Preliminary Examination Statement
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Background

As a geographer I am interested in exploring the public aspects of digital technologies as political forces. In particular I would like to explore the ways in which different subjectivities emerge and are (de)politicized across differently scaled digital spaces. By scale, I refer to differences in the visibility, level of traffic, accessibility, and interactivity of a digital space, which can range from the private spaces of an intranet available to only a few people to highly publicized social media sites designed to disseminate information as widely as possible. Many researchers have already explored the ways in which the public accessibility of the Web, among other attributes, allows for a diversity of subjectivities to be represented. Others have focused on an opposing tendency, the ways in which the high visibility of digital spaces facilitates the normalization of which types of identities can be expressed. With my dissertation research I would like to push this second strand of thought a bit further, by examining how publicity itself, as a mode of communication, constrains the expression of particular identities and sets of knowledge.

Two formative academic experiences have led me to this research interest—undergraduate participatory GIS (PGIS) research and Master's work on the geospatial Web (geoweb). First, my work with the Maijuna people of the Peruvian Amazon helped me to appreciate the political importance of indigenous engagements with digital technologies. In 2004 much of the Maijuna's traditional land remained outside of their direct control and was threatened by poaching, logging, and development (Gilmore et al. 2010; Vriesendorp and Foster 2010). After being introduced to the Maijuna by Dr. Michael Gilmore, the two of us began a PGIS project to help the Maijuna transform their knowledge of the land around them into the political power to gain control of that land (Gilmore and Young 2010, 2012; Young and Gilmore 2013). This experience fully demonstrated the political tensions intrinsic to the public attributes of digital technologies. The transformation of the Maijuna's knowledge into a GIS database did allow these traditionally marginalized communities to powerfully represent themselves to a much wider audience, resulting in the approval of a Maijuna *Área de Conservación Regional,*or Regional Conservation Area (Portugal 2012). However, throughout the project we also had to negotiate complex issues associated with broadcasting traditional and otherwise-sensitive knowledge to wider audiences (Young and Gilmore 2014).

Second, my recent work as a Master's student at the University of Washington helped me to extend my exploration of these issues to the geoweb. My Master's Thesis reviewed the ways in which critical GIS literature conceptualized notions of power, and then explored how these same political models have been inherited by the emerging geoweb agenda. Throughout, I identified key theoretical tensions which have continued through both critical GIS and geoweb research. One key tension is the conflicting way in which emerging digital technologies often provide opportunities for juridical empowerment only if users submit themselves to disciplinary

responsibilization through surveillance. This theoretical work should provide an excellent grounding for my future dissertation research.

Current and Future Interests

In my dissertation research I want to explore the potential role of emerging digital technologies in bringing different groups together to rethink our environmental relationship with the world in the face of climate change. Theoretically, I am interested in approaching this research through the lens of a set of relational theories heavily inspired by the work of Gilles Deleuze. I therefore view digital spaces as assemblages which bring together a range of different materialities, processes, and actors to produce environmental subjectivities. I am also interested in examining how the emergence and politicization of these subjectivities changes across digital scales. Borrowing terms from cartography, I would like to think about large-scale digital spaces as generally private spaces with relatively low visibility, traffic, accessibility, and interactivity, and to think about small-scale digital spaces as generally public spaces with relatively high visibility, traffic, accessibility, and interactivity. I am interested in the ways in which subjectivities change as they are scaled up into smaller-scale spaces for two reasons. First, publicness is often an important aspect of the political narratives associated with emerging technologies—hypothetically, the Internet allows any member of a global public to have her voice heard by a large segment of that same public. Second, this aspect of digital technologies is likely to be even more important in discussions of global problems like climate change. Many groups have recognized the need to address climate change as a global and interepistemological community, and for this to happen that community needs spaces in which it can come together to discuss and act upon climate change (Morton 2010; Olausson 2009). Yet, the move toward smaller scale spaces may also transform and constrain the emergence of particular subjectivities and particular modes of politics. Specifically, then, my research will investigate the ways in which differently scaled digital spaces are relatively smooth (i.e., highlight potentiality and the heterogeneity of relationships emerging within those spaces) or striated (i.e., highlight homogeneity and to minimize the potential for reconfiguring the relationships which have emerged in those spaces).

Inuit negotiations over environmentalism in the Arctic offer an ideal case study for this exploration, since a tension exists between a recognized need to engage international publics on climate change issues and a bias toward localized, personalized, and private interactions within the traditional Inuit knowledge system. On the one hand the Inuit have recently recognized the need to begin seeking greater visibility in scientific, political, and digital spaces in order to bring their ideas and voices forward to a broader international public (Alexander 2011; Christensen 2003; Dawson 2013; Dessler and Parson 2010; Doyle 2009; Heininen 2013; Huntington et al. 2011; Johnson 2010; Martello 2008; Meier et al. 2006; Murphy 2011; Pasch 2008, 2010; Robards and Lovecraft 2010; Tremblay et al. 2006; Watt-Cloutier 2005, 2014). On the other hand the Inuit's traditional knowledge system stresses that knowledge is often sacred and should therefore not be shared with just anyone. It also stipulates that Inuit should not pass along knowledge that they have not experienced themselves, nor fully trust knowledge which they receive from individuals that they do not personally know (Laugrand and Oosten 2010). These tenets of the Inuit knowledge system, or Inuit *Qaujimajatuqangit*, are not conducive to participation in the most public and anonymous spaces of the Internet. Furthermore, the spirituality of Inuit environmentalism is something which has been traditionally excluded from

many Western characterizations of what is permissibly expressed in politicized, public spaces (e.g. Habermas 1991). This tension therefore provides an ideal opportunity for exploring the connection between political possibilities and digital scales.

My dissertation will therefore explore the smoothness and striation of digital spaces within the context of constructing environmental relationships with the Arctic, and more specifically with polar bears. I am still working out the details of a methodological approach for exploring these questions, but remain dedicated to methodological innovation incorporating insights both from Deleuze's work (Li 2007; O'Halloran 2013; Ramsey 2011; Semetsky 2005; Stivale 1980) and the digital humanities (Burdick et al. 2012; Drucker 2009; Ramsey 2011; Yu et al. 2011). I also feel that it is important that the final methodology be participatory and that the research has an applied dimension to it. I do know that I would like to perform analysis within a range of sites, including Web pages, social media sites, and Inuit communities. Across these different sites I am interested in using a variation of critical discourse analysis, which explores how various flows, actors, and events are assembled to produce particular orientations toward and relationships with polar bears (Reisigl and Wodak 2009; Wodak and Meyer 2009). I am also interested in interviewing both Inuit community members, Inuit elders, and Inuit involved in environmental politics. From examination of web pages alone I cannot necessarily determine social and cultural processes which produce certain absences in content, nor can I access private online content. This can only be done through interviews. These interviews will focus on the role of technologies in Inuit life, strategies used to communicate Inuit perspectives online, Inuit knowledge systems and the sharing of traditional knowledge, and Inuit views of environmentalism and polar bears. The purpose of this process will be to identify what types of environmentalist orientations are produced at different digital scales, what actors and processes are assembled and excluded to produce these orientations, and how these assemblages interact with one another.

Applicable Subfields

Based on the interests described above, I have identified three areas of knowledge within the discipline of geography in which I will situate my own work. This project will be strongly situated within ongoing explorations of the social and political implications of emerging digital technologies; theorizations of relational ecologies; and political geographic research into publicity, postcoloniality, and indigeneity.

Emerging Digital Geographies

With the emergence of social media, mobile devices, and other interactive Web applications, researchers across many disciplines have begun critical examining the social and political implications of a wide set of digital technologies. I am most familiar with research into the geospatial Web (geoweb) by geographers, but also have some familiarity with work by political communication researchers, Internet Studies researchers, and digital humanists. Three areas of research will be important for my own research: literature describing technologies and individual empowerment, literature describing the emergence of digital public spheres, and literature describing the normalization of online identities.

The empowerment of individuals through technologies has remained an enduring topic of interest throughout the history of Internet Studies (Ess and Dutton 2013). I am most interested in research which describes how technologies provide a space for expressing traditionally marginalized political and scientific views. Authors across several disciplines have argued that new media are particularly effective at allowing self-expression because they are cheap, widely available, relatively easy to use, and highly customizable (Benkler 2006; Bennett 1998, 2008; Bimber 2007; Castells 2004; Crampton 2009a; Elwood 2010; Esarey 2011; Kelley 2013; Loader and Mercea 2011; Poell et al. 2014; Warf and Sui 2010). Bennett (2008) argues that the increased ability of individuals to manage their self-identities online is forcing a broad shift in societies toward a more personalized form of politics. Individuals no longer have to rely on governmental agencies or bureaucratic organizations to initiate political action, but can do so on their own in a manner that highlights their own beliefs and identity (Agarwhal et al. 2012; Bennett and Segerber 2013; Bennett et al. 2013). At a micropolitical level these conceptualizations of identity politics closely mirror Foucault's (1988) notion of subjectivation, or fashioning of the self. These theorizations of the digital help me to understand how the accessibility and customizability of emerging technologies provide the Inuit with the opportunity to describe their own political views and engage in their own identity politics online.

These same characteristics of digital technologies allow them to highlight the socially constructed nature of scientific enquiry, and to provide a space for the expression of diverse epistemologies. For me, some engagement with Critical GIS research remains relevant for understanding how technologies might expand the epistemological bounds of scientific endeavors. Feminist and science and technology studies (STS) engagements offer me theories for identifying how technologies and epistemologies interact to facilitate the construction of particular forms of knowledge (Gahegan and Pike 2006; McLafferty 2005; Sieber 2004). Additionally, literature on qualitative GIS (Cope and Elwood 2009; Elwood 2009; Jung and Elwood 2010; Knigge and Cope 2006), the inclusion of emotion in GIS (Crampton 2009b; Kwan 2002, 2007; Young and Gilmore 2013), and the production of culturally-sensitive mapping platforms (Ahlqvist 2004; Chrisman 2005; Hirt 2012; Palmer 2012; Pyne and Taylor 2012; Reyes and Martinez 2005; Sieber 2004) provide evidence of the potential for adapting technologies to new epistemological contexts. Studies of digitally-mediated citizen science projects have extended these theorizations to cyberspace (e.g. Audubon 2012; Goodchild 2007; Goodchild and Glennon 2010; Palen and Liu 2007; Sparke 2011, 2012; Young et al. 2013). I am particularly interested in how these projects demonstrate the ability of technologies to facilitate dialogue between Western scientists and other individuals. While many researchers argue that non-scientific epistemologies remain subordinate within many citizen science frameworks (e.g. van Asseldonk 2012), others argue that they can highlight alternative ontologies and hybrid epistemologies to broad audiences (e.g. Warf and Sui 2010; Wilson 2009, 2012). This literature provides resources for examining the (in)compatibilities between digital technologies and the expression of Inuit environmental knowledge. What aspects of different digital spaces facilitate expressions of Inuit knowledge, and what aspects constrain that expression?

Digital technologies are not only politically powerful because they allow for individual expression, but also because they allow these expressions to emerge within digital public spheres (Ess and Dutton 2013). Several bodies of literature are useful for understanding the digital mechanisms and practices which allow political and scientific views to be disseminated to wider

audiences, which is vital for my analysis of digital scales. First, network theory describes how the structures of interconnection produced by digital networks produces a small-world effect which allows information or ideas to travel quickly and widely within those networks to reach a broad public (Anderson 2006; Barabasi and Bonabeau 2003; Bennett and Segerber 2013; Buchanan 2002; Lotan et al. 2011). Research into linking (e.g. De Maeyer 2013), interactivity (e.g. Garris et al. 2011; Kang et al. 2011; Sundar et al. 2003; Xenos 2011), and virality, with which I am not familiar, also describe the mechanisms and processes which spread ideas to broad public spheres, confine ideas to 'cyberbalkanized' smaller publics, or leave ideas unconnected. Second, literature on framing describes the discursive practices adopted by individuals in order to connect with others and mobilize them toward collaborative goals (Anderson 2009; Carvalho 2007; Chong and Druckman 2007; Druckman 2004; Druckman and Nelson 2003; Elwood and Leszczynski 2013; Elwood and Mitchell 2013; Entman 1993; Huang 2009; Kruikemeier et al. 2013; Lin 2013; Nisbet 2009; Olausson 2009; Tewksbury and Scheufele 2007; Zhong and Moy 2007). This literature can help me to examine whether Inuit frame their arguments differently depending on their intended audience, and to better understand the political implications of these different frames. Third, literature on agenda setting from political communication can help me to understand the process by which knowledge is transferred from digital discussions to policy environments (McCombs 1992; McCombs et al. 1997; Xenos and Moy 2007). This literature can help me to understand how Inuit environmental claims might be transferred from digital spaces to the global, material spaces in which climate change and environmental policy is enacted. Taken together, these literatures allow me to ask what mechanisms and practices allow the Inuit to 'scale up' their environmental claims through the use of digital applications.

These mechanisms and practices may themselves contain biases. In order to understand these biases, geographic literature on the normalizing tendencies of digital technologies will be useful. Geographers have described how a set of social and material inequalities (Crampton 2003; Crutcher and Zook 2009; Elwood 2010; Elwood et al. 2013; Forlano 2009; Gilbert 2010; Haklay 2013; Halford and Savage 2010; Min 2010), political-economic and legal realities (Boulton 2010; Dalton 2013; Elwood and Leszczynski 2011; Leszczynski 2012, 2014), digital discourses and practices (Burke and Goodman 2012; Goodman and Rowe 2014; Shaikjee and Milani 2013; Stephens 2013; Wilson 2009, 2011, 2012), and algorithmic processes (Bittner et al. 2013; Crampton et al. 2013; Dodge and Kitchin 2005, 2007; Graham and Zook 2013; Graham et al. 2013; Niederer and van Dijck 2010; Poell et al. 2014) work together to produce highly normalized digital spaces. In many cases this research draws upon Foucault's (1965, 1991, 1995) work on subjectification, governmentality, and surveillance. Nor does this normalization affect only digital spaces, since these digital spaces often also mediate the ways in which individuals interact with the physical spaces around them (Graham et al. 2013). All of this work is potentially helpful for me in my own investigations of how the construction and expression of different environmentalist subjectivities might be constrained within digital spaces. I would want to apply the theoretical lessons of this literature to an examination of the precise mechanisms and practices (identified in the preceding paragraphs) used by Inuit to bring their environmentalist knowledge into digital spaces of varying scales.

Relational Ecologies

The preceding section focuses on how digital mechanisms and practices facilitate political expression. In many instances, though, environmental worldviews first emerge outside of digital spaces and contain their own characteristics which influence the ways in which they interact once they become digital. While the study of environmental subjectivities and worldviews is a fairly new area for me, I believe that important research areas include STS, philosophies of relational ecologies, anthropological studies of traditional ecological knowledge (TEK), and political ecology. This literature can help me to understand the emergence of environmental worldviews and their interaction with other worldviews.

STS and philosophies of relational ecologies offer a description of the historical emergence of Western environmental worldviews. STS offers insights into the emergence of positivistic science as an assemblage of political, economic, normative, and social actors and processes, despite claims to be objective and value-free (Berkes 2012; Fuller 2005; Latour 2005). Relational approaches build on these analyses to offer a broader description of the emergence of Western relationships between individuals and the world. These philosophies generally maintain an ontological commitment to a world grounded in and composed of many disparate but highly interconnected material flows, intensities, and processes (Braun 2006; DeLanda 1999; Kohn 2013). Over time complex systems emerge out of the relationships between these different elements. Unfortunately, though, these systems may relate to other systems in destructive manners. For instance, current environmental policies in the United States are assembled out of a range of positivistic insights, techno-managerial logics, political processes, and economic motives which often do not attend to the fragile and interconnected realities of the ecological systems they are meant to manage (Braun 2006; Clark 2011; Patton 2005; Protevi 2005; Srineck 2007). These philosophies can help me to trace out how environmentalist orientations are assembled and emerge online. Literature describing current environmental policy, and positivist and post-positivist sciences will likely also be helpful in this descriptive endeavor (Berkes 2012; Nabhan 1995; Rosamarino 2002; Ruhl 2004; Tarlock 1994).

These same relational ecological approaches also describe how orientations toward the world territorialize political spaces. Once actualized the emergence of a configuration of relationships between different flows can impede the emergence of other assemblages (Braun 2006; Lorimer 2010). Deleuze refers to this act of consolidating and constraining potential futures as a striation or territorialization of space (Marcussen 2008). This theorization raises the question of how Western worldviews interact with Inuit worldviews, and whether either has territorialized particular digital spaces. Unfortunately, though, many philosophies of relational ecologies have primarily focused on Western worldviews and sciences, and have not done a good job of describing the emergence of indigenous orientations toward the world. Inuit perspectives in particular are absent. For this I need to turn to anthropological studies of traditional ecological knowledge (TEK), as well as political ecology.

Much of the current academic literature on Inuit environmentalist perspectives comes from the field of anthropology, and specifically from ethnoscience and human ecology (Berkes 2012). These subdisciplines themselves gave rise to the study of traditional ecological knowledge (TEK), which Berkes (2012) defines as "*a cumulative body of knowledge, practice, and belief, evolving by adaptive processes and handed down through generations by cultural transmission, about the relationship of living beings (including humans) with one another and with their*

environment." (7) Studies into TEK can produce positive engagements between Western academics and indigenous communities and can provide a wealth of knowledge about indigenous perspectives. However, Berkes (2012) worries that studies of TEK rarely examine the wider social and political systems in which indigenous knowledge is situated. He believes that the field of political ecology may help TEK scholars to better include relations of power in their analyses. I believe that a political ecological approach could be quite useful in connecting TEK to the many social and political processes in which they are implicated, so that indigenous worldviews can be better understood as complex assemblages using the relational ecological framework described above (Paulson et al. 2003; Walker 2005). Combined, these different theoretical perspectives can help me analyze how different ecological worldviews emerge and interact online, so that I might better understand how different digital spaces and scales are territorialized.

Political and Postcolonial Geographies

The emergence of worldviews across different online scales is deeply political. While the digital and ecological theories cited above incorporate a great deal of political theory themselves, they should be supplemented in three areas: by theories of public space, theories of postcoloniality, and theories of indigeneity.

I believe that theories of public space may be useful for conceptualizing the scale of different websites and for understanding the effects of these scales on political action. First, theoretical conceptualizations of private and public space can help me to understand what aspects of a website allow make it more or less public (Arendt 1998; Brown 1999; Cresswell 1996; D'Arcus 2005; Freie 1998; Habermas 1991; Isin 2000, 2002; Jones and Rafaeli 2000a, 2000b; Jones et al. 2002; Mitchell 2005; Smith and Low 2006). In particular I like Kohn's (2004) interpretation of public space as a cluster concept which includes three different factors: ownership, accessibility, and intersubjectivity. This interpretation allows me to identify multiple aspects of the architecture of a website which might condition the ways in which interaction takes place within that website. Second, I find critiques of traditional conceptualizations of public space to be useful in that they allow me to understand the ways in which the construction of a website as public works to normalize the types of action possible within that website (Fraser 1990; Mouffe 1993, 2005; Staeheli 1996; Staeheli and Thompson 1997; Young 1990). These theories can help me to explore incompatibilities between particular types of online spaces and Inuit ways of acting and knowing, and to explore the political implications of these incompatibilities.

Despite problematizing traditional Western conceptions of public space, few of the authors above take into account the specific postcolonial context of the Inuit (Chaturvedi 2000; Laugrand and Oosten 2010; Penikett and Goldenberg 2013).A turn to postcolonial theory can be useful in amending theories of public space to better account for this context. In particular Spivak's (1988, 1992, 1999, 2008; see also Landry et al. 1993; Morton 2007) work on subalterneity is useful in understanding the ways in which certain actors and subjectivities are rendered invisible by dominant power structures, and how their acts of resistance are also constantly assimilated into those structures. Spivak defines the subaltern as a "space that is cut off from the lines of mobility in a colonized country." (Landry et al. 1993, 288) The subaltern is therefore a relation or position, rather than an ontological identity (Morton 2007). Spivak (1988) ultimately argues that

whenever the subaltern attempts to speak, it is always translated and heard through a discourse that actually hides the voices of the subaltern. The identities of those within the subaltern are therefore erased to fit within dominate historical narratives. Notions of subalterneity may help me to examine the ways in which subaltern notions of environmentalism are translated and coopted through digital technologies before reaching a broader global audience. This examination may be further supplemented by other postcolonial discussions of scale (Bhabha 1994a, 1994b; Clayton 2000; England and Ward 2007; Gidwani 2006; Hall 1991; Jazeel 2011; Peck and Tickell 2002; Phillips 2011; Roy 2011; Sharp 2011; Sparke 2013; Young 2001).

While postcolonial theory can provide very useful analytical frames for understanding power relations involved in negotiations over the future of the Arctic as a global region, they cannot be unproblematically applied to the Inuit. Relatively fewer postcolonial theorists have written about the Canadian case or about indigenous peoples, compared to the number of authors who have written about Asia (Clayton 2000; Byrd and Rothberg 2011). Many postcolonial theorists focus explicitly on how to adjust to the new imperialism of globalization, while many indigenous peoples, including the Inuit, continue to face 'old' problems related to colonialism and sovereignty (Byrd and Rothberg 2012; Nuttall 2000). Indigenous scholars may therefore offer insights into the particular ways in which treaties and land rights claims work to assimilate indigenous peoples into colonial structures (e.g. Alfred and Corntassel 2005). However, even many of these scholars look explicitly at First Nations, which is problematic given that Inuit are not a First Nations people. I therefore need to more thoroughly explore Inuit scholarship on political progress and assimilation.

Digital Experimentation in Form

Given my engagement with literature on the geoweb and digital studies, I have become increasingly interested in attempts to make academia more open and experimental through the use of new digital technologies and practices. In particular I have found inspiration in Kathleen Fitzpatrick's (2009) argument that academia should replace anonymous peer review with the publication of all work in a way that encourages transformative and open discussions with broad academic audiences. Such an approach would encourage peer-to-peer reviews using digital scholarly networks; would emphasize research as an ongoing process rather than a final product; and stress the collaborative, rather than individual, aspects of authorship. Based on this model, I would like to use a blogging platform to open my preliminary exam up to peer-to-peer review. After determining the date of my preliminary examination, I will send an invitation to a wider audience to visit my blog to read my preliminary exam statement and later to participate in the review of my exam answers. During the three days of my exam, I will attempt to answer approximately one exam question per day. As I finish my answer to each question, I propose that I immediately send that answer to my adviser via email. I will then publish that answer to the blog 24 hours later. This delay will ensure that my committee receives a copy of each answer prior to any contributions by outside sources, thereby guaranteeing that the process is legitimate by traditional standards. However, by publishing an answer a day over a three day period, I will allow any participating individuals the ability to follow along with my exam almost in real time. Hopefully this will increase interest in participation amongst invited individuals. Finally, I will bring comments from the blog to the oral portion of my exam, with the hopes that it will inspire additional, productive conversations between my committee and me. At that time I would also

like to get my committee's feedback on their perceptions of this altered process, and to report our cumulative feedback to the broader community of participants through an additional blog post.

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