

## Environing Media: A Review of Nicole Starosielski's *The Undersea Network*

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### Abstract

*The Undersea Network* follows the undersea telecommunication cable system which today carries nearly all transoceanic Internet traffic. The book traces the history of network infrastructure that now haunts our contemporary digital media environments. Starosielski looks to the convergence of cables as points of intersection between the colonial project and the environments, revealing the entangled ecologies of information and materiality through which signals pass. The collection is a model for those interested in exploring the role of digital materiality in the humanities, such as communication studies, ecocriticism, postcolonial studies, media studies, and writing studies.

"If the work of this book could be captured in a single action," writes Nicole Starosielski, "it would be the attempt to grasp a surfacing cable before it recedes, to connect the histories of network infrastructure to today's media environment" [Starosielski 2015, 227]. In a globally networked world, where we imagine connectivity as something wireless occurring in the dehistoricized digital now, *The Undersea Network* does so much with a simple grasp, materializing concepts in media theory such as ecology, intersectionality, and network by tracing the transoceanic undersea cable systems as they traverse the various companies, regions, eras, ecosystems, borders, and cultures they move through to span a globe. Starosielski's innovative approach intersects fields of media studies, ecocriticism, history, postcolonial studies, geography, and communication studies. The book questions conceptions of networks as wireless, ethereal, or naturalized into 'the cloud.' Starosielski reveals the ways human labor, bureaucratic systems, and material infrastructure converge on and through places, people, and objects. She reminds us that the Internet is more than simply a digital environment. *The Undersea Network* expands our view to see the "more broadly robust, resilient, and equitable global networks" with which we often interact unaware of the materiality of history [Starosielski 2015, 234]. This book leads us to the margins of digital communication, seeking the depths, nodes, pressure points, and landings through which our media pass.

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Though it is deeply informed by critical theory and cultural studies, the book reads in many places like a travel narrative and a detective story. Starosielski uncovers the telegraph cables in the 1860's, the telephone cables of the 1950's, and fiber-optic cables which allowed the Internet to connect globally. Starosielski uses her natural talent as a storyteller to depict the process of rediscovering the material connections between digital nodes and the physical environment:

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I walk toward the ocean along the path where I assume the cable is laid, though if there are markers that make its route visible, I cannot see or recognize them. Instead, I am the visible one: one of the few women on the street, young, white, American, holding a camera, and looking for something to photograph. The ocean surges up an alley that might otherwise provide access to the beach. A young man waves for me to come through the huts that border the alley. He moves a fence aside, and I duck in. Clothes dangle from the ceiling, a chicken runs by, and trash is swept up through the house by the ocean. The last stop, near the original Commercial Pacific Cable route, is a reminder that my ability to navigate and even perceive cable infrastructure is contingent on my nationality, racial and gendered assimilations, and cultural familiarity with how local geographies

have been organized. [Starosielski 2015, 168]

The work keenly moves from vivid descriptions of remote locations she traverses, and the people who live there, to the overlapping theoretical issues relevant to postcolonial, ecocritical, feminist, and media studies which emerge there — all in a style that makes it both exciting to read and intellectually engaging. Looking at these “turbulent ecologies” through which our media circulate, Starosielski seeks to add a “critical layer to our understanding of global networks” [Starosielski 2015, 169]. She knowledgeably explores the history of the telecommunication club system, which secured a dominant network of affiliated companies against newcomers and produced a ring of networks in the Pacific. This and other networks led to worldwide, transpacific routes and designs which moved away from those of the telegraph area, toward a “trunk and branch” system [Starosielski 2015, 49]. This adaptation led to more secure network connections at their landings [Starosielski 2015, 49]. She uncovers fragments of these landings’ palimpsest histories, emerging like the cables from the depths. Through her exploration, the entanglement among place, people, and technological communication becomes powerfully evident.

*The Undersea Network* continues the work of expanding the foci of the digital humanities. Starosielski underscores the complex ecologies of our virtual and natural worlds, using digital mapping and tracing to reveal their deep entanglements. “Surfacing.in,” the digital accompaniment to this book, makes visible the massively displaced networks through mapping. Starosielski puts into practice Lauren Klein and Matthew Gold’s “diverse ecology of digital humanities scholarship” [Klein et al. 2016] through her multimedia visualizations. Such approaches afford important models for future research. Though the book and mapping project bring large-scale networks to the surface, they also bring our focus on the specific locations through which these networks pass. Together, the book and map deepen our understanding of the historic and contemporary environments, locations, and people which collectively compose and maintain the transoceanic digital network. Starosielski’s work is a model for how digital humanities research can work with inclusive, theoretical, and applied methods to foster the intersectional approach to digital humanities scholarship called for by scholars such as Roopika Risam [Risam 2015]. As scholars increasingly acknowledge the materiality of digital networks, we also bring into view the places, humans, and nonhumans which comprise those networks.

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## Visualizing Labor

Starosielski plumbs the history of the cable network, offering us a view of the spaces through which our signal traffic passes haunted by a colonial past. Unearthing the cables means uncovering the lives of the workers who laid and maintained them, and the islanders whose land the cables passed through. She exposes the cables as an agent of colonial modernization, documenting the portrayal of native populations and the body performances of “becoming modern.” The bodies of the cablemen were “the place where the border between the network’s inside and outside was enforced, the guarantor of quality performance” [Starosielski 2015, 106]. Beyond the obvious effects cable work had on the laborers, Starosielski demonstrates how the body of worker and body of land converge on the “clarity of the message” which “directly reflected the skill of the operator and his geographical location” [Starosielski 2015, 106]. Bodies were also a location through which “global currents and local practices could disseminate through the network” [Starosielski 2015, 106]. This information exchange signaled changes ranging from “technological developments to excessive drinking” [Starosielski 2015, 105]. These locations and the people who worked in them helped influence the designs that have shaped our modern digital infrastructure. As cable lines came ashore, they were often met with conflicting attitudes. Many islanders saw the cable networks as agents of colonialism. While the encroaching networks brought the promise of economic growth, they also threatened to flatten culture and tradition. While residents in Hawai‘i resisted the cable networks, other islands, such as Tahiti, view the cable landings “as an important site in local education, integral to the transmission of cultural knowledge” [Starosielski 2015, xii]. The undersea cables link the islands to the global network, which suggests both threats to the location’s culture and the ability to transmit local knowledge to the entire world.

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*The Undersea Network* reveals some surprising places where the lives of humans and the network cables snare. Such intersections range from the “intensification of fishing and shipping in coastal waters” [Starosielski 2015, 54] at the turn of the twenty-first century, to “[c]oncerns about deliberate attacks and a new ‘asymmetric terrorist threat’” which included the cables recently considered part of national *critical infrastructure* [Starosielski 2015, 54]. The threat of cable damage

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or takeover played out in many ways, but perhaps most comically in an exchange Starosielski records between a prospective cable builder and a government official:

They got a bit offended when I told them this. I just said, “Your army could take it over,” and they said, “Well, we don’t have an army.” “I see. Okay, your police.” “Police?” I said, “Okay, who in this country has got guns? Someone’s got guns. Someone with guns could take it over.” They said, “Yeah, you’re right. Someone could.” [Starosielski 2015, 59]

Fears of attacks on the network had serious impacts on investments, and the companies’ successes or failures impacted the regions in which they operated and the people they employed. Starosielski also details the loss of numerous jobs during the bankruptcies which occurred in 2001, as companies found themselves unable to recoup the costs of laying cable [Starosielski 2015, 53]. With the loss of these workers came a loss of industry knowledge, leaving many of the companies that began to reemerge in 2005 with a lack of essential information.

## Digital-Material Traffic

Starosielski offers rich means of looking at environments in which we communicate. She destabilizes bifurcated distinctions of “nature” and “culture,” showing how entangled the two are in our world-wide network of cables. These cables traverse built and natural spaces, and Starosielski traces them through deep ocean and remote backcountry as well as the many cities and towns where they pass through the lives and nations of people, land, and animals. Likewise, she pushes us away from talking about place in terms of the rhetorical moves made by telecommunications companies, who portrayed places like New Zealand as remote and isolated. Such moves position “cable technology as bringing a new and complete connection, despite the fact that it was used by an elite” [Starosielski 2015, 169]. Here her signal paths depart from that of the traditional travel narrative, revealing the ways in which these locations had already been connected, such as in the case of New Zealand which was linked “via ships, migrations, news circulation, and the postal service” long before the telegraph wires emerged out of the sea [Starosielski 2015, 173]. Cables are shaped by the places through which they pass, and the places are in turn transformed by their connections.

“Surfacing.in” further complicates our view of digital and material environments, blending visualized objects of cables, environments, and cultures with digital images of networks to render these narrative elements spatially. The project has users move through the digital network, first coming ashore through a cable in a disorienting manner. As you surface and dive, seafaring through the network, “narratives about the history of the cable network, the companies that construct it, and the ecologies that it runs through will orient you in your journey” [Starosielski et al. 2015]. Part of this re-orienting involves facing some of the horrors of colonial practice, such as how “the infrastructures of colonial empires could not have been built without the labor of slaves and indentured servants” and that “the expenses saved through this practice made transoceanic networks both possible and profitable” [Starosielski et al. 2015]. Through different levels of view, “map,” “place,” “theme,” and “image,” we can zoom in on the intersecting locations, issues, images, information, and history and see how they converge and cross in an inseparable mesh. The digital project makes visible the new and old ways in which cables connected these Pacific Islands.

Starosielski argues that these islands are not seen in contemporary American culture as part of networks. Instead the two concepts “islands and networks appear to be mutually exclusive” [Starosielski 2015, 172]. She points out how the word for island actually indicates “isolating and insulating” and that “isolation and boundedness are what make [geographical islands] special” [Starosielski 2015, 172]. Thus, these island spaces are threatened by the emergence of the network cables in the “cultural anxiety that islandness will disappear” [Starosielski 2015, 173]. Yet, Starosielski explores how networks and islands act in triangulation in order to produce the global network. *The Undersea Network* reveals that places and materiality are as much a part of the nodes through which our signal traffic passes as the digital applications and the cables themselves. Through her exploration, Starosielski offers a model for thinking about the digital world in relation to the physical environment and the histories that play out there. This collection challenges notions of non-networked spaces, revealing how even cable-free islands offer buffer zones, anchors, and other means of protecting the integrity of the cable network.

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## Works Cited

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