International Journal of Communication 8 (2014), Feature 2525–2530 1932–8036/2014FEA0002

IJoC Media, Hot and Cold

Iceberg Media

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Potable water is emerging as one of the most important natural resources of the 21st century. Under increasingly widespread conditions of water scarcity, various corporate and state actors are turning to North Atlantic icebergs as a potential water source to address a future with fewer and more expensive sources of water. While icebergs have long been a part of commercial and cultural life on the Arctic and subarctic waters of the North Atlantic, the accelerated pace of glacial melt due to anthropogenic climate change is increasing both their frequency and availability (Conkling, Alley, Broecker & Denton, 2011; Cruikshank, 2005). What I want to do here examine such a "natural" resource as an iceberg in order to reveal substantive questions for media theorists and historians that lie at the politicized interface of frontier capitalist economies and the processes of environmental change in the 21st century.

Icebergs are relational and emergent natural resources that signal how a complex ecology of ethical, political, and socioeconomic issues can be raised when conventional forms of water provision reach their limit. They are also problematic objects for media theorists and historians as icebergs signal a host of relationships between natural resources and the set of practices and protocols associated with communication. This focus is generative of new ways of thinking about how extractive industries rely on processes of communication—from transportation corridors to networks of resource accumulation and distribution to mobile labor pools—that are themselves supported by a range of more conventional media technologies such as modeling software applications.

The relations that icebergs point to contain both a politics of representation as well as a politics of mediation around the ownership and exploitation of circulating natural resources, unsustainable global agricultural irrigation practices, and resource use and demand in metropolitan social formations. It is in this sense that icebergs constitute the central node in what could be thought of as a "media environment" that subtends and supports the ground of the extractive resource industries.

From the screens tracking the locations and movements of North Atlantic icebergs via satellite technologies to the different types of modeling software for forecasting and simulating the transportation of icebergs to drought-prone regions of the world, my aim is to start to view these emerging (cold) media environments and the issues that they raise as being of disciplinary concern to media theorists and historians (Barney, 2011; Buxton, 2013; Van Wyck, 2010). This trade in predictive and virtual environments is grounded in the processes and contestable politics of a reconceptualized understanding of "the environment" that extends its boundaries to the media technologies that re-present and mediate its proximities, distances, and temporal registers. "Control of information technology," as Jody Berland

writes, "shapes the parameters of communication, knowledge, and memory, and determines the proximity to and nature of power itself" (2009, pp. 76–77). To which I would add, the control of natural resources shapes practices and protocols of communication, knowledge, and instrumental-technical foresight, and determines the proximity to and power of nature itself.

Getting icebergs on the move, and, to a degree, marginally integrated into the realm of possible extraction, has of late sparked a substantial amount of public interest of the tech-utopian variety (Brown, 2011; Harris, 2011; Madrigal, 2011). This has largely focused on expanding the realm of the possible through human technical achievement and expertise, and rarely, if ever, evinces a great deal of political-ecological awareness as to the underlying causes of water overconsumption across the Western world. For example, in the relatively long history of moving icebergs via sailboat, tugboat, or ocean current, one of the more recent episodes, though it stretches back to the early 1970s, revolves around the figure of Georges Mougin, a French engineer and the technical director of Iceberg Transport International (ITI). Beginning in the 1970s, Mougin undertook a series of modeling experiments to test the (economic and physical) feasibility of towing an iceberg from Antarctica to Saudi Arabia. Prince Mohammed al Faisal, the nephew of King Khalid of Saudi Arabia, founded and backed ITI and was at the time in charge of its desalination water program (Iowa State University, 2009. Through a series of conferences at Iowa State University that began in 1977, Mougin and his group worked to devise ways of testing various potential materials and scientific scenarios that could assure the timely and cost-efficient transportation of icebergs across the Atlantic and beyond. By the time they began their simulation work on actual icebergs, using those of tabular shape because they presented the best properties in terms of solidity, interest in the project had dropped off, particularly on the part of the Saudi Arabian government. Thus, Mougin had to wait until the late 1990s to relaunch the project.

At that time, he had revised the pilot project in an attempt to forecast the possibility of towing a large tabular iceberg from the coast of Newfoundland to the Canary Islands. For Mougin, the project had begun to creep into the realm of the possible again after seeing the documentary *Khufu Revealed* (2009), which tells the story of the reconstruction of the Keops pyramids using 3-D simulation technologies designed by the French company Dassault Systèmes (Harris, 2011). Dassault is a major player in the world of corporate digital simulations, and, in partnership with Mougin, have taken up his pilot project and rechristened it IceDream (Dassault Systèmes, 2012). The crucial factor in the simulations is the prediction of the iceberg's melt rate. Using newly designed 3-D modeling software that incorporates nearly real-time meteorological and oceanographic data, largely collected and transmitted via satellite, the goal is to create a reliable drift model that could forecast the iceberg's potential route and its associated costs. Dassault claims that a multimillion-ton iceberg could be transported to the Canary Islands with the aid of a single tugboat in 141 days. As an *Engineering and Technology Magazine* profile of Mougin's project contends,

> There are no longer any major obstacles to understanding iceberg transportation for use as fresh water. Powerful simulation technologies combined with accurate knowledge about sea currents and other ocean and weather data have enabled complete and accurate study of the technical challenges without needing to invest in pilot projects or expensive, and unrealistic physical prototypes. (Harris, 2011)

For Mougin, the next step is to yet again simulate the towing with a tabular iceberg of a smaller size. Here, the value of repetition, of remodeling, returns. In this sense, media environments signal how such practices of modeling are making icebergs available at the interface of societal understandings of simulation and its role in capitalist economies that are benefiting from such processes of anthropogenic environmental change (equally across climate as ocean composition and currents) (Heymann, 2006; Winsberg, 1999).

Yet Mougin is, to some degree, a latecomer. Icebergs, and the potential they hold as a source of water for the dry or drought-ridden regions of the world, constitute a little-know touchstone in historical and contemporary debates on the ethical and ecological limits of the extractive industries. Actors in that industrial world of extraction have, for well over a century, sought to move icebergs from their points of origin, calving off of glaciers in both the Arctic and Antarctic, to lucrative markets in Chile, California, and Saudi Arabia, among others. In 1949, John Isaacs, newly arrived at the Scripps Institution of Oceanography, floated the idea of towing an Antarctic iceberg to southern California (Berhmann & Isaacs, 1992, p. 49). Isaacs' scheme stemmed from thinking through how to move large quantities of water from one location to another, an abiding preoccupation in his part of the world. In a 1956 interview with the *Los Angeles Examiner*, Isaacs speculated on the constant and most problematic aspects of the scheme: variables. Whether it was melt rate, tow speed, current drag, or the cost analysis between fuel and water, it was the calculability of the variables that had to be worked out. In the interview, Isaacs gave the somewhat outlandish example of moving an 8 billion ton iceberg with a length of 20 miles, a width of 3,000 feet, and a depth of 1,000 feet. Isaacs predicted that getting the iceberg from the Antarctic to San Clemente Island off of San Diego would take 200 days, with, in his mind, relatively modest power requirements:

> The energy necessary to reclaim such a quantity of water from the sea would be equivalent to that of tens of thousands of atomic bombs, whereas the energy needed to tow the iceberg here would be equivalent to only one or two. (Behrman & Isaacs, 1992, pp. 50–51)

Isaacs' idea would prove to have a certain idiosyncratic longevity. It was picked up intermittently over the following decades, in part spurred along by the rising cost of oil and the concomitant awareness of the value of adjacent natural resources such as potable water.

In the early 1970s, Wilford F. Weeks of the U.S. Army Cold Regions Research Laboratory at Hanover, New Hampshire, and William J. Campbell of the U.S. Geological Survey examined the "manna" or "madness" of towing Antarctic icebergs to the arid regions of the world. Weeks and Campbell were the first to formalize the calculability of Isaacs' variables through towing tests (Weeks and Campbell, 1973a, 1973b). Soon after, John L. Hult and Neill Ostrander, a pair of physicists working for the Rand Corporation in Santa Monica, published a report that addressed the now very real possibility of approaching Antarctic icebergs as a water resource at a scale available for the world as a whole (Hult & Ostrander, 1973). In their report, which was prepared for the National Science Foundation, Hult and Ostrander also recalculated many of Isaacs' variables, winnowing them down and coming to the conclusion that, in their estimation,

the cost of provisioning water from Antarctic icebergs would be half of that of piping water to southern California by aqueduct from the Colorado River (Behrman & Isaacs, 1992, p. 52).

What this longer history of getting icebergs on the move and integrated into the world's need for fresh water shows is that media environments also telescope into the past, into an analytical world of oceanographic algorithms, early satellite imagery, and paper reports. The practices and protocols of communication embedded within these media environments are made manifest by examining the relationships that natural resources reveal through their place in contingent understandings of ecologies and economies.

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