South Atlantic universals: science, sovereignty and self-determination in the Falkland Islands (Malvinas)

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ABSTRACT

Decades after a violent war that re-established British control over the Falkland Islands (Malvinas in Spanish), commercial fishing regimes and offshore oil discoveries have led Argentina and the United Kingdom to reassert their respective sovereignty claims through scientific advances. Scholarly literature on the South Atlantic archipelago focuses almost exclusively on the 1982 military conflict. However, the remote island chain has been a British imperial frontier of scientific knowledge production since Darwin’s 1833 visit aboard the Beagle, and overlapping maritime claims have now made the colonial holdout a key node for the contemporary use of science to spatialize and materialize desirable geopolitical visions of the future. Marine ecologists and geographers curate data on the South Atlantic to represent contrasting imaginaries: (1) Argentina’s oceanic assertion of territorial integrity through the government’s Pampa Azul campaign on the one hand; and (2) British channeling of the Islanders’ self-determination claim through the Falklands-based South Atlantic Environmental Research Institute (SAERI) on the other. Building on Trouillot, I argue that through these clashing imaginaries, sovereignty, self-determination and particular scientific practices become mobilized as “South Atlantic universals,” prescribed worldviews that project transhistorical power from the global periphery (Trouillot, Michel-Rolph. 2003. Global Transformations. New York: Palgrave Macmillan).

Universais do Atlântico Sul: ciência, soberania e autodeterminação nas Ilhas Falkland (Malvinas)

RESUMO

Décadas depois de uma guerra violenta que restabeleceu o controle britânico sobre as Ilhas Falkland (Malvinas em espanhol), regimes de pesca comercial e descobertas de petróleo fizeram a Argentina e o Reino Unido reafirmarem suas respectivas reivindicações de soberania por meio de avanços científicos. A literatura acadêmica sobre o arquipélago do Atlântico Sul foca quase exclusivamente no conflito militar de 1982. Entretanto, a remota cadeia de ilhas tem sido uma fronteira imperial britânica de produção de conhecimento científico desde a visita de Darwin a bordo do Beagle em 1833, e alegações marítimas sobrepostas tornam mais recentemente esse...
domínio colonial um ponto chave para o uso contemporâneo da ciência para espacializar e materializar visões geopolíticas desejáveis do futuro. Ecólogos e geógrafos marinhos curam dados sobre o Atlântico Sul para representar imaginários contrastantes: (1) por um lado a reafirmação dos oceanos da integridade territorial da Argentina através da campanha governamental Pampa Azul; e (2) por outro lado a forma que o Reino Unido canaliza a reivindicação de autodeterminação dos moradores das ilhas através do Instituto de Pesquisa Ambiental do Sul do Atlântico (SAERI), baseado nas Falklands. Com base em Trouillot (2003), defendendo que, através desses imaginários conflitantes, a soberania, a autodeterminação e as práticas científicas particulares são mobilizadas como “universais do Atlântico Sul,” visões de mundo prescritas que projetam poder trans-histórico a partir da periferia global (Trouillot, Michel-Rolph. 2003. Global Transformations. New York: Palgrave Macmillan).

**Universales del Atlántico Sur: Ciencia, Soberanía y Autodeterminación en las Islas Malvinas**

RESUMEN

Después de décadas de la guerra que restableció el control Británico sobre las Islas Malvinas, los regímenes comerciales de pesca y los descubrimientos de yacimientos de petróleo han motivado a Argentina y Gran Bretaña a restablecer su respectiva soberanía a través de avances científicos. La literatura académica sobre el archipiélago del Atlántico Sur se enfoca más que nada en el conflicto militar de 1982. Sin embargo, esta cadena de islas ha sido una frontera imperial Británica de producción de conocimiento desde la visita de Darwin en 1833 a bordo del Beagle, asimismo el traslape de demandas marítimas han convertido a este enclave colonial en un nodo para el uso contemporáneo de la ciencia, con el fin de espacializar y materializar visiones geopolíticas deseables del futuro. A través de la curaduría de datos, ecologistas marinos y geógrafos han buscado representar imaginarios contrastantes: (1) por un lado, la reafirmación de los océanos por parte de Argentina en cuanto a la integridad territorial con la campaña gubernamental Pampa Azul; y (2) la forma en la que la demanda de autodeterminación de los lugareños es canalizada por parte de Gran Bretaña a través del Instituto de Investigación Ambiental del Atlántico Sur basado en las Malvinas (SAERI por sus siglas en Inglés). Con base en Trouillot (2003), mi argumento es que a través del choque de estos imaginarios, se movilizan prácticas de soberanía, auto-determinación y ciencia como “Universales del Atlántico Sur,” es decir, visiones del mundo que proyectan el poder transhistórico de la periferia global (Trouillot, Michel-Rolph. 2003. Global Transformations. New York: Palgrave Macmillan).

1. Introduction

Decades after a 1982 war between Argentina and the United Kingdom (UK) over the Falkland Islands (Malvinas in Spanish), local residents are claiming self-determination to assert
British control over sovereignty, territory and natural resources. In a 2013 referendum on self-determination, Falkland Islanders voted 99.8 percent in favor of remaining British with just three naysayers out of 1517 valid votes. According to a 2016 census, 80 percent of 3200 total residents consider their national identity to be Falkland Islander and/or British. While Islanders continue to embrace their status as a British Overseas Territory, their economy has shifted dramatically from a sheep-based colonial backwater to a lucrative commercial fishing export zone. Much of the calamari consumed in the European Union originates in Falklands-controlled waters, but the potential repercussion of tariffs from Brexit has put the prosperous squid industry at risk (Blair 2016). With fishing’s future in question, Islanders rest hopes for political and economic stability on the recent commercial discovery of offshore oil, as well as cruise tourism and scientific research. Through the establishment of the South Atlantic Environmental Research Institute (SAERI), the Falkland Islands Government (FIG) now seeks to position the archipelago not only as an agricultural or resource export zone, but also as a knowledge economy of the South Atlantic.

However, a recent United Nations (UN) ruling expanded the limits of the continental shelf, and the Argentine Foreign Ministry has maintained that the islands are within its waters. Even after former General Leopoldo Galtieri’s military junta surrendered the South Atlantic archipelago to the British after the 74-day occupation of 1982, the Argentine state has continued to assert the popular national Malvinas cause. Struggling to overcome debt and inflation, the Argentine government under Presidents Néstor Kirchner and Cristina Fernández de Kirchner passed bills that threatened oil companies exploring near the islands with legal action, and banned ships that fly a Falklands flag from docking in ports of the province of Buenos Aires. In more than forty resolutions, the UN Special Committee on Decolonization has supported Argentina’s position.

Unlike his predecessors, conservative president of Argentina Mauricio Macri promised less contentious relations with the UK. Nonetheless, Macri’s administration has interpreted the UN’s ruling on the continental shelf as an affirmation of its claim over mineral resources of the South Atlantic. While his government has eliminated significant funding for science (Rodríguez-Mega 2016), a public research project launched during the Kirchner era called Pampa Azul (Blue Pampa) has allowed the Argentine state to assert the country’s geopolitical sovereignty claim over maritime territory in the ostensibly benign name of knowledge. In this framing, the Argentine government seeks to leverage science in the South Atlantic for socioeconomic development (Sábató 1975). In turn, the Argentine scientific community hopes to fulfill its long-standing national goal of transcending technical dependence on North Atlantic nations and industries (Babini 1954; Varvavsky 1969; Dagnino, Thomas, and Davyt 1996).

This article situates these contrasting uses of science for sovereignty claims in historical and ethnographic analyses of past and present environmental knowledge production. Nationalist bias has long infested the historiography of both British and Argentine claims to the islands. Moreover, scholarly literature on the Falklands/Malvinas focuses almost exclusively on the 1982 armed conflict and its continued significance for veterans and multiple generations of Islanders and Argentine citizens (Lorenz 2006; Guber 2009; Benwell 2016).

\footnote{There is an influx of migrants from St. Helena (8 percent) and Chile (5 percent). The Mount Pleasant Royal Air Force base includes 359 people.}

\footnote{UN Division of Ocean Affairs and Law of the Sea (2016).}
These are important concerns for military history, global politics and international law (Freedman and Gamba-Stonehouse 1990). However, this relatively limited framing prevents us from understanding how overlooked aspects of science also become involved in territorial disputes, as authorizing forces of technocratic governance (Sharp 2002; Callison 2014; Doel, Wråkberg, and Zeller 2014; O’Reilly 2017; Giraldo and Rosset 2018). Rather than providing a plea for any particular national cause, this article’s aim is to consider how the South Atlantic is becoming what Barry (2006) calls a “technological zone” that does not cleave neatly to terrestrial state borders. Understood this way, the South Atlantic defies methodological nationalism (Wimmer and Schiller 2002, 302). Instead, using the comparative tools of Science, Technology and Society (or Science and Technology Studies, STS) to reconceptualize this disputed area, this article seeks to address two questions. First, what is the relationship between independent researchers seeking to advance objective scientific knowledge on the one hand, and their state or corporate sponsors interested in asserting contested claims to sovereignty, self-determination and resources on the other? And second, how does such scientific research materialize these contending geopolitical claims, through competing representations of the South Atlantic as either: (1) a possible future Argentine national oceanic territory; or (2) home to a subnational British archipelagic people, rooted in an imperial past?

In what follows, I describe how science has unfolded in the islands since the end of the 1982 war and the subsequent emergence of new marine resource regimes. I discuss how the ecological niche of squid, which straddles the border of disputed economic zones, may be understood as what STS scholars call a “boundary object,” which maintains its identity across diverse public and private networks. The article then outlines how the interpretive flexibility of this boundary object influenced the Argentine Government and the FIG to restructure their respective scientific institutions and launch competing programs: Pampa Azul and SAERI. The research incorporates twenty months of participant observation, document analysis, and interviews conducted from 2012 to 2015 in the Falklands/Malvinas, Argentina and the UK. I draw on data collected with government scientists and regulators in Buenos Aires and Patagonia, as well as from within SAERI’s office in the archipelago’s only town of Stanley. By juxtaposing how Argentine government scientists and Falklands-based British researchers not only carry out scientific procedure in data collection, but also perform geopolitical strategies through representations of their own actions, this article seeks to show how these material practices support contrasting “sociotechnical imaginaries” (Jasanoff and Kim 2009, 2015).

2. Analytical perspectives: sociotechnical imaginaries and North Atlantic universals

Jasanoff and Kim (2009, 120) define sociotechnical imaginaries as “collectively imagined forms of social life and social order reflected in the design and fulfillment of nation-specific scientific and/or technological projects.” Bridging the lacuna in the STS literature between science and technology on the one hand and political institutions on the other, Jasanoff and Kim developed this concept in order to analyze how the governments of the United

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4Star and Griesemer (1989); Fujimura (1992); Forsyth (2002, 140).
States and South Korea promoted nuclear power to re-imagine apparently similar national values in different ways. The role of the liberal modern state became central for narrating and defining risk, benefit, the public good or nationhood, as naturalized political imperatives presented in a supposedly unbiased scientific framing. This article aims to show how performative geopolitical machinations of contending sociotechnical imaginaries illustrate the ways in which Argentina’s oceanic assertion of territorial integrity contradicts, rather than complements, British channeling of the Islanders’ self-determination claim. I do so by rethinking STS theory of sociotechnical imaginaries through critical concepts of modernity and sovereignty developed by anthropologists of Latin America and the Caribbean.

Specifically, my employment of sociotechnical imaginaries builds on Trouillot’s (2003) reconceptualization of modernity as a “North Atlantic universal,” a fictionalized utopia that prescribes a seductive vision of the world through projections of transhistorical power. This article proposes that Pampa Azul and SAERI mobilize particular scientific practices to promote either sovereignty or self-determination as South Atlantic universals: political aspirations shaping popular understandings of the maritime area. Here, South Atlantic universals may be either: (1) the expansive oceanic reach of littoral Argentina; or (2) the surrounding archipelagic environment of the non-independent society of Falkland Islanders. First, Argentina’s claim to sovereignty over the South Atlantic is predicated on the modern principle of the nation-state’s territorial integrity. After gaining formal independence from Spain, the Argentine Republic was informally subject to British imperial rule through financing of its national infrastructure, and the Argentine government continues to call for decolonization of the Malvinas. Pampa Azul therefore serves as a government-led scientific tool to regain epistemological freedom, if not lost national territory itself. Second, to counter Argentina’s national oceanic territorial imaginary, the UK promotes Falklands-based science through a different modern vision based on the universal rights of island societies. The UK’s version of a South Atlantic universal resembles what Bonilla (2015), building on Trouillot, calls a “non-sovereign future,” for Falkland Islanders seek self-determination in order to remain under their former colonial administrator’s flag. SAERI’s sociotechnical imaginary makes this possible, by linking the overseas territory to Great Britain in a continuous Atlantic island chain of data infrastructures.

Argentina’s sovereignty assertion and Falkland Islanders’ self-determination claim represent South Atlantic universals in their own right, insofar as respective state actors have sought not only to replicate North Atlantic models, but also to insert their subjectivity from the global periphery into dominant regimes of historicity through science (Trouillot 2003, 38–39, 44). Yet, despite clear historical imbalances, neither set of actors mobilizes these South Atlantic universals from a purely subaltern position. In the South Atlantic, the intensified commercial shift toward marine resources has pitted Argentina – a stagnating export economy, seeking to regain its modern promise as the “Europe of Latin America” – against a wealthy assemblage of predominantly white British settlers, pursuing a different utopian island dream of the “not yet” (Gillis 2004, 65). As a settler colony with no historical evidence of a precolonial Indigenous population, the Falklands/Malvinas is an instructive site for understanding shifting scales of imperial sovereignty through science (Stoler 2006; Blair 2017). This article’s examination of clashing South Atlantic universals thus has broad

5See Ferns (1960); Wright (1975); Rock (1975).
implications for how Latin American STS scholars may rethink the contemporary realignment of center–periphery relations in the Southern Cone and the Atlantic World (Vessuri 1983; Kreimer 2007; De Greiff 2012; Rodriguez-Medina 2013).

By analyzing how sociotechnical imaginaries add contours to the ongoing sovereignty dispute over the Falklands/Malvinas, this article offers an Atlantic history of the imperial scientific present. Atlantic historians have largely restricted their scope of analysis to the early modern era (roughly between 1500 and 1800), a stretch during which European imperial powers had global aspirations with disproportionately high levels of activity within the Atlantic. Across distant intercontinental networks, disenfranchised peoples labored under indentured servitude and slavery, staging hidden sea-based revolutions that the historical record tends to ignore, in favor of landed struggles occurring within particular national boundaries (Rediker 1987; Linebaugh and Rediker 2000; Grandin 2014; Chari 2019). The Falklands/Malvinas, like other remote island chains, is often portrayed in Western thought as insular, but before the Panama Canal’s emergence as a “global infrastructure” (Carse 2014, 5, 14), the vast majority of shipping traffic between the Atlantic and Pacific Oceans passed the islands (Gillis 2004, 124). The virtual borders of such a stratified “world” may have dissolved in Argentina, through industrialization, nation building and globalization (Adelman 1999; Johnson 2011). However, the Atlantic remained the main circuit of British capital and European migration in the nineteenth century, and the North Atlantic Treaty Organization continues to govern based on a twentieth century Atlantic imaginary. Imperial science provides a line of continuity between the violent colonial past and the extractive geopolitical present of the Atlantic world. In what follows, I examine how the history of imperial science, and a regulatory impasse over fishing, laid the foundation for the contending sociotechnical imaginaries of Pampa Azul and SAERI.

3. Imperial science and squid in the South Atlantic

Beyond geopolitical saber-rattling, a historical dearth of scientific data on the South Atlantic has influenced the British and Argentine governments to imagine the islands and their surrounding waters as a knowledge frontier. During a temporary Spanish settlement of the late eighteenth century, Alejandro Malaspina delighted in analyzing wild celery and charismatic marine fauna (David et al. 2002). In his short-lived colony, Luis Vernet, a merchant from Hamburg named political commander of the Malvinas for Buenos Aires, produced some of the first maps of the islands. Robert Fitzroy complemented this work with further surveys on the Beagle with Charles Darwin. But during the so-called “Heroic Age” of Antarctic research, scientists used the Falklands primarily as a launching pad to support voyages farther south, notably Sir Ernest Shackleton’s Imperial Trans-Antarctic Expedition on the Endurance (Larson 2012). As Stratford et al. (2011) point out, colonial powers have used archipelagos opportunistically as stepping-stones for land acquisition. At the height of the British Empire, the Falklands served as the administrative center for research in the expansive Falkland Islands “Dependencies,” now British Overseas Territories, which included South Georgia, the South Orkneys, the South Shetlands, the

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6Bailyn (2005); Elliot (2007); Greene and Morgan (2008); Armitage and Braddick (2009).
7Crosby (1986); Drayton (2000); McCook (2002); Briggs (2002); Nieto-Olarte (2006); Delbourgo and Dew (2007); Harding (2008).
Sandwich Islands, and the territory of Antarctica known as Graham Land. A series of research stations were established for the Falkland Islands Dependencies Survey, now the British Antarctic Survey (Dodds 2002). The South Pole’s gravitational pull for imperial science left the Falklands under-researched by comparison.

In the same year as the military conflict between the UK and Argentina, the UN held its Law of the Sea Convention (1982), which set the spatial limit of an Exclusive Economic Zone to extend 200 miles from national coasts. Even after surrendering in the war, Argentina’s government began regulating natural resources according to this norm, without relinquishing its claim to the islands as part of the nation’s official territory (Dodds and Benwell 2010). Nevertheless, Falkland Islanders lobbied the UK to create two different fishing zones in the waters surrounding the islands in 1986 (the Falklands Interim Conservation and Management Zone, originally meant for military protection) and 1990 (the Falkland Islands Outer Conservation Zone). This Islander-led policy implementation set the legal and institutional basis for the FIG to control commercial fishing, oil exploration and biodiversity conservation in the South Atlantic, thus laying the foundation for SAERI’s archipelagic sociotechnical imaginary.

Since the establishment of commercial fishing zones, the FIG has issued licenses to at least fourteen different companies, accumulating revenue of between £10 and £29 million each year. Squid is the most frequent catch. The Doryteuthis gahi (or Loligo) species, marketed as “Falklands calamari,” is consumed primarily in Spain, while the larger Illex Argentinus (hereafter, Illex) species is consumed mostly in East Asia. With a total annual catch of more than 250,000 tons, the squid fisheries make up 5–10 percent of the global supply and up to 50 percent of Southern Europe’s Loligo calamari. The trawlers fishing for Loligo are primarily joint ventures between license-owning businesses founded by Islanders and Spanish fishing fleets, while the “jiggers” fishing for Illex tend to be Taiwanese or Korean fleets holding licenses directly from the government. The nationalities of crews range from Indonesian and Chinese to Filipino and Peruvian, and problems with crew welfare have plagued the FIG’s claim to good governance (Blair 2016). Independent conservationists have also raised questions about the industry’s impact on penguins, which rely on squid as their main source of food.

Nonetheless, Fishing has become the most thriving commercial sector of the islands’ economy, representing 45–60 percent of Gross Domestic Product on a given year. For nearly two decades, the business consisted in little more than re-selling annual licenses, but in 2005 the local fishing companies became more involved in actively managing quota through the establishment of the Individual Transferable Quota system for all fishing except Illex. Under this system, FIG allocates quota to companies based on their previous track records, and individual firms may borrow money or trade out of their quota if they desire. Only companies registered in the Falklands can hold quota, and the system allows for longer-term licenses starting at 25 years. This system cemented Islanders’ status as licensing agents with exclusive access to distributive quota. From 1990 to 2004, a transnational organization called the South Atlantic Fisheries Commission collaborated on scientific monitoring in both the Falklands’ and the Argentine zones.

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8Falkland Islands Government (2012).
9See Bingham (2002). FIG Fisheries has also taken measures to reduce bird mortality, in accordance with the Agreement on the Conservation of Albatrosses and Petrels (ACAP). Others have suggested that global ocean temperature rise, and not fishing, caused penguin population declines. See Pütz et al. (2003); Dehnhard et al. (2013).
However, when the FIG introduced the quota system, the Argentine government’s scientists stopped participating. This fallout over quota, in conjunction with a broader geopolitical strategy of the Argentine government to isolate the UK with stronger regional alliances, built momentum for the launching of the Pampa Azul sociotechnical imaginary.

The ecological niche of *Illex* squid straddles the Falklands exclusive zones, as well as adjacent Argentine, Brazilian and Uruguayan waters. Stock assessment of *Illex* thus became a boundary object for the FIG and Argentine government to assert sovereign rights to common property resources as responsible managers of the exclusive marine environment (McCay and Acheson 1987; Ostrom 1990; Mansfield 2004). FIG argued that the Argentine government’s refusal to share knowledge during the Kirchner administrations not only led to a depletion of *Illex*, but also encouraged predatory overfishing to damage future stocks (Arkhipkin et al. 2013, 17). The interpretive flexibility of this particular squid species, which inhabits the shared space of a disputed territory, thus conditioned the possibility for the emergence of contending sociotechnical imaginaries with different sets of public and private structural arrangements (Star 2010).

4. The Pampa Azul: “science in the service of national sovereignty”

In 2014, the Argentine Ministry of Science, Technology and Productive Innovation invented a new way of imagining the South Atlantic: as the Pampa Azul. The Pampa is the name for the vast breadbasket of the so-called “interior” of Argentina: the cattle frontier and agricultural legacy upon which the Argentine nation was built through violent dispossession of Indigenous Peoples. By reconfiguring the Atlantic Ocean as the Pampa Azul, or Pampa Sumergida (Submerged Pampa), the Argentine state has strategically asserted the country’s sovereignty claim over maritime territory through an oceanic sociotechnical imaginary. The Pampa Azul’s main objectives are: exploration, conservation and technological innovation expressly geared toward the “productive sectors related to the sea”; as well as supporting the country’s sovereignty in the South Atlantic with “scientific information and presence.” The Pampa Azul initiative allows the Argentine government to argue that it manages marine resources that the country claims through the objective scientific distance of “trained judgment” (Daston and Galison 2010), even though this environment is for the time being, out of reach or control (Figure 1).

During my research in Buenos Aires, I attended a conference where leaders of the social movement Pueblos Por Malvinas (People for Malvinas) assisted the government in launching the Pampa Azul campaign at the Argentine National Congress, Circle of Legislators. “Malvinas: Final Frontier of the Planet” was the name of the event, which featured international relations scholars and politicians. The talk was held in an ornate gallery. Photographs of the founders of national political parties lined the walls, centering on influential populist former President Juan Domingo Perón. The presentation offered a grand South Atlantic universal vision of the country’s present and future as a modern nation: “Argentina is a country of the South

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10 On the construction of the nation-state of Argentina based on attempted genocide, see Briones (2005); Gordillo and Hirsch (2003). Historians have often analyzed the Pampa as a source of easy rents due to highly fertile soil, though the rents for marine resources in the South Atlantic may be less accessible (Gallo 1983; Sabato 1987).

11 Website for Pampa Azul and the Ministry of Science, Technology and Productive Innovation, http://www.mincyt.gob.ar/accion/pampa-azul-9926.
that is Oceanic. It is South American, but also European and developed. A more positive national brand could give Argentina the opportunity to join the community of emerging economies.”
Argentina was on the verge of another default at the time, so it was proposed that the nation should take a pragmatic approach to producing and consuming resources. In this context, the Pampa Azul campaign framed Malvinas as “the global frontier of natural resources.” The speaker argued that ordinary Argentines are “madly in love” with Malvinas, but when asked why they think the islands are Argentina’s, they downplay its importance as a minor battle over a couple small pieces of land. Instead, the presenter emphasized that if listeners broaden their perspectives on the South Atlantic more generally, considerable reserves of energy, fish and possible precious metals come into view. Yet, as long as it is under British rule, the speaker argued that the South Atlantic serves as a “militarized highway” for exclusive UK exploration leading to Antarctica. As the staging ground for the broader South Atlantic and Antarctica, the Malvinas, then, is not an insular phenomenon but rather a massive opportunity: “Malvinas is a question of the future.” Rethinking the South Atlantic as Pampa Azul recalls place-based universals of political memory, justice and democracy, rooted in specific experiences of losing an “absurd war” (Guber 2001). With Pampa Azul, instead of invading the Malvinas again with armed forces, Argentina would occupy the South Atlantic with scientific vessels. As the speaker put it, “The greatest triumph of the UK was not the victory of 1982. It was the colonization of our resources.” The talk ended with the determined statement: “We will return to Malvinas. Latin America with science.”

The Circle of Legislators event provided a vivid image of the strategic purpose and socio-technical imaginary of Pampa Azul, but did the perspectives of Argentine scientists also support the sovereignty cause? Edith, a principal marine ecologist of the campaign – who is also a resident of Patagonia with five generations of descent from Welsh settlers – told me that individual researchers in Argentina had long-established relationships with UK scientists to share resources, software and data without any political issues. However, since ties between Argentine scientists and their counterparts in the islands have broken on joint management of marine resources like squid, they have not been permitted to interact with Falklands-based scientists in an official institutional capacity. Edith and her colleagues had even been invited to collaborate in workshops in the islands, but the Foreign Ministry restricted them from participating. While Edith is not representative of all Pampa Azul scientists, she emphasized that her team seeks to transcend these geopolitical impasses and identify aspects of the ecology that are impacted by potential exploitation of resources. They follow British scientific advancements with admiration and are not actively involved in crafting the Argentine government’s geopolitical strategy. However, they echo their Foreign Ministry in questioning potential conflicts of interest between British scientists and private extractive industries in the islands.

An appointed Governor of the Falklands dismissed Pampa Azul in an interview with me, as “simply a sovereignty argument.” The Circle of Legislators presentation shows some truth to this, but because Pampa Azul is a long-term project that is publicly-funded, Edith argued, “epistemologically, the researcher can think more freely.” She described Pampa Azul as “a tool that can provide a lot for future generations … to generate knowledge and logistics in order to know the sea, which is almost as big as our [landed] part of the continent.” The next section explores the UK’s contending sociotechnical imaginary, SAERI, which serves as an archipelagic counterpoint to Pampa Azul’s oceanic perspective.

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12 Names of living interlocutors, apart from public figures, are pseudonyms.
5. The South Atlantic Environmental Research Institute’s archipelagic imaginary

Parallel to Argentina’s Pampa Azul campaign, SAERI formed in Stanley. SAERI was not created as a reaction to Pampa Azul (SAERI predated it slightly); rather it was born out of a separate FIG economic development strategy to grow a “knowledge economy” in the Falklands. With increasing numbers of scientists based at FIG Fisheries and Falklands Conservation, a quasi-governmental affiliate of Birdlife International, local knowledge production had expanded in the 1990s and 2000s. However, research at FIG Fisheries was relatively confined to stock management, and Falklands Conservation had been more focused on its watch group and penguin rehabilitation center. It was therefore proposed that a research institute would re-center more wide-ranging scientific work throughout the various island British Overseas Territories in the new “knowledge frontier” of the South Atlantic.

With funding from the FIG, the Government of South Georgia and the UK, the British Antarctic Survey conducted a feasibility study for the potential research institute in 2010. Considered a “pristine environment,” various ecological aspects of the South Atlantic invited further research on elements of air, earth and water: (1) the atmosphere offers a clear, unpolluted sky beneath the ozone hole; (2) an emergent oil industry and peaty soil imply prospects for petroleum geology and climate change studies; and (3) the thriving fisheries, under-analyzed benthic ecosystems (sea floor habitats) and oceanography present opportunities for marine ecology. The British Antarctic Survey and FIG found ample reason to create an institute, and in December 2011 the FIG Executive Council approved SAERI’s formation with three years of seed money.

SAERI’s birth coincided conveniently with my own multi-phased research in the Falklands, so I was able to carry out in situ fieldwork that I had not had the opportunity to do within Pampa Azul stations of Patagonia and Tierra del Fuego. John, a lead scientist at SAERI, allowed me to rent office space throughout my fieldwork in Stanley. Being in such close quarters with SAERI’s researchers allowed me to take part in their fieldwork, supporting shallow marine dive surveys and tagging penguins with locational trackers. Projects at SAERI that overlapped with my fieldwork included: the creation of a GIS data center, an inshore fisheries research project, marine spatial planning, and a data gap analysis project jointly-funded by the FIG and its oil licensees.

While SAERI may be less explicit than Pampa Azul about the political interests of its socio-technical imaginary, the sovereignty issue does inevitably leak into the institute’s affairs. Raised in the former Rhodesia and educated in the UK, John made the Falklands his home when he joined FIG Fisheries in the mid-1990s to research and prevent bird mortality from fishing. He is committed to the Falkland Islanders’ self-determination claim, and insists that refereed journals refer to the islands as “Falklands” rather than “Malvinas.” He is married to a Falkland Islander who teaches in Stanley, and they have a young son whom John is proud to say is a ninth-generation Islander. The Governor and FIG have insisted that there not be “crossover” between politics and science; however, on visits to the islands, UK Foreign and Commonwealth Office Ministers and Directors asked SAERI scientists how they might be able to use SAERI’s research to spoil Argentina’s claim. John dismissed this approach as naïve because he holds science to be apolitical. Yet, when Daniel Filmus, Argentina’s then-Secretary of Malvinas, critiqued the oil exploration activities for risking a potential “eco-disaster,” John suggested that SAERI should try to be “mercenaries” about this and use
it to leverage funding. This was not a knee-jerk response. Rather, it was a strategic move to push back against these accusations by asserting that there is already an objective research institute taking measures to assess environmental impact. If redirected this way, Pampa Azul might have actually helped SAERI’s case for more funding from the UK.

To showcase their role as environmental stewards, SAERI researchers have participated in FIG diplomacy trips. They try to brand the institute as having a wide, island-to-island scope, ranging “from the tropics to the ice,” with work across British Overseas Territories in the South Atlantic, as well as the Caribbean and Southern Africa (Figure 2).

Finally, seeking to become incorporated and grow independent from government, SAERI has swiveled into the field of energy consultancy. Becoming a non-governmental organization might help SAERI circumvent the overt geopolitics of the sovereignty dispute, but new contracts with oil firms carry their own dubious associations with toxic contamination and climate change. Nonetheless, with its ever-expanding archipelagic sociotechnical imaginary, SAERI has strived to connect the dots between self-determination, ecology and natural resource management in the South Atlantic.

6. Conclusion

This article has analyzed the development of science since the 1982 Falklands/Malvinas war and the establishment of fishing and offshore oil regimes in the South Atlantic. Rather than combining epistemological networks to manage shared natural resources (Forsyth 2002, 140), knowledge of squid became a boundary object. New talks have

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Figure 2. Map of South Atlantic Environmental Research Institute (SAERI) projects during financial year 2017–2018. Courtesy of SAERI.

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13See Harding (2014).
now occurred on sharing of scientific data on the South Atlantic, representing a significant step for more sustainable co-management and conservation of squid, particularly *Illex argentinus*. (Niebieskikwiat 2018). Nonetheless, as this article has examined, Argentina’s government has maintained its sovereignty claim over the Malvinas, and in doing so has re-conceptualized the South Atlantic as an oceanic national frontier imaginary: Pampa Azul. This scientific program clashed with the establishment of SAERI, through which the FIG has sought to anchor knowledge production of the South Atlantic in the Falklands archipelago. From these contending vantage points, what is the role of scientists in the materialization of disputed geopolitical claims?

While Pampa Azul reproduces a particular South Atlantic universal through its mission of “science in the service of national sovereignty,” SAERI seeks to appeal to the Islanders’ self-determination claim. These contradictory modern principles demonstrate how science comprises not one, but rather diverse visions of objectivity (Harding 2015). On the one hand, scientists found that the government’s Pampa Azul imaginary opened up a public tool for epistemological freedom, by offering future generations of Argentine citizens new ways of understanding the sea. SAERI, on the other hand, is a scientist-led public/private initiative, steeped in a British imperial tradition that has used islands as stepping stones for territorial expansion and knowledge production. Ultimately, these competing representations of science as either oceanic or archipelagic reinforce ideals of environmental stewardship and political stability that risk closing off collaborative ways of addressing ecological problems exacerbated by the sovereignty dispute, such as transboundary impacts from depleting fishing stock and potentially toxic oil development.

In sum, this article has shown how a knowledge frontier condition in the South Atlantic has produced contradictory, rather than complementary sociotechnical imaginaries. Both Pampa Azul and SAERI offer grand visions that depend on invented horizons of knowledge, as well as new enclosures for extractive industries. Historical and ethnographic attention to scientific practices allows for a greater understanding of how these apparently similar national values form divergent political-ecological outcomes.

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