer converted these reverberations to electrical impulses that could then be spatially visualized as a series of black and white sonograms. Akin to photo negatives, these images were then inverted and "falsely" colored through computer processing (Peterson, 2012). Evocative of a colorful 3-D topographical model, the resulting images convey the riverbed's geophysical structures as they might appear without water running through or over them. The sonograms' red-to-green color gradation indicates an increase in depth (from about twenty to 120 feet) along the river floor and the shadowed indentations, ridges, and cuts indicate spatial dimension. In so doing, the ACE produced yet another visualization of Celilo Falls in a long line of measurements, maps, and surveys of this stretch of the river. This time, they used sound.

Although the bottom of Celilo Lake had never once been mapped since The Dalles Dam was completed, US mapmaking of Celilo Falls is not new. Throughout the nineteenth and twentieth centuries, the ACE produced and deployed images of the Columbia's geophysiology for the purposes of expanding riverine navigation, preventing floods of settler developments, irrigating agricultural lands, and generating hydroelectricity for a rapidly increasing settler population and wartime industry (see Allen, 2007; Fredlund, 2007). In the pacific northwestern United States more broadly, land and water surveys assisted the quantification, invasion, and enclosure of the land by the settler nation-state throughout the fur trade, the Lewis and Clark Corps of Discovery expedition, westward extension of the railroads, and urbanization of western territories (see Banner, 2007; Blackhawk, 2006; Huhndorf, 2009; Limerick, 1987). Federal plans, specifically those for settler territorialization of the Columbia River Basin, relied on visual representations of waterways to imagine and enact the expansion of homesteading, commercial agriculture, hydropower, and military industry (see Lang, 2007; White, 1995; Worster, 1985).

Following rapid development of navigational infrastructure in the

early twentieth century, the ACE turned its focus to the Columbia's potential to support large-scale hydropower plans (Willingham, 1992). Historian William Lang (2007) explains: "Celilo Falls and The Dalles, rather than the object of concern as an obstacle to navigation, suddenly became a location for an economic bonanza, where engineers sought to exaggerate the river's fall and create a bountiful source of power" (p. 574). ACE surveys of the nation's rivers laid the scientific groundwork for federal plans to systematically develop entire watersheds for irrigation, flood control, and hydropower throughout the US and advocated for the construction of dams on the Columbia, The Dalles Dam being one of them (National Research Council, 1999; North Pacific Division of U.S. ACE, 1969).

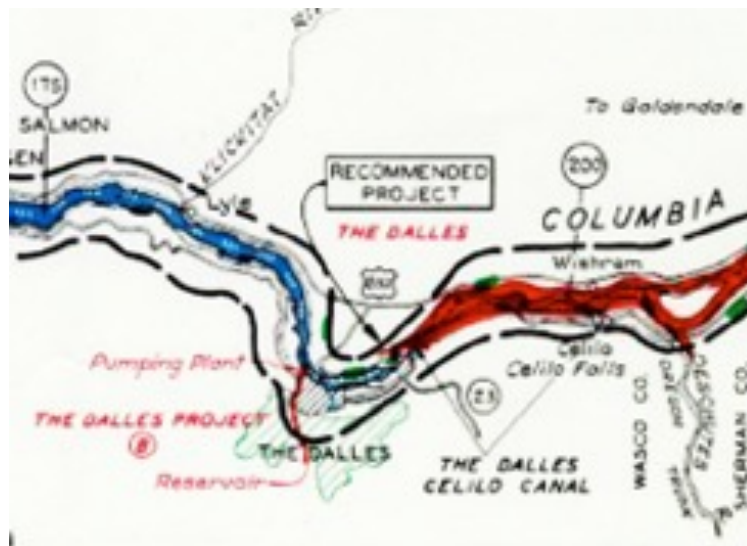


Figure 1: Close up of Celilo Falls reach. [A close-up section of an Army Corps map depicting the Columbia River reach at The Dalles, between Oregon and Washington. The river is outlined in bolded, black ink, with place names identifying cities, highways, and hydropower and navigational infrastructure proposed by the Army Corps of Engineers. The water downriver of The Dalles is blue, while the proposed inundation upriver from the recommended project is filled in with red.]



Figure 2: Map key indicating "Proposes project" and projected flooding. [A map-key, titled "Legend" in black font at the top. Beneath are symbols (such as variously shaded polygons, dotted lines, and circles) with definitions indicating ACE projects in various stages. The existing and authorized project symbols and descriptions are in blue, the proposed projects in red, the possible future projects in yellow, and the present and potential irrigated areas in green.] Columbia River and Tributaries, Northwestern United States. Letter from the Chief of Engineers to the Secretary of the Army, 28 June 1950. Report Plate 78.

The ACE maps imagined the spatial reorganizations of settler futurity and enabled such a project's material implementation. Red, on this 1949 ACE survey of the Columbia, demarcates a "proposed reservoir" project behind the "recommended project" at The Dalles (Figure 2). Evocative of the blue and red anatomical depictions of blood-filled veins, the proposed project seeps east. Bright ink floods and exceeds the empty, outlined reach of the Columbia River — covering a small, hollow black circle labeled "Celilo/Celilo Falls" (Figure 1).

Technoscientific systems designed to produce maps or aerial views of land assist projects of US territorial control, military expansion, and the cultural formation of a nationalist imaginary. From safari cameras and WWI hot air balloons, to the War on Terror's unmanned aircraft and "Curiosity" (NASA's Mars Rover), scholars have contended with the violent consequences of power-laden visualization technologies and ocularcentric ways of knowing, especially imbricated projects of empire building through territorial conquest (see Anderson, 1983; Chandler, 2016; Earle, 2014; Gregory, 2014; Kaplan, 2006, 2017). In a similar but different vein, feminist science studies scholars have predominantly theorized sonography as an instrument of visualization in the context of the body, gender, reproduction and subject-formation (see Cartwright, 1995; Haraway, 1997; Milstein & Krolokke, 2012; Palmer, 2009; Taylor, 2008). Similarly, acoustic technologies have enabled scientific and military detection and visualization of underwater sound waves to enable a kind of "seeing by listening" (Kellogg, 1961). Adjacent to medical sonograms, geophysical sonar survey systems are run through with implications for defining and ordering what counts as valuable and vital, or enemy and Other.

The role of sonar imaging technology as an instrument of settler colonization in the US, however, remains underexamined. As I argue in this paper, geophysical sonograms can both uphold and break with the cartographic legacy of settler-state control over contested territory. Critical studies of sonar have traced its emergence from the Cold War to contemporary securitization of oceanic space and underwater landscapes. An acronym for sound *n*avigation and *r*anging, sonar was first widely developed and deployed during WWII for the detection of underwater military targets, such as submarines (Peterson, 2012). This work shows how the instruments and sense-making systems that perceive and translate underwater sound arose from an inextricable relationship between military naval and security research, and sciences of cetology and oceanography (see Ritts & Shiga, 2016; Oreskes, 2003). As these sonar studies lay bare the co-constitution of military and scientific

technologies, they show how underwater spaces become configured as “marine battlefields” (Kaushik et al., 2005). A term that conveys the positivism of military discourse, “marine battlefield” also historicizes and politicizes the underwater landscapes in which instruments of surveillance and management produce effects of (re)territorialization. Imagining and imaging underwater landscapes as “battlefields” — frontiers of expansion and original scientific discovery — reshape longstanding notions of the oceanic boundaries of sovereign powers and extend material claims to territory.

There is an urgent opportunity here to interrogate the role of geophysical sonar discourses and visualizations — from images of riverbeds to archeological sites — as political actants enrolled in sociocultural and legal contestations over the legitimacy and futurity of Indigenous claims to ancestral territory. Federal agencies like the Environmental Protection Agency and National Park Service draw from their readings of technoscientific images to make decisions about the validity, import, and response to environmental and sovereignty struggles on the part of Indigenous peoples. Sonar surveys are used in the arbitration of legal and regulatory processes such as environmental impact assessments and *Native American Graves Protection and Recovery Act* (NAGPRA) proceedings (see Oregon State Historic Preservation Office, 2013; US Army Corps of Engineers, 1999). In the context of ongoing settler colonial occupation and enclosure of underwater land, what can be learned from examining the way the ACE sonograms deploy acoustic surveillance in the mapping of an “underwater battlefield”? And how can these efforts be understood as acts of national security-making?

Politics of Representation

Louie Pitt Jr., [a] Warm Springs tribal member, said historical photographs seem to show blasting at the site of the falls. "Are they still there? Were they dynamited? That questioning has been going

on for years," said Pitt, director of government affairs and planning for the tribe. — Rojas-Burke, 2008, para. 6

State and federal fisheries managers agreed there was one good thing about The Dalles Dam: It would end Indian fishing at Celilo Falls. Although the fisheries people fought the dam down to the start of construction, they took comfort from the expectation — or at least hope — that drowning Celilo Falls would end Indian fishing on the Columbia and disperse the Indians. — Roberta Ulrich, 2007, p. 80

Shortly after the survey's completion, *The Oregonian* published an article titled "Sonar shows Celilo Falls are intact," with a black and white aerial photograph of the Columbia River from the 1940s set alongside its contemporary mimetic equivalent, the 2008 ACE cartographic sonogram of land underwater (Rojas-Burke, 2008). The new map does not mark gravel bars for demolition or channels for dredging nor does the sonic transducer identify enemy objects for target launch. This visual juxtaposition — the abutting proximity of an historical aerial landscape photograph and a present-day colorized sonogram — was offered as authoritative evidence and conclusion: The Celilo Falls that existed above water in the 1940s is intact beneath the river in 2007.

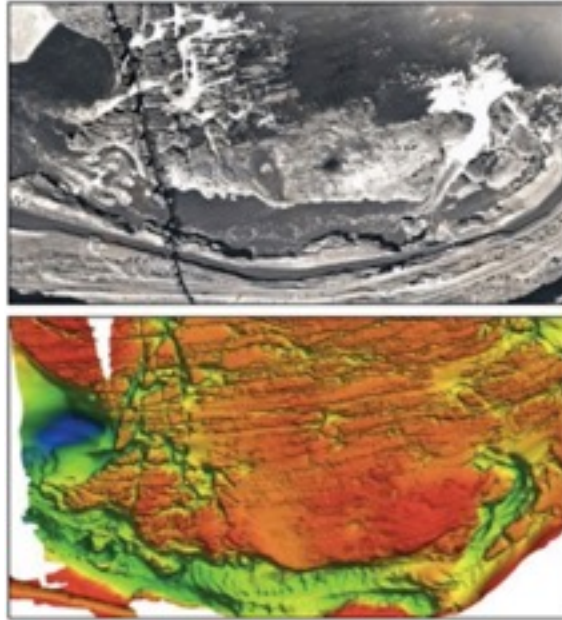


Figure 3: The main cataract at Celilo Falls as seen in October 1933. The falls were flooded by the construction of The Dalles Dam in 1957, and rumor had it that the US Army Corps of Engineers demolished them (Rojas-Burke, 2008). [Two images juxtaposed, one beneath the other. The top image is a black and white aerial photograph of Celilo Falls, showing the white-water of rapids gushing down-river and the rocks basalt formations of the mid-river cliffs and south Oregon shore. The bottom image is the 2007 ACE sonogram, in color, indicating the depths and dimensions of the riverbed. A deep blue to green fills in the deep river channel, while the shallow rocky outcroppings are colored red, orange, and yellow.]

The article enables a public record of ACE innocence in response to rumor-based accusations of explosive settler violence. Eve Tuck (Unangax) and K. Wayne Yang have theorized such examples of non-Indigenous peoples' moves to alleviate the impacts of colonization as “settler moves to innocence” that attempt to rescue settler futurity through a problematic reconciliation of settler guilt and complicity (2012, p. 3). Portland District Corps’s Col. Thomas O’Donovan’s decision to request a detailed sonar survey from Dan Proudfit’s survey team is described as a “wade into the Celilo Falls controversy” (para. 7). Drawing from a prior *Oregon Public Broadcasting* interview with O’Donovan, the article contextualizes the ACE’s rationale: “My team came to me and said, ‘Look, we don’t think we blew the falls up,[...]’ I said, ‘Well, that really isn’t gonna cut it in terms of

sitting down with the tribes and talking about this important cultural resource that it is for them" (emphasis my own, para. 10). The effect of generous enactment constructs the sonar survey as a benevolent gesture on the part of the very same federal agency that was responsible for flooding Celilo Falls in the 1957. Simultaneously, the Falls are reduced to their "important cultural" import alone. This elides the political and economic stakes of envisioning Celilo Falls intact for tribes, especially in the context of emerging debate over possible future removal of hydropower dams on the Columbia (para. 16).

Boyd Cothran, a cultural and military historian of the US, examines the cultural production of the settler-American public's belief in "their fundamental innocence in the face of settler colonial legacies of violence" (2014, p. 24). Here, I suggest that feminist materialist analyses examine how *scientific* imaging processes also make "settler moves to innocence" (Tuck & Yang, 2012) and contribute to the production of a revisionist and benevolent settler historiography (Cothran 2014). Scientific visions, too, are enrolled in the cultural work of maintaining settler colonial control over land and obscuring the historical violence of this control (see Braun, 2002; Chapin et al., 2005; Harris, 2004; Hunt & Stevenson, 2016; Özden-Shilling 2016). The ACE is willing to deploy innovative technologies to offer visual evidence of a scientifically substantiated claim to historical truth. The ACE publicly reveals this new narrative of what happened at Celilo Falls as a kind of gift in exchange for a previously flawed narrative. The truth claims authorized by cartographic conventions articulate with a performance of good intention and risk dismissing Celilo Village residents' testimony with a tacit suggestion that material violence committed by the ACE at Celilo was not as bad as "rumor had it" (Rojas-Burke, 2008).

However, *The Oregonian* article did not situate the sonograms in historical material context. In 1873, the ACE began dynamiting basalt rock formations, like those at Celilo Falls, as they were considered an obstruction to navigation of the river (Barber & Fisher, 2007, p. 721). During The Dalles Dam construction there is at least one significant

instance of dynamite use in 1956, as shown in Figure 4: “More than 20 tons of powder, and removed 60,000 cubic yards of basalt.” The ACE maps I discuss in the previous section were used as blueprints for dynamite placement during construction from the late 1800s through the 1950s (Allen, 2007; Willingham, 1992). Explosives were a technology of territorialization for the expansion of state control and capital in the Mid-Columbia River, and countless places occupied, used, and held in relation by Indigenous peoples were destroyed by the ACE detonations.



Figure 4: “Final major blast at The Dalles dam, removed 60,000 cubic yards of basalt, more than 20 tons of powder used.” 1956. OHS Research Lib, bb002863. [A black and white landscape photograph—A tall, mid-action dynamite blast stretches the length of the photograph, with clouds of dark smoke, dirt, and water extending skyward. In the foreground are gravel and sand bars, and portions of the Columbia River and low, smooth mountains are seen in the background.]

Yet there are multiple, potentially disruptive, methods for making sense of the sonograms, some of which elicit feelings of relief and visions of Indigenous futurity. In the same news article analyzed above, Elizabeth Woody situates the sonograms in a longer process of holding the ACE accountable for its major role in the dispossession of Indigenous life on the mid-Columbia:

The revelation brings relief and hope to many members of Columbia Basin tribes.

"I was deeply moved," said Woody. "I actually cried, I was so relieved that it wasn't destroyed."

Woody said it's easy for her to understand why members of her tribe and others came to believe that the U.S. government dynamited the falls. People living in the village at Celilo Falls heard and felt the blasting for excavations at the dam, she said.

"People experienced the explosions and associated it with the loss," she said (Rojas-Burke, 2008, paras. 13-16).

Woody brings non-visual senses to bear on geophysical knowledge production and the making of history. She provincializes sight and centers Celilo Villagers' experience of hearing and feeling blasts as constitutive of the explosion's event. Woody continues to argue: "People said the Corps had dynamited Celilo so *no one would fight for the dams to come down*" (emphasis my own, para. 17). Conversing with Woody during this interview, Louie Pitt Jr. (member and director of government affairs and planning for the Confederated Tribes of Warm Springs) also contends with the sonograms on explicitly Indigenous terms. The sonograms assist his imag(in)ing of future Indigenous geographies outside of, or beyond, settler colonial structures: "Someday those dams will be gone," Pitt said. "When that day comes the falls will return. Indians will be waiting" (para. 21).

Woody and Pitt Jr. decenter the process of imaging Celilo Falls. Their language enrolls embodied and auditory senses to construct an emplaced history of Indigenous experiences at Celilo Falls. Woody explains that the sonic knowledge of those "living in the village" offers a challenge to the ACE's use of visual evidence to maintain a record of public innocence. She regards sonic memories of dynamite as undoubtedly "heard and felt," and politicizes visual representations of land as potential claims-making tools in a struggle against dispossession.

Woody's evocation of an undammed future for the Columbia River implies that the scientific and legal authority afforded these sonograms might assist in future efforts to make claims to land currently under water. Likewise, Pitt Jr. affirms the certainty of such a future on the Columbia River where Indigenous peoples not only survive the violences of the ACE, but also anticipate and prepare for the inevitable dissolution of hydropower infrastructure.

Not all forms of sonic knowledge are afforded equal amounts of ontoepistemological legitimacy in the popular imaginary nor in scientific and political spheres (Goh, 2017). In the following section, I further examine how sonic knowledges are used to politicize visual representations and take up the ACE sonograms as a technology for producing Indigenous futures and refusing settler spatial orders. I argue that Mishuana Goeman's (2013) theorization of (re)mapping as an engagement with "the power of Native epistemologies in defining [Native] moves toward spatial decolonization, a specific form of spatial justice" (p. 4), brought together with Audra Simpson's (2014) politicized Indigenous refusal of settler "sense," opens possibilities of understanding how Indigenous sonic cartographies do productive political and spatial work toward shaping the futures of Indigenous places "within and apart from settler governance" (p. 11).

Sounding Refusal and Indigenous Futurity

Nearly eight years after their initial release, the same ACE sonograms that had trafficked as geophysical evidence of ACE innocence publicly entered the juridico-military sphere. In the 2015 Regular Session of the seventy-eighth Oregon Legislative Assembly, a House Joint Memorial measure — HJM-15 (Figure 5)—was introduced to "[Urge] United States Army Corps of Engineers to provide preliminary statement of feasibility for lowering Lake Celilo to a level sufficient to reveal Celilo Falls during a certain period" (para. 2). This period of revelation was specified as lasting one to two weeks, between 1 January 2016 and 1 January 2020. A copy

of HJM-15 was sent to the Commanding General and Chief of Engineers of the US Army Corps as well as to the Commander and District Engineer of the US ACE, Portland District. An article in the *Northwest News Network* drew a connection between the ACE sonograms and this new political initiative to physically reveal the Falls:

In 2008[sic.], the Army Corps of Engineers released a sonar survey of the river bottom in front of Celilo Village. The underwater survey showed the falls and surrounding rock formations remain intact.

In recent years, several small nonprofits have emerged to advocate for restoring Celilo Falls and its historic fishery. They include The Friends of Celilo Falls, which takes pains to say that it does not represent or speak for Columbia River tribes.

In written testimony, Friends director Sean Aaron Cruz said a permanently restored Celilo Falls could perhaps become a UNESCO World Heritage site (Banse, T., 2015, paras. 13-15).

The state-sanctioned move to uncover and (re)cover Celilo Falls is integrally constituted by imaging processes. Such a spectacular and material memorialization project requires a critical examination of how technoscientific images are — like Cothran's examples of stage performances, postcards, and tourist sites (2014) — also enrolled in the cultural production of settler memory and commonsense (Rifkin, 2014). Yet as I have shown, contradictory meanings can be produced and mobilized to very different political ends using the same images. The commentary submitted during HJM-15's legislative proceedings offer an opportunity to analyze how sonar images are simultaneously enrolled in, and critiqued as, cultural and legal projects of settler-state redemption and territorialization.

This next section examines anti-HJM-15 testimonies submitted by two Indigenous writers to demonstrate how settler visual representations of Indigenous lands are continuously contested. Both Tabitha Whitefoot and Se-ah-dom Edmo are Celilo Village descendants with extensive

experience in Indigenous-led research and education, currently through positions at Lewis and Clark College and the Columbia River Inter-Tribal Fish Commission respectively. Indigenous responses to HJM-15 (of which I only consider the archived public commentary) were not homogenous. I have intentionally selected two testimonies that reject the primacy of the visual, and in so doing both critique and refute the spatial politics undergirding the settler-state’s imagined memorial. Their testimonies offer material for exploring articulations of historicized sound, sense, and sociality that challenge the taken-for-granted value of imaging Celilo Falls.

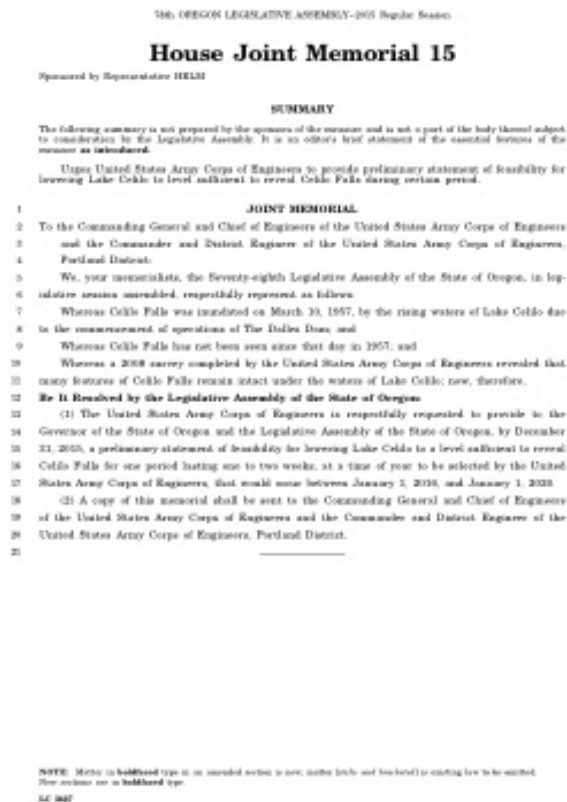


Figure 5: Helm, J. (2015). House Joint Memorial 15, 18th Oregon Legislative Assembly--2015 Regular Session.

Native and Indigenous Studies scholars have demonstrated that calculated refusal of settler “gifts,” such as inclusivity or apology, is also an assertion of power (Simpson, 2014). Audra Simpson, Kahnawà:ke scholar of anthropology and Native American Studies, theorizes Indigenous “refusal” as an alternative to the desire for legibility and inclusion within settler colonial nation states (2014, p. 1). Building on her argument that “like Indigenous bodies, Indigenous sovereignties and Indigenous political orders prevail within and apart from settler governance” (p. 11), Simpson demonstrates how Indigenous refusal of “gifts” (re)shape the politics, sense, and reason from which they emerge (p. 1). Whitefoot’s and Edmo’s testimonies in opposition to HJM-15 can be read as assertions of Columbia River Indigenous women’s political sovereignty and challenges to settler-state legitimacy.

Each writer refuses HJM-15 and problematizes the set of evasions that make possible such a state-sanctioned “move to settler innocence” (Tuck & Yang, 2012). Tabitha Whitefoot, an educator, researcher, and member of the Yakama Nation, was a young child at Celilo Village on the day of inundation. Her submitted HJM-15 testimony elucidates sonic and sensory knowledges that trouble ocularcentric accounts of land and challenges the authority of visual sonography to evidence that “Celilo Falls still exists.”

Please listen to the voices of those individuals with a real stake in the prospect of revealing Celilo Falls, the descendants of those people who were displaced, who lost their homes and sense economic and social order. These late comers know nothing of this heritage, to them it is but a series of pictures and news reports. To us it is our story, our life. Ask the leaders of the treaty tribes, whose tribal members were displaced and impoverished by dam building.

I was four years old the year of inundation... My eyesight was severely impaired, so I have to depend on my other senses to report this out to you.

First, you cannot imagine the original smell of Celilo. It was a

sweet, smoky, fresh, compelling, odor. I can close my eyes and bring it forward. The sound, was indescribable, the closest I have come, is where you can hike behind the falls at Silver Falls State Park. But that sound is directly overhead, and the sound at Celilo actually reverberated off the cliffs...like a hum of industry and nature combined. The air was sometimes scrubbed clear by the winds and dry air, other times the mist could make you damp. These memories are powerful and evoke a sense of security and joy to me... (emphasis my own, p. 1).

Whitefoot makes an explicit connection between displacement and imagining processes: Visual consumption has political and material consequences for “those individuals with a real stake in the prospect of revealing Celilo Falls.” She critiques settler representations of Celilo Falls as “but a series of pictures and news reports,” made by “newcomers” with little knowledge of Celilo heritage and no experience with economic and social loss there. Whitefoot’s historicized and emplaced testimony interrupts her settler audience’s overreliance on the visual. Whitefoot does not describe Celilo’s vitality as one that is seen, rather, she “can close [her] eyes” to bring forward smells that her audience “cannot imagine” and sounds that are “indescribable.” Taking up Simpson’s framework of refusal, we might read Whitefoot’s rich descriptions of Celilo’s sounds (hums and reverberations), olfactory and tactile sensations (sweet, smoky and fresh odor; winds and dry air), and material-affects (security and joy) as not only an alternative to settler recognition but a political enactment of Indigenous sovereignty and spatial production.

Explicit connection between redemptive violence and visual spectacle is also forged in Se-ah-dom Edmo’s testimony. Edmo, a Shoshone-Bannock, Nez Perce, and Yakama Celilo Village descendant, whose father witnessed the 1957 inundation, wrote to urge “a no vote on HJM 15 and to call into question any motivation or movement to temporarily lower The Dalles Dam to reveal the falls.” She explains:

Uncovering Celilo would be like digging up the grave of a relative

— just so well meaning non-native progressives can feel good about themselves and the work they are doing. What we really need is to work to empower the people who suffer generational trauma because of environmental racism. HJM 15 is misguided, I urge you to vote NO! (2015, p. 1)

Edmo's language, "like digging up the grave of a relative," presents a much more familial, and vital relationship to Celilo Falls than the newspaper articles that tout sonograms as evidence of its "still there"-ness, as though the basalt formations alone — and not the relations and life they co-produced — constitute Celilo Falls. Edmo evokes death and burial, foregrounding the loss, violence, and covered reality of the Falls. Together, these testimonies refute media proclamations that Celilo Falls was not destroyed during dam building.

Conclusion

Imaging processes and sonic cartographies are contested practices of territorialization as well as methods for unsettling colonial geographies. Mishuana Goeman, scholar of Native literature, geographies, and feminisms, has developed a theory of (re)mapping that is "not just about regaining that which was lost and returning to an original and pure point in history, but instead understanding the processes that have defined our current spatialities in order to sustain vibrant Native futures" (2013, p. 3). For Goeman, (re)mapping looks like engagement with the multiple and simultaneous spatial politics that cartographic technologies afford but not in a return to some "pure idea of indigeneity" (2013, p. 3). Rather, "in considering the map as an active apparatus that restructures spatial domination, social relations, and epistemological violence, we move away from romanticized notions of resistance" (p. 66).

A poem can produce alternative maps and geographic understandings. Goeman demonstrates that "the literary...tenders an avenue for the 'imaginative' creation of new possibilities, which must happen through imaginative modes precisely because the 'real' of settler

colonial society is built on the violent erasures of alternative modes of mapping and geographic understandings” (2013, p. 2). I turn now to examine poetry as a sonic genre with the imaginative capacity for reorganizing space with a reading of Elizabeth Woody’s (1994) poem “Waterways Endeavor to Translate Silence from Currents.” This poem, from her book *Luminaries of the Humble* (1994, pp. 97-98), might offer an example of Indigenous cartography at Celilo Falls:

Waterways Endeavor To Translate Silence From Currents

First of the voices are innocent, from memory,
desolate synthesis of weeping, rain,
into dry creek beds.

Stone with roots, companion of guardians,
bares itself toward the summit of crowns.
The exchange of bones for sawdust, for silt, for worthless currency.

The clouding springs hiss into veins of fissures, topsoil wears into desert,
an illusion of property, fringed by momentum of cutting down origin.

The hiatus is the flourish of sword and degeneration.
In our genesis, the beginning of words
meant that we would not be without land or relationships.

Vacuity, the lack of emotion etches into destruction
the scaffolds of abundance, rapids, falls, spawning beds,
the echo of falling water. The nascent place of all

the songs lingers amongst the multitude of ancestors,
commonly wedged into bone hills, vandalized and cataloged.

Dislocated from one another, we are now flooded,

resting in place.

We suffocate in the backwater of decadence
and fractious contempt.

Purity of the ancient is the language without tongues.

The river elegantly marks swirls on its surface,
a spiral that tells of a place
that remains undisturbed.

From Luminaries of the Humble by Elizabeth Woody. © 1994 The Arizona Board of Regents. Reprinted by permission of the University of Arizona Press.

I examine how Woody's poem produces place and contends with inundation through sound. I recognize that, as a settler encountering the particular language and resonances of this piece, my reading has limitations. Poetry itself is a sonic genre and this poem turns on "the echo of falling water. The nascent place of all/," "lingering song," and "language without tongues." The "stone" in Woody's poem has "roots" and "companions," indicating an agential reality in and through which it "bares itself." Life is evident in "scaffolds of abundance" and "spawning beds," a human/more-than-human entanglement *produces* place (Todd, 2017). Celilo Falls is thus irreducible to a "cataloged" geophysical formation or abstract space but is an always-emergent, relational place.

Inundation is configured as neither complete nor past. Flooding is more than a hydromorphological event: "Dislocated from one another, we are now flooded/resting in place." The collective plurality of those flooded is rooted in place — "resting" — and the "we" implies a collective, related set of subjects beneath the water. The reader encounters the Columbia as an agential subject. The river acts. It "elegantly marks" itself, in "a spiral that tells of a place/that remains undisturbed." The figure of the spiral evokes a sense of continuous motion inward and outward, suggesting a vitality and futurity to that which "remains undisturbed."

Much scholarly, journalistic, and personal analysis of Celilo Falls foregrounds the political, legal, scholarly and cultural work of Columbia

River Indigenous peoples toward securing fishing rights, sovereign territory, and un-dammed indigenous futures; the persistence of Indigenous relations to salmon, other more-than-human beings, and Wy'am in its impounded (for now) yet no less animate form (see Aguilar, 2005; Barber, 2005, 2018; Dougherty, 2014; Fisher, 2010; Schneider, 2016; Ulrich, 2008; Woody, 1994). This paper is made possible by this body of knowledge. I aimed to privilege specific Indigenous cartographies and theorizations of space while also critiquing the settler nation-state's ongoing deployment of science and claims of innocence toward liberal colonial ends in the present moment.

There is much opportunity to engage with the possibilities for sonic claims-making and contestation to refute ongoing yet unsuccessful projects of settler-state territorialization (see Ritts et al., 2016). This paper demonstrates that overlapping and conflicting deployments of sonic imaging play a major cultural, political, and material role in the (re)mapping of Celilo Falls. The visual rendering of sound waves echoed off riverbed rock and the way it is made sensible in mainstream media authorizes a subordination of Indigenous claims to the sonic and social spatiality of Celilo Falls and erases a legacy of the ACE's role in dispossession from the public historical record. Yet I show how Indigenous sonic knowledges have positioned imaging processes as potentially antithetical to addressing questions of access to land and self-determination. Interviews, public testimonies, and a poem refuse the settler-state's visual revelation of Celilo Falls on terms that can help us think about what anti-colonial (re)mapping practices demand of contemporary cartographic imaging processes. Attending to sonic knowledges under conditions of settler-ocularcentrism might enable robust and critical engagements with Indigenous spatial politics.

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Notes

¹ This is the mid-Columbia River Sahaptin dialect name, as phonemic orthography, for the Big River (Hunn, E., James Selam and Family, 1991). However, it is important to note that Sahaptin is not the name that many Sahaptin speakers use for their language, but the common mis-assigned name by colonial settlers and anthropologists who learned this assignment from the Columbia Salish. For example, the Yakama Nation's tribal cultural resource program uses the name *Ichishkiin S̄n̄wit* ("this language") instead of the Salish language term *Sahaptin* (Beavert & Hargus, 2010).

² Treaty Fishing Access Sites along the Columbia River have legally protected land and amenities designated for exclusive use by Indigenous fishers under the ongoing US District Court litigation known as *US v. Oregon*, starting in 1950s/60s. Tribal access to historical fishing grounds, guaranteed to Tribes by treaties formed in the mid-1800s, was lost due to dam construction along the Columbia River system. The Columbia River Treaty Fishing Access Sites (CRTFAS) Program was implemented to compensate for this loss. The project spanned over 25 years of legislation, planning, design, and construction, and involved projects along nearly 150 miles of the Columbia River, from Bonneville Dam to the foot of McNary Dam between the states of Oregon and Washington. The four Treaty Tribes—the Nez Perce Tribe, Confederated Tribes of the Warm Springs Reservation of Oregon, Confederated Tribes of the Umatilla Reservation, Confederated Tribes and Bands of the Yakama Indian Nation—are the mid-Columbia River Indigenous peoples who were forced to cede millions of acres to the expanding US settler nation-state through Treaties in what was then recently incorporated "Oregon Territory" in 1854-1855 (Fisher, 2010). In these treaties they reserve their rights to fish, hunt, and gather at all "usual and accustomed places." Apart from the four Treaty Tribes, historically Columbia River Indians have lived off reservation, identify their ancestry as that of River People, and are not federally recognized but have organized their tribal governance through community and loose confederation as Columbia River Tribe.

Columbia River Indians continue to live and fish in their ancestral homelands along the Columbia River, at Celilo Village, and “in-lieu fishing sites” among many other places in Washington and Oregon (Fisher, 2010).

³ People live at Wyam today, and have since time immemorial. Wyam (Sahaptin) refers to the Village of Celilo, on the south shore of the river (which was also partially flooded by construction of The Dalles Dam) as well as the series of cascading waterfalls and fishing sites in the river.

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Bio

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