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The Surveillant Surrounds: Sonar and Sexual Surveillance in Iceland During the Cold War

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Article abstract

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Abstract

The Sound Surveillance System (SOSUS) was an American naval surveillance network developed over the course of the Cold War. Spanning from the Pacific coast across the Atlantic, SOSUS is remembered for its unprecedented reach and is often figured as a precursor to centralized, networked, and automated surveillance systems today. This article contributes to, and complicates, this history by approaching SOSUS from the perspective of one of its outposts. Iceland was neither an agent nor a target of American surveillance but, as a staging grounds for SOSUS, both shaped and was shaped by this process nevertheless. Theorizing this position as the *surveillant surrounds*, this article asks after the experience of being interpellated into someone else's surveillance program, or living where surveillance is a pervasive part of the landscape while occupying neither the position of observer nor observed. In Southern Iceland, I argue, SOSUS both activated and was meaningfully anchored by a local politics of gendered intimacy. Doing so, I shed fresh light on the legacy of SOSUS and make a broader case for attending to the particular place-based dynamics that shape and situate "global" surveillance networks then and today.

Introduction

The Sound Surveillance System (SOSUS) was a vast, secret network of hydrophones and listening stations built by the American Navy to track Soviet submarines during the Cold War. First tested in 1951 off the Bahamian island of Eleuthera, it was expanded first up and down the North American coastline, and eventually extended to installations overseas. In encircling the globe, the strength of SOSUS was to be its totality: mirroring and making use of the US strategy of base building, SOSUS sought to enable a kind of omnipresent attention and thus instantaneous intervention. As such, SOSUS marks a key moment in the history of surveillance technology, a meaningful shift toward the centralized, networked, continuously operating systems that characterize much military surveillance today (Andrejevic 2019).

This article, however, approaches SOSUS from a different angle. While SOSUS was indeed (at least aspirationally) a global system, it was implemented at particular US outposts around the world. There, the surveillance infrastructure's impacts often significantly exceeded its aims. While SOSUS was built to operate in a closed American orbit, it also took shape in local environments, where its effects were equally, albeit differently, felt. Drawing on ethnographic and archival research on Iceland's Reykjanes Peninsula, this article investigates the experience of being interpellated into someone else's surveillance program. I describe this position as the surveillant surrounds: a condition of being neither the agent nor the target of surveillance and yet drawn into surveillance processes in meaningful, material, and sometimes surprising ways.

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Such pervasive, ambient effects of surveillance have not gone unremarked in surveillance scholarship. David Lyon's influential formulations of "surveillance culture" (2017) and even "surveillance society" (1994) speak powerfully to the experience of moving through a social landscape where widespread surveillance is to be presumed. Recent research on the so-called "smart city" (Butot et al. 2023; Monahan 2018) anchors these concerns materially within a built environment increasingly oriented toward continuous monitoring. And artistic explorations, such as Trevor Paglen's renderings of surveillance infrastructures in the tradition of landscape photography, provoke reflection on the widely distributed and deeply embedded nature of surveillance tools and technologies (Cornell, Bryan-Wilson, and Kholeif 2018). I would suggest, however, that within each of these frameworks, central questions still cohere around who is watching and who is being watched. Each guides us to ask after our own interpellation (even voluntary participation) in our own surveillance and/or interrogate the ultimate intentions of those whose data collection shapes our space. These are, undoubtedly, vital considerations well-represented for a reason in the field. But in thinking with the surveillant surrounds, my interest is in asking: what else might surveillance (its activities, its institutions, its tools and the terraforming required to accommodate them) do?

In Southern Iceland, the presence of SOSUS—and the broader American military apparatus it served—profoundly re-organized everyday life. Specifically, I will argue that it both activated and was anchored by a local politics of gendered intimacy. This dynamic was driven home to me during my research, where I repeatedly found that conversations with middle-aged and older Reykjanes residents about their experience of American military surveillance would lead unexpectedly, yet almost inevitably, to stories about love and sex, romantic relations, and intimate harms. I follow feminist theorists of empire in taking these associations seriously, exploring the ways in which, as Geraldine Pratt and Victoria Rosner (2006: 17) have put it, "the intimate functions not as an opposite to the global, but as its corrective, supplement, or undoing." In the case of Reykjanes, I contend that some of the tensions wrought by American military surveillance were deferred onto the bodies of Icelandic women and worked out through their relationships. This maneuver, in turn, metabolized the secret of SOSUS, enabling the system's ongoing operation there.

What I aim to illustrate, then, are not only the localized "impacts" of global surveillance networks but also the more fundamental entanglement of such expansive systems with the particularities of place. This relationship is often elided in both their stated aspirations and in our subsequent scholarly analyses. But the specific siting of surveillance operations shapes not only the aims of surveillance on the part of its agents, or the experience of surveillance on the part of its targets; surveillance also becomes a feature of the social and material landscape in the places where its tools and technologies are deployed. The view from what I am calling the surveillant surrounds, then, deepens our understanding of the globality of global surveillance initiatives, and their operation as always-unfinished projects, anchored through unequal differences.

In what follows, I first offer a brief history of SOSUS as a scientific achievement and technological tool. Next, I situate SOSUS at its Icelandic outpost and within a broader American Cold War military strategy. Then, drawing on interviews and ethnographic evidence, I show how the US occupation of Iceland was negotiated in large part through the lens of gender and sex: American soldiers were perceived as a particular threat to Icelandic women, who were then themselves subjected to an intense regime of state and community-level surveillance for their ostensible protection. This directed attention, in turn, had the effect of rendering SOSUS "politically invisible" (Enloe 2014) and ultimately affording the system staying power. Thus, while Iceland served only as a staging ground for SOSUS—an important but still singular node in a much wider network—as surveillant surrounds it was both deeply impacted by American military surveillance and instrumental to its success. Finally, I make a broader case for attending to this third space surrounding global surveillance networks, both historically and in the present day.

SOSUS: "The Silent Sentinel"

As a technological object, SOSUS was the product of decades of research on ocean sound. The first hydrophone (underwater microphone) system, designed to alert ships to underwater threats, was patented in 1899 (Shiga 2013). Shortly thereafter, the start of the First World War and the advent of deadly U-boat

campaigns would speed the development and weaponization of underwater listening technology. Hydrophones were adapted by the Allies to be installed onboard vessels and act as mobile threat detectors scanning for submarines (Hackmann 1986). While these early efforts were limited in their accuracy and efficacy, by the interwar period, the ocean had been established as a battlespace, and underwater sound surveillance was considered the future of maritime defense (Weir 2006).

During this era, the US Navy launched a program of basic research to study the ocean as an acoustic medium. They mapped regional gradations in depth and temperature that impacted the propagation of pressure waves. They catalogued submarines' sound profiles, or "acoustic fingerprints" (Howard 2011). And crucially, by the end of the Second World War, they identified the so-called SOFAR channel: a stratum of water sandwiched between the cold of the deep ocean and the relatively warm water on the surface. Here, conditions had the effect of slowing the speed of sound significantly, which meant that any detection system placed in the channel could follow sound over a much longer range (Shiga 2015). In the 1950s, American scientists and corporate collaborators started assembling these components into the Sound Surveillance System.[1]

SOSUS worked by triangulation: arrays of underwater hydrophones used the SOFAR channel to collect sound data and transmit them by cable to Naval Facilities (NAVFAC) stations onshore. There, electrical signals were rendered visible as "lofargrams," or lines drawn by actuators on carbon paper. Trained "ocean technicians" in NAVFAC stations scanned and interpreted this information. Reading lofargram outputs in real time, they used the shape, thickness, and contour of lines to distinguish suspicious objects from surface vessels, marine mammals, and errant vibrations off aircraft overhead, sending reports back to evaluation centers in the US. There, trajectories were calculated using information from complementary arrays, and "prosecution" strategies were deployed accordingly (Howard 2011). The first NAVFAC station was built in Puerto Rico between 1952 and 1955; over the following years, the system was steadily expanded under the aegis of "Project Caesar," a cover story that claimed to be conducting oceanographic surveys. By the end of the Cold War, twenty-two NAVFAC facilities operated on coastlines around the world (Polmar and Moore 2004).

According to Naval historian Gary Weir (2006), what distinguished the system was not new technology—by the 1950s, all its equipment was available off the shelf. What was new and unique was their arrangement and the shifts it occasioned in relation to the military field. First, SOSUS operationalized the environment: rather than simply seizing land, extracting resources, or charting the ocean as a backdrop for war, SOSUS "turned the ocean itself against the Soviet Navy" (Weir 2006: 12) by exploiting its capacity as a medium.

Second, and related, SOSUS embodied a new vision for the scope and strategy of US militarism. While the system emerged from a long legacy of sonar research, the Cold War's schema of global conflict gave SOSUS its specific shape. Rather than using on-vessel transducers to identify and respond to individual threats, SOSUS was a centralized system designed to effectively span the globe. Operated through an ever-widening network of outposts, in constant communication with central command, the system sought a "cybernetic space of perfect prediction" (Shiga 2015: 103), a condition of complete and constant knowledge. These aspirations situate SOSUS within the sphere of what historian Paul Edwards (1996) has called the "closed world": a Cold War view of the planet as a bounded space of total conflict, to be directed through technological means. As Edwards (1996: 145) writes, in the logical endpoint of this vision, "the globe itself would become the ultimate panopticon, with American soldiers manning its guard tower." SOSUS, with its simultaneous spread and centralization, its automated and streamlined systematicity, was one among many

[1] The so-called "Project Hartwell" was based at MIT, but research and development contributions were also made by Western Electric and Bell Labs (Weir 2006).

emerging infrastructures that seemed to put within reach the prospect of seeing, knowing, and winning the world.[2]

Ultimately, Edwards (1996) argues that it was the promise, more than the practical output, of new technologies that fed into the discourse of a "closed world"—such ambitious infrastructures did not always deliver as designed. Scholars of SOSUS, for example, have emphasized the stubborn subjectivity involved in interpreting lofargram readouts, a process that involved not only intensive technical training but also benefitted from an "artistic eye" (Weir 2006: 9). But despite the persistent humanity integral to SOSUS' operation, the system is still remembered as significantly extending American attention around the globe. As Lieutenant John Howard (2011: 7), who termed it "The Silent Sentinel," writes, again invoking a panoptic imaginary, "SOSUS provided the ideal combination of round-the-clock watchfulness without alerting the adversary to the presence of the sentries." Edward Whitman (2005), in the US Navy magazine *Undersea Warfare*, writes that SOSUS "gave the United States an unprecedented capability for long-range submarine detection and strategic early warning that we can only envy today in this new era of asymmetric threats."

It is SOSUS' effective scale, then, that sets it apart in military and surveillance history—its expansive ambitions to span the planet. And yet this reach was only made possible by the construction of cables, hydrophones, and listening stations at specific American and international outposts, largely unexamined in SOSUS historiography. I turn next, then, to one of these sites, Iceland's Reykjanes Peninsula, in order to show how SOSUS' local entanglements were no less significant than its global aspirations.

Iceland and the US in the Cold War

Reykjanes is a slim peninsula in the Southwest of Iceland, a forty-minute drive from Reykjavík, the capital. Its coastline is dappled with a handful of small towns and patrolled by a seasonally aggressive population of Arctic terns. Today, Reykjanes is the site of Iceland's international airport, and thus the first terrain that tourists encounter on landing. But from 1953 to 2006, Reykjanes hosted another kind of international meeting point: an US military base called Naval Air Station Keflavík, or "NASKEF."

NASKEF began its long life as a transportation station, refueling flights between the US and European front. But at the end of the Second World War, the United States saw the value of a permanent presence in the North Atlantic and re-negotiated basing rights with the Icelandic government in 1951 (Ingimundarson 2011). In line with the military's "forward strategy" of pushing American presence ever closer to the USSR, and its emerging "strategic island concept," a tactic of expanding American access through the acquisition of remote and often colonial islands (Vine 2009), Iceland came to be envisioned in these years as a strategic outpost situated between the East and West.

NASKEF was viewed as an especially valuable foothold for its proximity to the so-called GIUK gap: the waterway between Greenland, Iceland, and the United Kingdom through which Soviet vessels were expected to move. To this end, the base's primary role was surveillance (Jónsson 1989), and in 1961, its command shifted accordingly from the American Air Force to the Navy. In 1966, a slim copper cable was quietly laid into the harbor at Hafnir, a sleepy village on the west side of the Reykjanes Peninsula, and connected to an unmarked concrete station onshore, thus completing the circuit of SOSUS in Iceland. In 1974, NASKEF became the first SOSUS listening station to detect a DELTA-class Soviet ballistic missile submarine (Whitman 2005). Its strategic success and geopolitical centrality ultimately earned the base on Reykjanes the title of "anti-submarine warfare capital of the world" (Eydal 2006: 34).

[2] See, for example, MacWillie 2018 for a complementary analysis of the Semi-Automatic Ground Environment (SAGE) system, which he argues marked both a material and epistemological shift in surveillance technology.

Among Icelanders, however, the NASKEF base was always a point of contention. Many felt that the island, which only gained independence from Denmark in 1944,[3] was compromising its newfound sovereignty by entering into such close ties with the Americans. And, while the stated purpose of the US-Icelandic alliance was to "protect" Iceland (which had, and still has, no standing army), such altruistic motives were always seen as suspect. The island's accession to NATO in 1949 provoked the largest public protests in the nation's history and launched a massive anti-militarist movement (Ingimundarson 2011). According to one Gallup poll, less than a third of the Icelandic population supported the 1951 Defense Agreement; over the course of the Cold War, two separate government coalitions would attempt to have it abrogated (Ingimundarson 2004). At the same time, elite fears of communist influence, and significant financial incentives offered by the US, fueled the ongoing strategic alliance.

But if, for many Icelanders, the base became a political problem—a symbol of either strategic partnership or imperial overreach—residents of Reykjanes experienced NASKEF immanently and intimately. Physically, the base steadily expanded to house almost 4,000 American troops. Meanwhile, the enormous amounts of labor required to sustain the base's expansions enrolled thousands of Icelanders as workers in jobs that ranged from contracting and construction to office work, accounting, and IT. Quickly the base became the driver of the regional economy, both as a source of direct employment and as a source of soldiers spilling off-base into the shops, bars, and social worlds of the nearest towns. The NASKEF base, then, was a site of active encounter; ongoing, if uneasy co-existence; and mutual imbrication in the unequally shared effort of maintaining US military power in the North.

These kinds of fraught and inequitable relations have been well-documented at American bases around the world, with ample scholarship analyzing the social, economic, and environmental impacts of US occupation (see, for example, Gillem 2007, Höhn and Moon 2010, Lutz 2009). But in this article, I wish to further specify the Reykjanes Peninsula not only as a military base site but also as a surveillant surrounds: a place not itself under observation, and not designing, driving, or originating surveillance itself, but imbricated in the work of surveillance nevertheless. As the site where American forces concentrated in Iceland to monitor surrounding waters for Soviet submarines, NASKEF was a facility made for surveillance, and this fact was not lost on the Reykjanes residents swept up in its growing orbit.

I came to appreciate the scope of SOSUS' entanglements on Reykjanes over the course of fifteen months of ethnographic research, conducted between 2014 and 2015.[4] During this time, and from my vantage point living in an apartment block hastily converted from military housing, I conducted over eighty semi-structured interviews, as well as engaged in participant observation with Reykjanes residents, aimed at understanding the architectures, infrastructures, and social orders built up, then left behind, by the American base. I sought, in this effort, to generate a locally grounded account of the fraught history and contested afterlife of NASKEF (Johnson 2019). However, the first conversation I had about SOSUS took place in a conference room thirty miles away.

I was speaking with Benedikt,[5] a veteran engineer at the national telecommunications company, about Iceland's fiber-optic cables. To help me see the island's place in the global communications network, he pulled out a map, a Mercator projection crisscrossed by brightly colored lines. But as I looked it over, he said: "You know, not all cables are on the map." In response to my raised eyebrow, he told me, somewhat conspiratorially, that during the Cold War the Americans had built a "secret cable" in Iceland to spy on Russian submarines. Benedikt shrugged off my interest when I pressed him, telling me "The project was

[3] Iceland was a dependency of Norway, then Denmark, from 1262 until 1944, although the island was granted Home Rule in 1904 and formal sovereignty in 1918.

[4] I also returned to Iceland for shorter periods of follow-up research each year between 2016 and 2020.

[5] All of my interlocutors in this article, with the exception of public figures speaking in their official capacity and authors of published works, are referred to by pseudonyms.

classified, no one knows anything else." But when I made my way back to the Reykjanes Peninsula, the so-called "secret cable" started cropping up everywhere.

Brynjar, a member of the fisheries union, described to me how local trawlers learned to avoid SOSUS' underwater equipment with their ships. Arnar, a mechanic, told me he had routinely serviced the NAVFAC listening station, and was casual in showing me its former location on the now-desolate shoreline of Hafnir. As he told me, "It wasn't hard to put two and two together." "It was top secret," he said, "but it was also straight in view." Guðmundur, a writer from the region, put it this way in a book that commemorated the 2006 closure of the NASKEF base: "The listening was so top-secret that it was done with gadgets that didn't exist in houses that didn't exist. At the same time, I knew the people who installed the listening cables and built those buildings. I even grinded the rock that went into the concrete used to build some of them" (qtd. in Jósefsson 2015). The openness of the "secret" here fast became apparent: SOSUS may have been kept confidential, but for people in Reykjanes, it was plain to see.

American surveillance was a feature of the landscape on Reykjanes—surfaced not only in infrastructure like the "secret cable" but also in the common knowledge that "they were here to watch the Russians," often repeated in my interviews with longtime Reykjanes residents. One of those interlocutors, a now-elderly man who served for two proud decades as the fire chief on NASKEF, emphatically defended the necessity of Iceland's enrollment in this effort. Most others voiced skepticism, cynicism, or frustration. These Icelanders knew that surveillance was the driving force behind the appropriation of their land and labor, the massive investments being made in the area. And they saw themselves as both a part of and apart from it, at best helpers and at worst hostages to these aspirations. What I wish to emphasize with the surveillant surrounds, however, is not only local knowledge of ostensibly secret US military surveillance operations; I want to show the deeper entanglement of these systems with particular place-based politics. In the next section, I contend that while the Americans busily "watched the Russians," Icelanders on Reykjanes turned their attention to something else. Specifically, I suggest that proscriptions on sociality and sexuality comprised one key terrain on which the experience of the surveillant surrounds played out.

The Surveillance of Sex and the Secret of SOSUS

From the moment they first landed in Iceland, foreign soldiers were understood as a sexual threat. It was British forces that arrived first, uninvited, in May of 1940 to defend Iceland against a feared German advance. Icelandic officials begrudgingly accepted the occupation, making terse appeals to the public to treat the British soldiers as "guests" in Reykjavík (Hálfdanarson 2011). A year later, however, British troops were needed elsewhere, so the United States took their place on the island for the rest of the war. In 1941, Surgeon General Vilmundur Jónsson wrote a letter to the Ministry of Justice that described budding relationships between American men and Icelandic women as a public health crisis of pressing concern.

Slipping between tones of paternalistic care and degradation, Jónsson (1941) classified all such relations as "prostitution" and deemed all young women in Reykjavík at risk. His policy recommendation was moving young girls out of the city, placing them under surveillance if they returned, and institutionalizing all "prostitutes" in remote "working homes" where they would be both segregated and supervised. Jónsson (1941) termed the state of affairs a "situation in moral matters" (*ástandið í siðferðismálum*), a turn of phrase that would come to be shorthanded as "the situation" (*ástandið*) and used often in describing the general predicament of hosting a foreign army on Icelandic soil.[6]

In those early years, Jónsson's proposals found traction. The Ministry of Health opened one shelter for young women in Reykjavík, and a "working school" for so-called "loose" women in the Northwest (Björnsdóttir 1989). A "juvenile court" was established in Reykjavík to adjudicate the "moral offenses" of

[6] Jónsson's (1941) description of "the situation" quickly developed an evaluative correlate: an Icelandic woman seeing an American soldier was said to be "in the situation" (*í ástandinu*). This was a pronouncement not on her conditions but her character, a term of condemnation and bitter reproach.

adolescents, which is to say their social and sexual conduct (Baldursdottir 2000). The police activities required to prosecute such offenses were described by historian Þór Whitehead as the most extensive surveillance ever undertaken in Iceland (RÚV 2014). Later, and less publicly, the Icelandic government negotiated (and the US military acceded to) a secret ban on black soldiers stationed at NASKEF, which remained in effect until 1961 (Ingimundarson 2004). This agreement, mobilizing racist stereotypes of black men as hypersexual predators, was promoted on the basis of "protecting" Icelandic women—and through them, the integrity of the nation itself. As anthropologist Inga Dóra Björnsdóttir (1989) has argued, women had long been enshrined in nationalist narratives as vessels of Icelandic culture. Their "purity" then, a polysemic concept that encompassed the racial, sexual, and cultural, was metonymic for that of Iceland itself (Björnsdóttir 1989). Control over women's sexuality thus emerged as a primary strategy for dealing with the American occupation; it is sometimes described as the only agenda on which Iceland's Nationalist and Socialist parties could ever agree.[7]

The Icelandic state's official interventions, however, were short-lived. If during the Second World War, foreign soldiers were a visible presence in the capital, by the Cold War, troops were concentrated at the base in Reykjanes. With "the situation" out of sight and out of mind for Reykjavík officials, the women's "working homes" were shut down, the ban on black soldiers was quietly lifted, and Jónsson's proposals were somewhat sheepishly let go. The state would seem to have withdrawn its interest in policing the private lives of Icelandic women and American men. And yet, living on Reykjanes in the wake of the base's closure, conducting ethnographic research and life history interviews, I learned that, over the course of the Cold War, the work of watching women did not stop here: instead, it was recuperated by neighbors, friends, and family members—who carried it out with the even more insidious efficacy that intimacy so often affords (Hannaford 2014, Mason and Magnet 2012). By way of illustration, I offer the story of one set of interlocutors, which vividly illuminates the experiences of many more.

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Stella and Michael's relationship was never going to be easy. When they met, both working at the NASKEF Officers' Club in the 1980s, she had a young child she was raising with her parents, and he had what he called a "FIGMO calendar"—a reminder that "Fuck it, I Got My Orders"—but he planned to get out of Iceland as soon as he could. But the way the couple describes it some thirty years later is in inevitable, alchemical terms—"something happened," and they were drawn together in spite of themselves. Stella, a self-possessed woman from Reykjanes, and Michael, her more voluble American husband, told me the story of their relationship from their home just across the street from the now-closed NASKEF base.[8] Today, the two are comfortable on Reykjanes—Michael and I commiserate about learning the Icelandic language, and Stella serves sugar-dusted jelly donuts alongside her Icelandic kleinur. But over these multicultural piles of pastries, the two were eager to tell me about the field of risk when they met. "I liked him right away," Stella admitted. "But what would I be left with? A bad name."

Like others on Reykjanes, Stella found that long after the government's working homes had been shut down, your reputation could still hold you fast. While men's work on base, which was once viewed with skepticism, had gradually come to be accepted in Southern Iceland, women's relationships remained a lightning rod. Icelandic women known to socialize with soldiers lost status and felt themselves stigmatized.

[7] In critiquing these policies, I do not wish to minimize Icelanders' legitimate fears about sexual violence as a documented externality of military occupation. Indeed, there were cases of sexual assault reported at and around the NASKEF base (see Ingimundarson 2004). What is important to note in this case, however, is that state concerns were framed in terms of sex work, and fault was located in Icelandic women themselves. Freely chosen romantic relationships were collapsed into this designation and equally stigmatized.

[8] NASKEF was decommissioned in 2006. The land it occupied was returned to the Icelandic government, less a limited number of facilities retained for NATO use and is now administered by a holding company (see Johnson 2023).

And so, understanding the cost of acting otherwise, Stella chose to keep her relationship a secret—though doing so proved difficult in her small town.

As Stella described it, the early morning was the most dangerous. Those bleary hours served as an uncomfortable crossroads between fishermen going to work at the harbor and young people, enjoying the town's new nightlife, coming home. Everyone knew that soldiers from the base went out to the night club, and these social spaces were uneasily shared: "It was easy to get punched back then," Michael told me. While some contact between Icelanders and Americans was accepted as inevitable, women in particular were expected to disentangle themselves at the door. Once, Stella said, she drank a bit too much and accepted a friendly walk home from a concerned American; halfway there, however, she spotted a pickup truck owned by a friend of her father's making its way to the harbor where he worked. She hurriedly pushed the soldier off the street and into the shadows, hiding them both until he passed by.

These though, were the more blatant transgressions to be caught in; Reykjanes residents were alert to more subtle moves, too. When Michael first started trying to court Stella, he told me he wanted to send her a gift. His first thought was perfume, but other Icelanders warned him not to be so careless—it would be obvious to Stella's family that such a commodity could only have come from the Naval surplus store. Ultimately, he settled on fresh flowers, passed through friends. Like imported goods, base vehicles served as another kind of evidence for illicit social ties. Locals quickly noticed that, while Icelandic license plates started with a letter signaling a car's district of issuance, military plates began with "VL," demarcating members of the Iceland Defence Force (*Varnarliðið*), or the military command based at NASKEF. Town gossips tracked the position of such cars, paying attention to where they parked. Michael and Stella would learn as much shortly after they married, when Michael made the mistake of loaning his car to a friend. By the next morning, Stella had already heard the rumor that her new husband was cheating on her—and what's more, he was stupid enough to park his car outside the other woman's house.

Stella knew which parents were prone to sharing concerned whispers, which young men, when drinking, might shout slurs on a busy street. She learned to map in detail vectors of gossip, charting networks of knowledge as it moved around town. In recalling these times, Stella clearly takes both pride and pleasure in recounting her youthful exploits. But the stress of this period is also evident all these years later, her sense of consequences narrowly avoided acute. Stella knew that her parents were likely to disown her, and her young daughter risked losing that source of support. So, Stella only told her parents about Michael after he had filed the requisite paperwork to propose. In one breath, she announced: "I'm marrying an American and there's nothing you can do about it"—preparing for the worst, she brought her father's heart medicine along.

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Stella and Michael were far from alone in their experience of navigating this treacherous landscape. Kolbrún, a friend of Stella's, told me that her own parents had made her promise, before she accepted the position at NASKEF that would turn into a twenty-year career, that she wouldn't run off with an American. "It was easy in those days to get a bad stamp," she explained, as an Icelandic woman involved with an American man. "It didn't matter if you were with one or one hundred. It was a big deal back then, almost like a disease." Margrét, a younger resident of Reykjanes, told me her grandmother had had a baby with an American soldier when she was very young. They were engaged at the time, but the soldier left her shortly after their child was born. Later, the grandmother married an Icelander, but Margrét said, "he always held a grudge against her," bringing up that relationship to "diminish her" over the course of their marriage. Margrét regretted that she hadn't had the chance to talk to her grandmother about this experience before she passed away, but she suspected the older woman would have been reticent: "She carried that stigma her whole life."

Separated then, by a thin gravel highway and many tons of military might, two communities of watchers worked dutifully: Americans scanning the water for Soviet submarines, and Icelanders policing relationships in town. Reflecting on the stringent surveillance to which she was once subject, Stella told me,

"It was as if they were saying, 'We will tolerate the Americans, but we will not give an inch.'" It's funny, she mused, her own father worked at NASKEF—he spent all day, every day with Americans—and yet he wouldn't have his daughter anywhere near them. It wasn't earned distrust, then, or general prejudice, as he himself was quite closely connected to NASKEF. And this may have been precisely the problem.

The experience of American military presence on Reykjanes—a moment in time and space I am describing as a surveillant surrounds—was acutely felt as an asymmetrical entanglement, an unchosen involvement in someone else's aims. Following the threads pulled by my interlocutors on the peninsula, and Icelandic scholars of the so-called "situation" (Björnsdóttir 1989; Helgadóttir 2001; Ingimundarson 2004), I suggest that the anxieties drawn out by this experience were deferred onto the bodies and conduct of Icelandic women. While interacting with the base was unavoidable—it fed families, fueled the economy, and built infrastructure everyone on the peninsula used—intimacy was where Reykjanes residents could draw a line. Sex functioned, as it often does (Stoler 2010; Tadiar 2009) as a site for negotiating transnational arrangements and inequalities. Stella's father's double-standard (one he shared with many of his generation), then, does not reflect a contradiction so much as its resolution: on Reykjanes, the threat of the US surveillance base, and the profoundly unequal transnational encounter it brought to bear, was managed through a proscription on intimacy and the invasive surveillance of Icelandic women and girls.

This experience of intimate surveillance significantly shaped the lives of young women like Stella and Kolbrún, who came of age on Reykjanes during the Cold War. But it also may have shaped the fate of SOSUS. If SOSUS' power lay in its expansiveness, its weakness was always the threat of exposure—the system's effectiveness depended on the element of surprise. As such, the surveillance system was kept secret, declassified only in the 1990s (Weir 2006). But as previously discussed, the residents of Reykjanes were well aware of SOSUS from its first days in Iceland. This information could have escaped the region easily, triggering scandal and thwarting the military program's success. In contrast to what Icelandic anti-militarists would have hoped for, and the American Navy would have feared, why then did knowledge of SOSUS not leave the Reykjanes Peninsula? Given that, by and large, Icelanders were far from loyalists to the American military enterprise, how did the secret of SOSUS stay in place?

One answer is that attention was fixated elsewhere. While intimately aware of the role they played in American global strategy, Reykjanes residents experienced the NASKEF base on everyday terms. SOSUS was known as an infrastructural feature of the landscape for fishers avoiding the "secret cable" with their trawlers or contractors repairing the roof of the "listening station" when it leaked. What was unknown, and inciting, was the extent to which the Americans had accessed Icelandic social space, the degree to which they would shape it over time. Today, this legacy is remembered as a mixed one—I am sometimes told, for example, that the disproportionate success of Reykjanes musicians is due to the region's early exposure to American rock and roll; that its basketball teams, first trained by American soldiers, enjoyed an advantage for decades to come. But during the Cold War, social and sexual relationships were contentious, and Icelandic women bore the brunt of this taboo.

Within this economy of attention, women's relationships emerged as the compelling locus of inquiry while the specificities of American surveillance were rendered "politically invisible"—Cynthia Enloe's (2014: 33) term for the pieces of military operations that come to be taken for granted, even rendered acceptable, while others remain explicitly charged. On Reykjanes, then, where knowledge of SOSUS was both widespread and unremarkable, SOSUS' staying power was owed to its relative obscurity in a complex landscape of knowing and ignoring, watching and being watched. As much as its operators, its actuators, and hydrophones, SOSUS' place within local circuits of information and interest—channels themselves carved by local formations of gendered power—helped to ensure its ongoing operation in Iceland and, as such, its broader success.

Of course, such a counterfactual—that the secrecy of SOSUS would have been compromised had Icelanders not experienced American military presence primarily as a social and sexual threat—is impossible to establish after the fact with certainty. But I raise the possibility, which surfaced in my many interviews over

the years on Reykjanes, to highlight a broader point: it was not only American attention (paid to Soviets) that mattered for SOSUS; Icelandic attention (paid to Americans) was integral to securing it as well. SOSUS, as a complex and effective surveillance system, did not just sit on the surface of Southern Iceland, an abstract point on a strategic map; it was integrated into circuits of material experience and meaning-making, localized not only through its unidirectional "impacts" but also through a relationship better characterized as entanglement with the particular politics of place. As such, fully understanding the operation of SOSUS is not only a matter of explicating its technological innovations, its technicians' daily practices, or its chain of command; it also requires tracing its embeddedness in local formations of unequal difference. It requires understanding its surveillant surrounds.

Global Networks, Embedded Infrastructures, and the Surveillant Surrounds

So far, I have argued that in Iceland during the Cold War, the experience of the surveillant surrounds was negotiated primarily through the politics of intimacy. The NASKEF military base functioned as a polysemic site of encounter, understood by Americans as a tool for keeping tabs on their enemies and by Reykjanes residents as a site of uncomfortable exchange. The expansive American presence on the peninsula was negotiated through proscriptions on women's social and sexual relationships. At the same time, attention directed toward those relationships had the effect of diffusing the secret of SOSUS, allowing knowledge of it to stay contained on Reykjanes. In other words, achieving an experience of American omnipresence proceeded through particular place-based operations. Not only was Iceland itself integral to the operation of SOSUS (its willing government and strategic location in the GIUK gap), but so too were the often-fraught local dynamics in the particular places where its "secret cables" were installed.

Such close attention to SOSUS' local entanglements offers an important supplement to past accounts that celebrate the system's unprecedented global reach. If it is the structure of SOSUS—its networked distribution—that makes it significant, then its installation at and through such tenuously affiliated outposts must be taken seriously in understanding the system's operation and inheritance. By centering one such outpost in the story of SOSUS, I expand our understanding of what the "Silent Sentinel" entailed and achieved. But in modeling this effort, I also suggest that scholars of surveillance attend to the place-based dynamics of large-scale surveillance systems, broadly conceived. SOSUS, after all, expanded not only American attention but also American *infrastructure* around the world. And, as scholars of technological politics have long argued, such materially complex and "conceptually unruly" (Larkin 2013: 329) systems tend to produce unexpected effects. While we often, understandably, direct our focus toward the agents and targets of surveillance technologies, these two categories do not denote surveillance systems' full extent. As I have aimed to show through an ethnographic re-examination of SOSUS, surveillance operations can insinuate themselves broadly into the social and material landscape. The implications of this argument are not limited to SOSUS, to Iceland, or to history.

Consider, for example, the still-unfolding legacy of another expansive surveillance infrastructure deployed in the Arctic: the Distant Early Warning (DEW) Line. The DEW Line, developed during the same period as SOSUS, was a series of sixty-three radar stations set to detect Soviet bombers approaching North America from the North Pole. Constructed between 1952 and 1957, the DEW Line stretched across Alaska, Canada, Greenland, and Iceland, providing a two-hour warning time for an approaching missile, and thus the possibility of civilian protection—or, at least, of counterattack (Myers and Munton 2000). However, by the time of its completion, the DEW Line was already becoming technologically obsolete. The launch of Sputnik in 1957 changed the calculus of American response time; by 1963, DEW Line sites were already starting to close. Some were redeveloped to serve its successor, the North Warning System, but twenty-one were abandoned, left to the Canadian Department of Indian and Northern Affairs (DIAND) to "remediate."

As environmental scholar Myra Hird (2016: 30) has argued, the legacy of these short-lived radar stations continues in their abandoned infrastructures as well as "the asbestos, PCBs, and other contaminants in the soil, water, and atmosphere that have not been shipped back down south." Through everyday operations and extraordinary accidents (such as oil spills), the DEW Line permanently altered the environment of Arctic

regions inhabited by Inuit people for millennia. At the same time as it made soils toxic and waters unfishable, the DEW Line also expanded American and Canadian sovereignty claims into the Arctic, as it rendered the once-remote region more accessible (Heidt and Lackenbauer 2012)—claims still being vigorously contested by Inuit leaders today. Attending to these violent reverberations of the DEW Line offers another lens, then, on the local entanglements of expansive surveillance systems, another window into the surveillant surrounds. Indigenous inhabitants of the Canadian Arctic were neither the agents nor targets of DEW Line surveillance, but its infrastructures nevertheless radically reconfigured their land, lives, and future prospects.

At the same time the material legacy of the DEW Line lives on through its toxic aftermath, the networked structure of distributed sensors, continuous data collection, and centralized analysis that characterized it (as well as SOSUS) also shapes military surveillance systems today. As Arctic waters, rapidly revealed by melting sea ice, are increasingly figured as a contested site of national sovereignty (not to mention anticipated resource extraction), military surveillance of this region has re-emerged as a priority in recent years. As previously mentioned, the North Warning System replaced the DEW Line in the 1980s, a joint US-Canadian network of radar stations deployed across the North American Arctic. A 2019 binational study conducted by the US Department of Defense and Canadian Department of National Defense set out to update this system, "evaluating potential solutions for modernization of sensor coverage of North America to deter, detect, track, and enable defeat of both existing and emergent airborne threats" (Department of Defense 2019: 9). Since Russia's invasion of Ukraine in 2022, both nations have emphasized Arctic surveillance as a necessary response. In 2023, for example, Prime Minister Justin Trudeau announced the Over-the Horizon radar system, a series of long-range, high-frequency radar transmitters and receivers to be installed along the US-Canadian border, as well as other locations in the high Arctic, for the purpose of detecting "northern approaches" to North America (Pugliese 2023). The same year, US Air Force General Glen D. VanHerck testified to the Senate Armed Services Committee that modernizing the Integrated Undersea Surveillance System (IUSS)—SOSUS' direct and declassified heir[9]—was vital for deterring, and potentially defending against such activities (Vergun 2023). While the Reykjanes Peninsula no longer serves as a permanent node in such networks, recent years' re-investments in the former NASKEF base (including $57 million allocated in the 2020 Department of Defense budget) have raised concerns that Iceland will continue to be drawn into American military aims (Fontaine 2019).

Though often described in de-territorializing terms like "domain awareness" (Department of Defense 2019), these projects will all have physical footprints. They will occasion the movement of people and things, the construction of infrastructure, and the repurposing of structures already built before. In doing so, they will create surveillant surrounds around them—places where surveillance becomes a tangible presence for the people who live there, whether through interpersonal relations like the ones described in this article, environmental impacts like those left behind by the DEW Line, or other kinds of entanglements. Honestly accounting for the operation of this surveillance requires paying attention to these spillover effects. Because if today's efforts at global surveillance (and here I am speaking of systems that aim to extend themselves globally—not the "globalization of surveillance" [Mattelart 2010] or proliferation of surveillance systems around the world) are often imagined as effectively place-less—fully networked, automated, and centralized—we would do well to remember that SOSUS was, too.

As for SOSUS itself, the inextricability of American military surveillance with Icelandic conditions, politics, and priorities is obscured when we take the surveillance system on its own terms. If we true our lines of academic inquiry to the network's stated purpose and its implied set of protagonists, we are limited to assuming that SOSUS worked as intended or illustrating the ways in which it did not. As I have sought to show, this provides, at best, a partial view of a system that was as sprawling in its impacts as it was in its ambitions. However, if we ask what else surveillance might have accomplished in the specific social contexts in which it played out, we can see the ways surveillance became a felt feature of the landscape, even for those living outside its official scope. Centering the surveillant surrounds in our analysis, looking

[9] In 1985 the IUSS consolidated a limited number of SOSUS stations with the Surveillance Towed Array Sensor System (SURTASS), a mobile network of sonar systems suspended below ships.

deliberately from that vital but sidelined outside, can allow us to appreciate a wider range of intimate, embodied, and unequal encounters with surveillance, both in practice and in place.

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