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Zoogeography and imperial defence: Tracing the contours of the Nearctic region in the temperate North Atlantic, 1838–1880s

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ABSTRACT

This paper focuses on the 'zoogeographic region' and the 'zoogeographical boundary-line' as key biogeographical constructs of empire. More specifically, it investigates how army and navy officers stationed at Halifax and Bermuda on the North America and West Indies Station helped to create an imperial, militarized 'New World' region in the North Atlantic through zoogeography in the British post-emancipation era. The tracing of the boundary-line between the temperate (Nearctic) and tropical (Neotropical) North Atlantic involved designating Bermuda and Halifax as strategic winter and summer 'homes' on the Station, and highlighting the 'natural' connections between the two sites through mobile fauna, ocean currents, and weather systems. Making visible the geographic distribution of migratory animals, the Gulf Stream, and hurricanes – through maps, natural collections, sketches, and travel-writing – provided new ways of seeing and thinking about British imperial defence in the North Atlantic. This paper also considers the role of non-human mobilities in animating these regions.

1. Introduction

Over the last few years, Atlantic Canada has been treated to 'unusual marine visitors' from the tropics, ranging from Gray Triggerfish, Tropical Sunfish, to rare Seahorses (Anon., 2012, 2014). Attributed to increases in warmer water temperatures, Neotropical species have become regular visitors to the shores of Nova Scotia and New Brunswick, delighting, surprising, and concerning people over climate change and impacts to native flora and fauna. While these allegedly tropical visitors are generally perceived to be out of place in the Nearctic region, research scientists are showing that, in fact, the presence of some tropical fish in Canada's east coast is not a new phenomenon. Some species are present because of their northern distribution ranges, while others hitch 'a ride on the Gulf Stream' (Anon., 2012), illustrating the ways in which migrating species and larger marine systems transcend national, international, and zoogeographic boundaries.

As regional faunas and floras are shifting due to climate change, and invasive species are spreading across oceans and waterways, countries are making biosecurity a top priority, instituting surveillance and scientific monitoring programs in collaboration with national defence and environmental agencies (e.g. White, 2012; Council of European Union, 2014). Mobile fauna have become significant geopolitical actors in the politics of climate change, natural resources, and national security, as well as active agents in unsettling zoogeographic regions, distributions, and human values in different times and places (Clark, 2003; Rose, 2005; Trudgill, 2008). In an era when conservation scientists are stressing the importance of applying biogeographic regions as 'natural frameworks for marine zoning' for ocean governance and regional fisheries management (Spalding et al., 2007), a critical understanding of how 'natural' faunal regions have been produced and used over time is needed.

This paper traces ideas of climatic and biotic insecurities *with* bioregion-making to a different time period, when nineteenth-century Britain established a defence network of squadrons, fortifications, and bases to secure economic and colonial control in the Atlantic, and to prevent the United States from invading Canada, since 'Bermuda, conjointly with Halifax, [held] in check the whole Atlantic coast of the United States' (Godet, 1860, p. 3).[1] Known as

[1] Anglo-American tensions in the North Atlantic centered on several disputes, including the New Brunswick-Maine boundary-line (1842), the American Civil War (1861–1865), the Trent Affair (1861), American expansionism in the Caribbean (1865–1869), and the Fenian Raids (1866–1870), which saw troop levels increase in Canada to 11,000–12,000 in 1867–1868.

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the North America and West Indies Station (NAWI), the British military secured strategic ports and waterways, while the Royal Navy commanded the sea.[2] Halifax, Nova Scotia, served as the summer headquarters while Bermuda held the winter station. From this network emerged the collection, documentation, and surveillance of natural phenomena – birds, fish, whales, ocean currents, weather systems – by British navy and military officers who were patrolling and garrisoning Atlantic Canada, Bermuda, and the West Indies.

The British army, in particular, paid close attention to the impact of climates on military bodies through the establishment of meteorological stations across the empire (Great Britain Meteorological Office, 1890; Morrison, 1980). Early military reforms included the regular rotation of regiments from tropical stations in the West Indies to the cooler climates of North America, and a dependence on local West Indian men to serve in the Caribbean, illustrating the vulnerability of white military manpower in tropical locales (Burroughs, 2003; Carey, 2011; Churchill, 2012).[3] The Royal Navy held similar views on the unhealthiness of the Caribbean, especially during the summer months when autumn brought fears of tropical hurricanes and shipwrecks (Beeler, 2006; Driver and Martins, 2006). Moreover, Britain's Admiralty, War Office, and Ordnance Department took active roles in establishing Humboldtian science as part of British naval and military culture (Reidy, 2008), which helped colonial officials contemplate the 'habitability' (Zeller, 2006) of imperial stations across the British Empire during a time when anxieties over climate, racial health, and military efficiency were prevalent; it also naturalized 'northern forms... that successfully "invaded" southerly lands and moved in as "denizens"' (Zeller, 1998, p. 27).[4] Considering that the NAWI Station was divided into two separate divisions in the British North Atlantic – Bermuda-Halifax and West Indies Divisions – how did colonial officials think about the differences between these two regions? Did these boundaries overlap with gendered and racial ideologies, and climatic and zoogeographical thinking of the time period (e.g. Old and New Worlds, Nearctic and Neotropical regions)? And how did migratory fauna, and other mobile 'natures,' animate and challenge these regional categories?

Using the 'zoogeographic region' and 'boundary-line' as key biogeographical constructs of empire, this paper examines how the production of biogeography by these individuals helped to map a climatic and zoogeographical boundary line between the temperate North Atlantic (Nearctic region) and the tropical West Indies (Neotropical region). These imperial environmental imaginaries, albeit contested, positioned Bermuda as part of the North America (Nearctic region) rather than the Caribbean (Neotropical region) as it had been in the pre-emancipation era. Furthermore, such imaginaries helped to naturalize a mobile imperial force that moved between Bermuda and Halifax in order to protect trading routes and to safeguard the region from the United States. Zoogeographic region-making in this paper, therefore, encompassed the discursive and material practices involved in attempting to make visible a unified militarized and zoogeographical region through Humboldtian science.

2. Zoogeographic region: A biogeographical construct of empire

Building on previous work that critically challenges the idea of 'nature' *with* 'region' as uncontested and unproblematic categories in the natural sciences (Greer, 2013), this paper considers the role of the zoogeographical region in refashioning the British North Atlantic region within the context of imperial defence in the post-emancipation era (1838–1880s). Such an approach moves away from viewing zoogeographic realms and zoogeographical boundary-lines (e.g. Wallace Line) as static and bounded spaces with fixed sets of natural objects, but as epistemic, cultural, and political constructs that are relational, tied to power, and historically contingent. According to Bruce Braun, it 'forces us to take responsibility for *how* this remaking of nature occurs, in *whose* interests, and *with* what consequences,' (Braun, 2002, 13; c.f. Paasi, 2010).

As scholars of maritime empires have shown, imperial powers, including Britain, attempted to organize large maritime regions into subregions in order to take advantage of winds, currents, and climates for territorial expansion and resource exploitation (Chaudhuri, 1985; Francis, 2007; Warren, 2007). The geographer Meinig (1986) examined how territorial expansion was made possible by those who took advantage of the biophysical processes or 'natural circulations' of water, winds, and seasons in the 'North Atlantic littoral' (pp. 5–6) which, I argue, extended to the zoological realm. Historians and geographers of science have demonstrated how biogeographic theories often overlapped with colonial expansion and geopolitical power (Browne, 1983, 1992, 1996; Naylor, 2005; Greer, 2013).

In the Atlantic world, biogeography helped European naturalists observe differences between the 'Old' and 'New World' faunas for colonization and resource extraction (Browne, 1983, 1992; Dickenson, 1998). The French naturalist, Comte de Buffon (1707–1788), was one of the first to define geographic regions as possessing different forms of life based on climatic conditions.[5] Using the collections of faunal specimens from colonial New France, Buffon determined that 'New World' animals had degenerated from their 'Old World' form, exhibiting smaller physiques and slothful dispositions, which extended to Indigenous peoples of North America. These views were quickly challenged by colonial American naturalists who argued for the superiority of the American climate on animal and human life in order to promote immigration to the United States (Bewell, 2003).

Prussian geographer Alexander von Humboldt (1769–1859), extended Buffon's theories by measuring empirically the impact of climate and the distribution of organisms across the globe, helping to conceptualize botanical provinces or regional floras based on assemblages of similar species, temperature, and barometric pressure within a particular region (Dettelbach, 1996; 1999; Godlewska, 1999; Driver and Martins, 2005; Naylor, 2005; McCook, 2002; Cushman, 2011). Humboldt traveled much of South America and the Spanish Caribbean through which he accumulated a vast archive of natural history specimens, climate data, travel-writing, and landscape drawings. Through his collections, sketches, and documentation, Humboltd 're-imagined the Americas' (Pratt, 1992, p. 31) into what Mary-Louise Pratt has described a 'European-based patterns of global unity and order' among the diversity of nature. A significant contribution of Humboldt's work was the production of the 'isothermal lines,' which

[2] The colony of Nova Scotia entered Canadian Confederation in 1867. However, Halifax continued to hold imperial forces until 1904, as well as a Royal Naval dockyard until 1905, even when Britain removed troops in 1871.

[3] In South Asia, colonial officials migrated to the temperate hill stations during the summer, tropical months, such as in Simla, which was the most popular of these resorts to escape the heat of the Indian lowlands (Kennedy, 1996).

[4] From this network emerged a group of naval and army-geographers interested in documenting the geographical distributions of flora, fauna and other natural phenomena, such as tides, winds, ocean currents, and magnetic forces, in the management of Britain's maritime empire. Many Royal Navy Commanders-in-Chief and colonial governors who served on the NAWI Station – such as William Reid, Francis Leopold McLintock, Gaspard Le Marchant, John Henry Lefroy, and Robert Michael Laffan – were involved with scientific institutions such as the Royal Society of London, the Royal Geographical Society, and the Zoological Society of London; and versed in Herschel's (1849) *A Manual of Scientific Enquiry; Prepared for the Use of Her Majesty's Navy: And Adapted for Travellers in General* (Levere, 2004).

[5] Buffon's theory was based on the idea of a single origin of species rather than on multiple origins, which was prevalent at the time.