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Anthropocene Anthropology: Reconceptualizing Contemporary Global Change

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Anthropocene Anthropology: Reconceptualizing Contemporary Global Change

The Anthropocene is the scientific label given by Earth scientists to the current epoch of unprecedented anthropogenic planetary change. The Anthropocene is also a political label designed to call attention to this change and evolving notions of agency and responsibility in contemporary life. This article critically explores what I call “the Anthropocene idea” and the condition of “Anthropocene spaces” through selected anthropological writing about recent planetary change and through current events in a specific “vulnerable” location. By considering recent events in The Bahamas, I arrive at an orientation that I call simply Anthropocene anthropology. Rather than advocating for the creation of a new subfield of research, this mode of engagement offers an open-ended conceptual framework for the critical examination of the Anthropocene idea as it influences the symbolic and material realities of contemporary Anthropocene spaces.

Introduction

This article as a critical exploration of a concept that is poised to breach the walls of academia and become an international buzzword: the Anthropocene. The term has been proposed as a designation for a new planetary epoch, encompassing the present and recent past, in which human processes drive all major Earth systems. The Anthropocene idea has spread from the domain of the Earth sciences into the realm of the social sciences, sparking conversations about the stakes and form of humanistic research. This article can be read as one possible approach to the anthropological engagement of the Anthropocene idea. I call this approach Anthropocene anthropology.

My goal in presenting this article is to orient analysis around the Anthropocene as a concept that reflects the recent creation of a contemporary problem space.¹ Ideas about global environmental change influence thought and action in a number of arenas, and I hope to see anthropologists tackle the breadth of this planetary imagination animating emergent cosmologies of anthropos, bios, and geo. New frameworks are needed to keep pace with authoritative arguments about collectivity and responsibility in the face of a changing world. These arguments attempt to define the present (and therefore the future and the past) for ever increasing numbers of people (and nonhuman beings). Such definitions enable new possibilities and processes while foreclosing others. By engaging the discourses and processes enabled by the Anthropocene idea as they help to transform practices of life and work, knowledge produced about place and space, infrastructural aesthetics, and the evolving language available for subjectivation, we also engage the Anthropocene on material and symbolic levels (Beirsack 2006).

The greater argument underpinning this article is that even in an era of rapid change we still need critical analysis of the characterization of change and responses to that change. I conceptualize my own work as an anthropological awareness “of” the Anthropocene (understanding the idea as a historically contingent manifestation of social, political, and material processes), as opposed to work that is un-reflexively “in” the Anthropocene (taking the framing of the problem and responses to it for granted). We need anthropological analysis that can examine the characterizations of life and change that are being made within authoritative fields of power and that can follow these ideas as they affect institutional policies with real consequences for the everyday lives of the people we work with around the world. We need concepts that can both speak to and evolve with emergent trends. At the risk of being chastised for not acknowledging the stakes of anthropogenic change, I want to make sure that we continue

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to maintain a space for the untimely questioning of the present (Rabinow 2008) in a time when “the obvious” is solidifying rapidly around us (Raffles 2002). This orientation is a necessary compliment to all the work we anthropologists do as partners in the fight against unjust and deadly global change. The work I advocate here is a part of that fight.

This article is divided into five further sections. First, I provide a brief ethnographic introduction to one location with renewed relevance in light of the Anthropocene idea: the islands of The Bahamas. Second, I explain the Anthropocene in more depth, introducing the significance of the idea for both the sciences and humanities. Third, I explore different anthropological engagements with global environmental change, providing a brief discussion of select existing work. Fourth, I introduce a platform for an Anthropocene anthropology that might be applicable in “Anthropocene spaces” like The Bahamas. I conclude with an appeal for continued open-ended analysis of contemporary life in any locale said to be marked by anthropogenic planetary change.ⁱⁱ

While this piece is not an in-depth ethnographic exploration of The Bahamas, I have written about contemporary life in these islands elsewhere (Moore 2010a, 2010b, 2012, Forthcoming). In the following section, I use brief examples of current events in that location to introduce some of the ways in which experiences of and ideas about global change have come to influence the narratives, relations, and spatializations of human and nonhuman life. These Bahamian examples ground the following sections on current anthropological engagements with global change and the Anthropocene.

The Bahamas and Global Change

The Bahamas consists of over 700 islands and cays— an archipelago— in the western Atlantic stretching between eastern Cuba and southern Florida. The nation is a designated small island state under the Barbados Program of Action with a small, majority Afro-Caribbean population of approximately 320,000 and an economic dependency on the international tourism industry and foreign investment. The Bahamas is also increasingly described as home to the third largest reef system in the world, a large marine carbon sink, a number of endemic species, and several distinct island ecologies (The Islands of The Bahamas 2013a & 2013b, Westphal et al. 2010). The nation has been internationally defined by its marine relations from sponge trading and boat building in British colonial times to coastal development and beach vacationing today. Once known as the “isles of June”, the archipelago is now often characterized as the “ephemeral islands” in an era of planetary crisis (Bell 1934, Campbell 1978).

I have traveled to The Bahamas for over a decade, exploring what it means to visit, study, and live in the ephemeral islands. The tourist industry of The Bahamas has been extremely successful in selling a brand of “tropicalized” island ecology, from lush vegetation and palm fringed beaches to azure waters and vibrant marinescapes (Thompson 2006), but the actual experience of these island ecologies is something else entirely. Spindly pine forests in the northern islands give way to dense coppice woodlands in the central islands and then to arid bush, bent by the winds, in the southern islands. The bedrock of the Bahama Banks is composed of porous limestone, an accretion of calcareous sediment deposited over millennia, and rain water (the only ‘natural’ source of fresh water) collects in fragile aquifers beneath the ground. Beaches range from white, powdery sand that swallows footprints to sand that takes on a delicate pink blush resulting from the build up of tiny invertebrate shells. Other shores are rough and craggy, cutting like knives into bare feet.

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I have learned from fishermen and ecologists that in the dense mangrove marls one is likely to come upon well-used middens (mounds of conch shells discarded by nearby fishers that are generations old at the bottom and freshly killed at the top) while navigating channels in a small boat. I have observed the way that buildings weather on the islands, responding to the sea air, heavy rains and smoldering sun, revealing layers of pastel paint or the texture of brain coral mixed into the stuff of the building stones. I have stopped being surprised when stairways leading down sand dunes to the beach abruptly end in mid air as the sands recede into the ocean after seasons of wave action and rising tides. And in Nassau, I fall asleep too often to the acrid smell of the perpetually burning city landfill mingled with the scent of local thyme leftover from dinner.

What strikes me is that the islands are intensely alive, animated by anthropogenic and biogeochemical processes both in and out of the water, and this life is a central part of the social worlds of The Bahamas. The examples are never ending: human waste and run off lead to algal blooms offshore that affect the course of coral growth, inspiring novel restoration plans; hot pink shards of conch shell adorn roundabouts that direct traffic around the latest mega-resort; underwater, whip-like crawfish antennae wave from under artificial habitats laid by fishers; clouds of flying termites migrate through window screens during heavy downpours; tiny anole lizards hunt for insects in the dark corners of the house.

Bahamian ecologies shape and are shaped by those who live and work in the Bahamas and by multiple forms of anthropogenic change. These shifting ecologies are a large part of the materiality of Bahamian living, participating in the postcolonial contingencies of everyday life. I have experienced how the question of anthropogenic change affects the lives of Bahamians as well as the activities of regional environmental management communities along with national conversations around tourism and development. Multiple problems linked to the Anthropocene idea in The Bahamas include physical vulnerability to climate change, marine biodiversity loss, coastal erosion, fossil fuel dependency, and coral reef disappearance. These “Anthropocene problems” are viscerally experienced by Bahamian island residents and increasingly called upon by the natural sciences and other industries to justify the speculative reorientation of local and regional geopolitics, interspecies relations, land and marine-scapes, field research, and travel markets.

In terms of geopolitical positioning, postcolonial arguments about regional distinction (in which The Bahamas is positioned by members of its government as unique in the Caribbean in terms of per capita wealth and sophistication in the tourism industry {Cleare 2007}) now sit side by side with arguments about impending anthropogenic disaster. The Bahamas, as a low-lying archipelagic nation, is imbricated in multi-scaled global change predictions that influence the creation of alliances centered around the small island (such as the Alliance of Small Island States {AOSIS} at the United Nations, of which The Bahamas is a member), and the small island is now institutionally defined by social, economic, and environmental fragility in the face of anthropogenic planetary change.ⁱⁱⁱ Sea level rise as a result of global warming is predicted to be a grave national threat within the very near future (Hamilton 2003, London 2004) sparking one Bahamian speaker at a recent conference at the national College to state with a strong sense of irony, “many of us will be environmental refugees” that have to “head to the hills of Haiti” and to ask, “forty years after independence, will we have another forty years going forward?”^{iv} These predictions are also debated privately after storms remove sections of coastline, flooding homes and roadways (a palpable inconvenience in terms of connectivity and cost), leading to

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conversational speculation over pub beers in Nassau about the sensibility of investing in coastal property or infrastructure.

Simultaneously, justifications for the country's fisheries sector, following themes in international marine conservation, have switched from exhortations for growth and expansion to precautionary tales of declining numbers of commercial species and poor reef health as just some of the detrimental impacts of overfishing in recent decades (Moore 2012, Chaplin 2006, Clark et al. 2005, Buchan 2000, Chiappone et al. 2000). One of the ways this framing has manifested in The Bahamas has been through government partnership with local and international environmental NGOs to obtain Marine Stewardship Council (MSC) certification for the harvest of Spiny Lobster, the country's main fisheries export. Fishers are worried that without product greening via international MSC certification, important lobster markets in the EU and US will soon be closed to Bahamian exports as consumers demand a sustainable stamp for their imported seafood (Smith 2011, World Wildlife Fund 2013). One Bahamian woman with a family history of fishing in the island of Eleuthera explained to me that lobster used to be so abundant that their bodies were used as pineapple fertilizer, but the value of these species drastically changed over time as the Bahamian pineapple market dried up and lobster became a global luxury food item, making lobster a million dollar fishery. MSC certification was now necessary she said, "so we can continue to sell to Walmart," registering the irony that the promotion of sustainable fisheries is increasingly central to international commodity chains linking large-scale commercial fishing and the mass consumption of marine products.

Similarly, the recognition of anthropogenic biodiversity loss has led to re-imaginings of space in the archipelago. The number of existing and proposed marine protected areas (MPAs), in The Bahamas dramatically increased in the last decade due to the country's commitment to international conservation plans. For example, The Bahamas has committed to the Nature Conservancy's Caribbean Challenge Initiative (CCI) to enclose 20% of its marine and coastal space within protected areas by 2020. The CCI justifies its regional plans with the argument that, "the Caribbean contains some of the world's richest marine biodiversity.... 10% of the world's coral reefs, 1,400 species of fish and marine mammals and mile after mile of mangrove forests.... Alarming, the Caribbean is increasingly threatened by development, pollution, overfishing and climate change" (The Nature Conservancy 2013). However, these NGO arguments are complicated by some Bahamian fishers, in the Berry Islands for example, who fear that there will soon be more restricted space than open space for local fishing, "more red dots on the map," and that MPA restrictions exacerbate ongoing transitions of land and reef from the generational use of islanders descended from colonial slave populations to real estate leased to foreign development companies (Stoffle 2013).

Finally, it is important to realize that engagement with global change in The Bahamas includes actions within industries and markets outside of conservation. In a 2013 speech given in observation of The Bahamas' 40th Anniversary of Independence, the Prime Minister reminded citizens that "tourism is the lifeline to The Bahamas." Marketing The Bahamas has always been an effort in place-making, and the islands of the country are considered by its Ministry of Tourism to be "tourist products" in competition for global travelers (Cleare 2007, Jefferson & Lickorish 1991, Moore Forthcoming). I have witnessed the rise of the "sustainable tourism destination" as an emergent product appearing alongside the mainstay postcolonial paradise model of tourism (Strachan 2002). In addition to calls for regional "carbon neutral destinations" (Moore 2010), some developers in The Bahamas are designing, building, and marketing self-sufficient travel destinations using island-based principles to keep resource use to a minimum

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(Schooner Bay Ventures Limited 2008). The tourist product has long influenced the basic life ways of the islands in terms of building codes, community social relations, racialized spatialities, and household aesthetics, so it is no surprise that plans for sustainable tourism spill over into local thoughts about daily life. Yet for some younger Bahamians working in the island of Abaco and thinking about starting families, sustainability also means trying to maintain a “Bahamian style of community”: living next to your neighbor in dense settlements and looking out for one another as opposed to the prevailing model of private, segregated enclave development. For many Bahamians, knowledge about sustainable living in the face of global environmental change will always be linked to travel markets, experienced as debates over lifestyle and the quotidian details of community life.

These examples represent some of the ways in which the physical spaces and socioecological relations of the country continue to be transnationally framed as fragile, vulnerable, and in need of redesign within the networks of knowledge and governance concerning global change. These are simultaneously some of the ways the experience of global change and its rhetorics come to affect the everyday lives of those who reside in the islands. Bureaucratic discourse is framed around events in the archipelago as exemplary of global concerns, but the results are felt close to home. These examples are neither exhaustive nor unique to The Bahamas. However, they represent the kinds of complex emergent conjunctures that have coalesced around the Anthropocene idea and the experience of The Bahamas as an Anthropocene space.

These examples also raise a number of interrelated questions that require further anthropological engagement as ethnographic problems: How do we characterize this process of political creation that leads to geopolitical alliance, rearticulated subjectivities for island residents, and transformations of the value of landscape and infrastructure? What forms of reason hold projects like MSC and the CCI together and how is this Anthropocene logic materialized in social relations, relations with other life forms, and experiences of space and place? How do we understand human life in the context of lively anthropogenic ecologies informed by an awareness of global change? What kinds of stories do experts and lay people tell in order to locate themselves in global change narratives and enroll others in planning for change? Who designs the mental and material models that inform the experience of life in an Anthropocene space?

In order to begin to approach these questions— perhaps better characterized as an anthropological puzzle for the Anthropocene— I have compiled a select collection of recent work and useful concepts that I think move us closer to an Anthropocene anthropology. However, before I delve into those compilations I must further explain the Anthropocene idea.

The Anthropocene Idea

Despite the fact that there have been a number of international conferences and even a journal dedicated to the subject, the term, “Anthropocene,” is of very recent origin. The idea was formally introduced fifteen years ago to the scientific community by the atmospheric chemist Paul Crutzen and the biologist Eugene Stoermer in the back pages of the International Geosphere-Biosphere Program’s (IGBP) *Global Change Newsletter* (Crutzen & Stoermer 2000). Since then it has been popularized by Crutzen and others who have campaigned for the term to label a new geological epoch encompassing the Earth’s present, recent past, and indefinite future, signifying the influence of the human population on the stratigraphy of the planet as well as on

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Earth's primary biogeophysical systems (Crutzen 2002; Crutzen & Steffan 2003, Crutzen & Schwagerl 2011).

The campaigning has paid off— though not without controversy. The International Union of Geological Sciences' International Commission on Stratigraphy has a designated Anthropocene Working Group who must determine:

1) if the Anthropocene, as a geological time unit, makes stratigraphic sense (can we actually see a record of human influence in the sedimentary layers of the planet now and will we still see it many many years from now?);

2) if it is a useful category for Earth scientists as well as other disciplines and if this conceptual utility should also be considered in its designation (could the term's rhetorical use be as important as its scientific use?);

3) when its beginning should be placed in the historical record (at the evolution of *Homo sapiens*, the advent of agriculture, the industrial revolution, post World War II, or at some point in the future?)^v;

4) how it should be formally designated (as a 'golden spike' or by numerical date?);

5) if it is best considered an age, epoch, period, era, or eon (adapted from Waters & Zalasiewicz 2013).^{vi}

Prior to the advent of the Anthropocene idea, geologists generally agreed that the planet had been residing in the post-glacial Holocene Epoch for approximately 11,000 years. Formal adoption of the Anthropocene would replace the Holocene as the category defining the Earth's present geological condition. The International Geological Congress has delayed ruling on the formal adoption of the Anthropocene until at least 2016 while scientists conduct further analyses (Waters & Zalasiewicz 2013).^{vii}

To heighten the point about anthropogenesis, scientific proponents of the Anthropocene idea claim that as a result of population growth and resource use, humans are now a geologic force in and of themselves, driving planetary change at an unprecedented rate. Beyond climate change and biodiversity loss (leading to what some have called the Sixth Great Extinction {Kolbert 2014}), scientists point out that domesticated animals are now the majority of living vertebrates, and only 5% of all vertebrates are "wild" by global weight. Some stress that human activities have even changed the shape of the tectonic plates. Supporters of the idea therefore believe that the overarching context for all life on Earth is now the Anthropocene. In other words, the controversial event is this: humans have been so influential so as to necessitate a change of epochal categorization in the life history of the planet. For many Earth scientists, this categorization matters because at stake is the morality of contemporary environmentalism and the hope for real political recognition of planetary change and uncertainty (Osborne, Traer & Chang 2013).

The Anthropocene idea has further significance for the social sciences and humanities, inspiring arguments across several fields about the shifting meaning of multiple forms of life and Earth processes. For the postcolonial historian Chakrabarty (2009, 2012, 2013), the Anthropocene idea itself (specifically climate change) represents a challenge to the primacy of the human in that the consequences of human activity can no longer be explained in terms of purely social theories of difference or political economy alone. He now sees the human as irrefutably bound up in the natural world through the collective affects of the species as a geological force. The human is therefore a tense figure within the narratives of the Anthropocene, doubly human and natural, and Chakrabarty argues that postcolonial historians

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and other humanists can no longer focus on the merely human aspects of human lives, and must instead accept that humanity is not “free” from the vital realities of planetary existence.

In a distinct but sympathetic argument, the science studies scholar Latour makes the ironies of the Anthropocene idea explicit. He writes, “what makes the Anthropocene a clearly detectable golden spike way beyond the boundary of stratigraphy is that it is the most decisive philosophical, religious, anthropological and, as we shall see, political concept yet produced as an alternative to the very notions of ‘Modern’ and ‘modernity’ ” (Latour 2013, p. 77). He sees the Anthropocene as a confession of sorts to the fallacy that various forms of humanity and Earth’s biogeochemical processes can each be examined in vacuums that do not contain the other.

The geographer Lorimer (2012) also speculates that the idea of the Anthropocene represents the nail in the coffin of the modern dichotomy between nature and culture that has been so central for Western environmentalism (but see also Crist 2013). He contends that the idea of “pure Nature” has not gone quietly from the sciences, instead leaving a trail of confusion in its wake, what Robbins and Moore have labeled “ecological anxiety disorder” (2013). Lorimer contends that there are a multiplicity of natures at play that stem from the variety of political ecological scenarios in the world, and that these scenarios involve integrations of the human and nonhuman that cannot be uniformly described in an *a priori* fashion and that require radically new research approaches (for example see Holm et al. 2013).

When it comes to taking up the provocations of the Anthropocene idea in scholarly depictions of the world, Irvine and Gorji note that the turn towards “Writing Culture in the Anthropocene” is part of a broader move in the academy (2013, following Kirksey & Helmreich 2010). The environmental historian Cronon is one well-known early exemplar of this Anthropocene turn in the humanities. His work, exemplified in publications like *Nature’s Metropolis* (1992), explores historical socioecological relationships shaped by market institutions in the American Midwest using a methodological blend of ecological and economic history. He has argued that it would have been problematic to reinforce the boundary between human and nonhuman in his investigation of the growth of Chicago because neither city nor country can be understood as solely natural or unnatural.

In a more politically explicit vein, the geographer Sayre argues that, “the key points to draw from the Anthropocene have less to do with when it began than how it affects the underlying assumptions that scientists make about understanding the world” and how these assumptions affect policy (2012, p. 63). He cautions that declaring the age of anthropogenesis should not lead to an assumption of a transhistoric “anthropos” with no attention to the uneven distribution of Anthropocene responsibilities and impacts. Therefore, the Anthropocene necessitates questions of “socioenvironmental justice” (p. 67). Sayre’s work and my own are aligned in that he recognizes that the Anthropocene cannot be reduced to climate change alone and that the idea presents a number of opportunities for anthropological participation. He states, “the challenge is to rebuild our conceptual scaffolding to reflect these novel realities” (p. 63).

The last few years have seen solidifications of scholarship around climate change, the proliferation of political ecology and the rise of social studies of nature. The social sciences and humanities have begun to discuss the Anthropocene, engaging with the idea and its challenges and invitations for scholarship. But what about specifically anthropological engagements with the Anthropocene? What orientations are needed to explore anthropological puzzles like those I have begun to follow in The Bahamas? My hope is that we can craft new frameworks that will

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open doors for the anthropological engagement with the Anthropocene, expanding the scope of the political ecology of global change.^{viii}

Anthropology and Global Change

In this section, I show some of the diverse ways that anthropologists already approach the discursive and material realities of global anthropogenic change. Of course anthropologists have long been interested in various phenomena of global environmental degradation (Bodley 2002), and of course environmental change depends on “how we see evidence of change and the stakes at play in the perceptions of environments as natural or cultural” (Cameron 2013, p. 105). Many scholars accept the planetary scaling of late 20th Century environmental science, asking how local communities are involved with degradation as a locally enacted global phenomenon.

Since the Rio Convention on Biological Diversity in 1992, a broad reaching topic in the anthropological investigation of global change has been biodiversity loss, and studies centered around biodiversity are still an important example of anthropology in the Anthropocene. Anthropologists have documented the knowledge and practices of rural and indigenous peoples that affect crop diversity and the existence of rare species. They have also shown how local people relate to biodiversity protection in ways that differ from mainstream international conservation efforts (Orlove and Brush 1996, West 2006, Haenn et al. 2014). Importantly, anthropologists have also had a great deal to say about the social production and material manifestations of biodiversity (Nazarea 2006, Hayden 2003, West 2006, Lowe 2006). This work delineates biodiversity as one of the most influential political forms of the 1990’s, reshaping idioms of value, exchange, development paradigms, material realities, and rights in ways that have transformed North-South relations to this day. Further, anthropologists have shown that the scientific designation of biodiverse nature has salience for the circulation of multiple forms of capital. This work suggests that the way anthropogenic change is imagined, defined and experienced has crucial implications for transnational flows of capital, knowledge, and social recognition.

Anthropogenic climate change has possibly surpassed biodiversity loss as the most widely recognized form of global change. The anthropology of climate change, as envisioned by Crate and Nuttall (2009), stresses protecting and respecting local cultures in the face of climate change when it comes to adaptations, unpreventable impacts, and disasters. These scholars exemplify an action-oriented stance towards change, calling for anthropological engagement that can make local challenges visible aspects of international policy. Within this mode of research, also known as “climate ethnography”, anthropologists have a responsibility to explicate the local effects of global change in order to fill in gaps in Western scientific knowledge about anthropogenic change (Crate 2008, 2011).

In a related vein, scholars like Rudiak-Gould and Lazrus have helped carve out a niche for an anthropological engagement with small island communities in the context of anthropogenic climate change. Lazrus (2012) argues persuasively that climate change has altered conditions for life in small islands, affecting islanders through a number of key environmental changes, but also through the enactment of adaptive policies that circumscribe the sovereignty of affected peoples. For Lazrus, anthropological responsibility lies in reconfiguring international institutional understandings of island vulnerability so that islanders are not assumed to be inherently vulnerable. For Rudiak-Gould (2010, 2013) climate change in small island states is both an issue of translation between international scientists and island citizens and a

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question of seeing the material consequences of change in islander environments. He argues that scientists can learn from island people when they examine how the information they present has been reinterpreted in local idioms. Scientists are then forced to see the “humanistic dimensions of this geophysical phenomenon” (2010, p. 53) and to respond to material realities of change that may not be readily visible from their data sets or regional climate models (2013). For both scholars, the anthropologist’s task is to help find meaning in forms of change that combat scientific hegemony and colonial legacies.

Continuing the discussion, many scholars have advocated for more of a second order perspective for the study of climate change (Moore 2010, Whittington 2012, Lahsen 2005, Tsing 2005). For example, Lahsen (2008) is adamant that anthropologists should study those who populate the centers of power and generate knowledge and policy about the phenomenon itself. She argues that scientists, administrators, journalists, and officials do as much to shape climate change as an idea, discourse, and powerful frame for thought and action as do the marginalized peoples of the world. Along these lines, Barnes et al. (2013) have argued that engagements at this level allow for an understanding of the cultural dimensions and micro-dynamics of decision making about climate processes and policies, and therefore for anthropological influence to be felt amongst people in positions of power.

Other topics for the anthropology of global change have included work on the scientific rationales and social realities of invasive species eradication strategies (Fortwangler 2009, Moore 2012), the critical analysis of spatial productions in the name of environmental change such as protected areas (West, Igoe, & Brockington 2006), criticism of the crisis rhetoric of global change as an excuse to appropriate land and resources in carbon trading strategies (Fairhead, Leach, & Scoones 2012), and arguments about the nexus between ecological knowledge production and market-based extractive practices (Davidov 2012). This is by no means an exhaustive collection, but these examples show the scope of recent anthropological work that takes on the idea of anthropogenic change in an era of planetary framing. But what about anthropological work (including sympathetic disciplines) that explicitly engages the Anthropocene idea as a social fact and material reality?

Anthropological writing that explicitly tackles the idea of the Anthropocene itself is relatively few and far between (though rapidly growing), but Carrithers, Bracken & Emery (2011) use the term to label a “master narrative” of endangerment, extinction, and crisis that helps dictate the social placement of species in the world of species protection and valuation. Sympathetically, Ogden et al. (2013) argue that it is crucial to study geopolitical outcomes tied to the transnational institutionalization of discourse and practice in the name of the Anthropocene, what they call global socioecological assemblages (following Ong and Collier {2005}). They use the concept of global assemblages to describe market-driven, transnational environmental governance emerging as a means of managing life processes. Also emphasizing governance, Lovbrand, Stripple and Wiman (2009) view the Anthropocene as a “central system of thought mediated by Earth System Science” (p. 10) that inspires new forms of research such as coupled natural and human systems. These projects then become, “new political space(s) for government intervention” (p. 11). Going further, Howe (2014) describes (in the context of industrial alternative energy farms) how both experts and local people assert authoritative and ethical claims in the context of Anthropocene futures. “Anthropogenic ecoauthority” therefore consists of “experiential, scientific and managerial truth claims” about environmental knowledge (p. 383).

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As this work on various aspects of global change shows, anthropologists are situated to observe how the Anthropocene idea amalgamates multiple forms of anthropogenic change into an argument about the distinction of the contemporary world. Anthropology also shows that we must remain conscious of the multiple materialities entangled in this emergent cosmological ordering of reality. For example, Larkin (2013) points us toward the infrastructures that materially mediate much of the human relation to the nonhuman world. According to Larkin, infrastructures are more than technical objects—they are poetic, semiotic, and aesthetic, constituting subjects and citizens while embodying the “collective fantasy of society” (p. 329). An anthropology for the Anthropocene would be attuned to the “politics and poetics” of the material interventions made in the name of global change along with the political ecologies, discursive productions, modes of governance, justice, authority and expertise that combine to constitute our planetary present.

Anthropocene Anthropology

I see the Anthropocene as the most recent iteration of the positive feedback cycle producing ideas about planetary change: the more researchers and policy makers promote anthropogenic change as a global issue with political stakes and the more transnational action takes place in its name, the more we will see transformations in understandings of global change, sociality, ecology, and landscape (or marinescape) formations on multiple levels. These will in turn inspire new alliances and materializations. We require frameworks that allow us to recognize the components and effects of this Anthropocene feedback cycle as they help reproduce locations like the Bahama Islands.

Returning to my anthropological puzzle in The Bahamas, I would like to propose concepts for the exploration of “Anthropocene spaces”—the complex conjunctures that I hope will become the subject of an Anthropocene-aware anthropology. The puzzle of The Bahamas requires analytical categories and concepts—a framework—that can reframe global change and the Anthropocene idea as an anthropological object. For starters, global change predictions, driven by the work of IPCC climate scientists and others, have had far reaching influence in the creation of political alliances for the Anthropocene. As I mentioned above, The Bahamas is a member of the Alliance of Small Island States (AOSIS) at the United Nations. The forty-four AOSIS member nations come from all the ocean regions of the world, and the group now describes itself as “a coalition of small island and coastal countries that share similar development challenges and concerns about the environment, especially their vulnerability to the adverse effects of global climate change” (Alliance of Small Island States 2013). The milieu in question within AOSIS is the small island, now thought of as an object about which it is possible to make a number of truth claims about island social, economic, and environmental fragility in the face of anthropogenic planetary change. Anthropocene political objects are scalable in the Bahamian context from particular islands, to the island nation, to the Caribbean island region, to the planet itself as a fragile “earth island”. Further, the forms of subjectivation available for island residents in The Bahamas now include the climate change refugee, facing the future possibility of “heading for the hills of Haiti”^x as the everyday experience of coastal erosion and sand replenishment is publically linked to global change. AOSIS is one example of an alliance that hopes to promote small island subjectivity while facilitating transnational island adaptation measures.

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To approach these political moves, the anthropological engagement of the Anthropocene requires a scope beyond the molecularization of recent work on bioscience (Rose 2006) and the sovereign anthropocentrism of concepts like biopower and biopolitics (Povinelli 2014, Rabinow & Rose 2006). These concepts must be remediated to speak to the Anthropocene as a social category that positions the nonhuman and biogeochemical processes as integral to the political understanding of life. To do this I borrow from Olson (2010) who coined “ecobiopolitics”, a concept acknowledging techniques of knowledge production and governance that focus on the milieu between environmental and human processes for the optimization of the milieu itself. Ecobiopolitics focuses attention on scientific and political strategies towards anthropogenic change that manage the idea of planetary “habitable space” across scales and methodologically elide human and ecological research. Anthropogenic planetary change then becomes a form of global environmental imaginary within which it is possible for Olson’s understanding of ecobiopolitics to function through “truth claims based on knowledge of milieu processes, power relations that take milieus as their object, and the modes of subjecthood and subjectification that designate subjects as milieu elements” (P. 181, modifying Rabinow & Rose 2006). The Bahamas’ self-positioning as an AOSIS member signifies the positioning of its islands within an ecobiopolitical mode of knowledge and governance, subjectivation and development.

In light of the country’s commitments to Anthropocene alliances and projects designed to combat the country’s fragility, The Bahamas is increasingly considered a “rich source of research” in the words of a visiting marine scientist at a recent public meeting of the Bahamas National Trust. This means that emergent forms of reason can now be tested there through field research projects enacted by visiting researchers who are now commonly conducting integrated ecological and socioeconomic studies about environmental change. One such project I participated in was the Bahamas Biocomplexity Project (BBP), an interdisciplinary amalgamation of researchers studying the archipelago’s marine biodiversity and species connectivity, the distribution of marine habitats, and the socioeconomics of fishing communities to, “improve the design of networks of marine protected areas” (American Museum of Natural History 2013). This kind of policy-focused, interdisciplinary work is indicative of the research paradigms attached to the Anthropocene idea in which methodologies are consciously designed to speak to “big picture” issues of anthropogenic global change within “linked human and natural systems” as opposed to studies of molecular or genetic processes in isolation (Colwell 1998). My time with the BBP was spent administering surveys to members of Bahamian fishing communities, catching answers as-catch-can on boats, dock benches, car rides, and kitchen tables. As a member of the social science arm of the project, I had no field interactions with the biological teams collecting oceanographic, biological, and spatial data elsewhere in the archipelago. I came to realize that, methodologically, such team work often follows different patterns in space and time depending on the target of research: human or nonhuman, living or nonliving physical processes.

How should we characterize the forms of reason that anchor such “big picture” research methodologies? I argue that within projects such as the BBP or the CCI (mentioned above), socioecological forms of institutional reason— what I label “socioecologies”— frame human/environmental/nonhuman relations as coupled systems united in explanations of Earth system dynamics and resource management planning. Some examples of socioecologies include complex adaptive systems theory (Holling 2001) and socio-ecological systems theory (Anderies et al. 2004, Berkes 2003). Popular socioecologies reframe research scope and method, creating novel interdisciplinary projects, but the form of socioecological projects can amplify or

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ameliorate disciplinary disparities and divides between researchers and the human and nonhuman others who inhabit the field. In other words, investigations of the Anthropocene idea must be aware of the form of socioecological reason that delineates thought and action around specific Anthropocene projects within particular ecobiopolitical milieu.

In terms of other modes of human/nonhuman relation such as the process of reproducing a Bahamian export product through MSC certification, we must remember that commodity certification transforms the relationships of production between groups of people and between people and the things they produce (Bestor 2001, West 2010). These processes alter human and nonhuman beings in ways that make them amenable to recent Anthropocene markets. Sea creatures with a mottled carapace that are known as “crawfish” in The Bahamas and sold as generic (but luxurious) white-fleshed “lobster” in the US and Europe are being molded into “Spiny Lobster”, becoming scientifically measured and assessed as “stock” that can be studied and rebranded at national and global levels.^x Fishers too are molded into “stakeholders” within the MSC system, continuing a process of fishery reorganization under the sign of global conservation begun in the 1980’s and 90’s. The president of the Bahamas Marine Exporters Association has said, “with major supermarket chains in the US and Europe committed to buying only from countries that can prove their fisheries are sustainable, we realized MSC certification would be required to maintain market access for the Bahamian Spiny Lobster. This led to the rapid and wholehearted transition of the fishery...” (Isaacs 2011).

An analytic beyond the human is useful here for understanding more than the co-constitution of biogeochemical processes and research project design. Anthropological attention to the emergent objects of knowledge, governance, and forms of reason adapted to the Anthropocene idea must also acknowledge the embodied relations that produce fisheries and creatures like Spiny Lobster and fishers. Tsing (2012, in homage to Haraway 2003, 2008 and Kirksey & Helmreich 2010) argues that the idea of human exceptionalism blinds us to the interspecies connections that make up our own lives within our bodies and in our surroundings. Human species-being (the sense of human nature that concerns Chakrabarty {2009} in the Anthropocene) is not autonomous but is instead comprised of relations with other organisms moving within geochemical processes held together by diverse forms of dependency and love. Anthropocene ecobiopolitical and socioecological configurations (such as alliances based on geography, global science, resource management, etc.) manage humanity, geology, and biology in multiply-produced landscapes that affect notions of value and relations of production and reproduction stretching from global markets to the state to the locality. Tsing refers to these networks as interspecies relations, but I call them “Earthly relations” as a reminder that there are “nonliving” components to consider when thinking about life (for example planetary geophysical processes, the “resonance” of stones, and the movement of water {Raffles 2012, Ingold 2011, Kohn 2014}).

Within the assemblages and markets animated by the Anthropocene idea, there are myriad circulating stories that deserve anthropological attention. Examples of Anthropocene stories include the IPCC global change narratives that bind AOSIS members or the narratives of overfishing that link all fisheries in a global saga of anthropogenic decline. And, arguably, the task of the Anthropocene Working Group (see above) is to construct a plausible story about planetary change. Authoritative stories frame protagonists, perpetrators and victims (human and nonhuman) and they help lay the groundwork that makes economic ventures like MSC certification or sustainable tourism viable in places like The Bahamas. While an attention to narrative may appear to abandon a commitment to material processes, I argue that such stories

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help constitute ecologies and socialities by bringing them into new kinds of socioecological and ecobiopolitical (Earthly) relation.

The narrative power of what Latour (2013) has called “geostories” is a useful analytic with which to tackle these circulating stories. Geostories reflect socioecological arguments about global change in narratives that stem from the teleologies of the Earth sciences. They are meant to be accessible tales about the stakes and exceptionalism of the Anthropocene. Geostories simultaneously perpetuate ecobiopolitical discourses around global change, discourses that attempt to “reframe Anthropos” (Palsson et al. 2013, p. 4) by narrating the Anthropocene as an effect of human species-being. Often these kinds of geostories can, in the words of Malm and Hornborg (2014), obscure attention to the owners of the means of production who came to power out of a “constellation of a largely depopulated New World, Afro-American slavery, the exploitation of British labor in factories and mines, and the global demand for inexpensive cotton cloth” which lead to the rise of the steam engine and from there to our fossil fuel based economies (p. 2). Even Chakrabarty (2013) contends that speaking about the collective “we” of humanity should not assume that “we” are politically one. As Latour points out, geostories are not harmonious tales but are instead tumultuous and crisis ridden, steeped in the unknown.

Finally, I have observed that building models for living (and for tourist visitation) in locales such as The Bahamas involves struggle and negotiation between authorities and between authorities and marginalized groups. For example, the spread of marine reserve networks and the rebranding of Bahamian islands in speculative sustainable development markets aligns the country with global trends— transforming landscapes, infrastructures, and built environments to conform more obviously with prevailing concerns over greening and global change. Such Anthropocene worlding experiments (Roy 2011) can deepen social inequalities by appropriating space from coastal communities, and design models can also be misappropriated. An attention to designers and their plans for development, resource management, scientific research, exploration projects, for the technologies that enable us to “see” global change, and for various green markets and products will help open Anthropocene assemblages to scrutiny and intervention when necessary.

Therefore, I think an attention to design should be a major component of analysis as the thread that unites the interrelated themes of this framework and points us towards action. If, as proponents of the Anthropocene idea argue, the recognition of anthropogenic planetary change calls for the refashioning of human and nonhuman life on Earth, then extreme care must go into redesigning ecobiopolitical configurations, socioecological forms of reason, and viable Earthly relations on multiple levels (Latour 2008). The Anthropocene commitments of scientists, governments, and developers are already leading to emergent geostories and brand platforms that designers must draw together in their (co)creations.

The interrelated concepts I have chosen to help me explore my Bahamian anthropological puzzle— ecobiopolitics, socioecologies, Earthly relations, geostories, and design— represent an amalgamation of environmental anthropology, critical science studies and political ecology applicable to the evolving 21st Century concern with global change known as the Anthropocene. Such analytic reorientations help anthropologists explore events animated by the Anthropocene idea from emergent political alliances and spatializations to modes of subjectivity and citizenship, from forms of scientific objectification and naturalization to shifting research methods and narratives, from green markets, products, and flows of capital to the materialization and embodiment of these ideas in spaces, places, bodies, and Earthly relations. I contend that such recognition helps us identify how emergent ideas contribute to asymmetries and pervasive

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inequities, allowing anthropologists to intervene in arenas that were previously unavailable for thought. Further, recognizing the ways these conceptual arenas interrelate allows us to grasp the creativity and generativity of contemporary global change assemblages.

Conclusion

The International Geological Congress still has some time to deliberate before it rules on the “official” designation of the Anthropocene. Official agreement on the existence of the Anthropocene as a geological category will not instantly change the way most of us think about planetary anthropogenesis. However, I believe it will spark further debate over the parameters of contemporary global change, inspiring more institutional initiatives and scientific engagement with policy. In other words, the Anthropocene feedback cycle could grow even more acute.

As these events unfold, anthropologists will certainly continue to respond to the social and material realities of global change, and, critically, to the Anthropocene idea itself as an important contemporary object and problem. I have argued that The Bahamas is one example of an emergent ethnographic area within the problematic of an “Anthropocene space”. Despite the fact that this seems to fly in the face of the Anthropocene as a planetary and temporal imaginary, it is now clear that global imaginaries and categories have powerful material and symbolic implications, contributing to the reproduction of particular locations, places and scales. As Tsing has stated, “we can investigate globalist projects and dreams without assuming that they remake the world just as they want” (2000, p. 330). Anthropocene spaces like small islands are but one position from which anthropologists can begin to think the Anthropocene. And these spaces need not only be geographical locations, but also locations of novel conservation interventions and laboratory situations, such as experiments in geoengineering, re-wilding, or de-extinction. I believe my conceptual bundle could handily be applied in these situations, with a great deal of room for modification and addition.

The work of an Anthropocene anthropology is needed in order to counter and complement the sciences of the Earth system and global change research. Following Lovbrand et al. (2009), I think it is anthropology’s responsibility to “investigate the new forms of power, authority, and subjectivity formed within everyday practices of its own scholarship” (p. 12) as anthropologists are integrated further into interdisciplinary and transdisciplinary global change studies. Towards that end, frameworks like the one presented here can ground ethnographic engagement and collaboration and inform the task of reflexively “Writing Earthly Relations” in the Anthropocene.

My research is slanted towards the products of traveling scientists, elite authorities, and green designers who mediate, circulate, and sell the Anthropocene idea in The Bahamas, and indeed these have been my primary informants over the years. However, I think this framework could be attuned toward less overtly “authoritative” events and instantiations of Anthropocene ideas. Further, I hope I have shown that it is not only anthropogenic change that has material effects, as has been so thoroughly demonstrated by the sciences, but that the politics, forms of reason, relations, and narratives that the Anthropocene idea inspires are also materialized in ways that must be acknowledged and explored.

As I stipulated in the introduction, the background argument of this paper has been that anthropology must retain its critical stance when confronted by institutional framings of global change. Again, along with Sayre, I call for a continued attention to science-based policy prescriptions that seek to limit the conceptualization of and possible responses to global

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environmental change. In other words, we must not participate in the erasure of real opportunities for justice and ethical awareness.

In closing, I ask, how ephemeral are the ideas that constitute today's "ephemeral islands"? Despite the fact that there are anthropologists who consider the Anthropocene to be a trend-of-the-moment buzzword, I think that the Anthropocene *idea* as a problem space that configures locations around evolving notions of global change and human/non human relations will stay with us for some time to come. There is too much political urgency and institutional attention attached to the idea for it to go quietly. I hope an Anthropocene anthropology will be there to help explore the multiplying puzzles of the epoch.

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Notes

ⁱ Following Rabinow 2003 and Rabinow & Marcus 2008 on problematization and the contemporary.

ⁱⁱ The Anthropocene idea is of recent origin, but the arguments leading up to its coining and conceptual coalescence have deep roots in transnational events of the last forty years and beyond with the creation of "the environment" as a political category and its subsequent globalization. Parsing this history is not the goal of this article (but see Fortun 2001, Worster 2008).

ⁱⁱⁱ The Bahamas is also a British Commonwealth country and member of CARICOM.

^{iv} The irony comes from the fact that Bahamians publically debate the "Haitian problem" of the illegal immigration of Haitians to The Bahamas.

^v For more on the "start date" controversy that is beyond the scope of this article see Ruddiman (2013).

^{vi} In general geochronology, an age is defined as an interval of several million years, an epoch is tens of millions of years, a period is somewhere between an epoch and an era, an era is several hundred million years, and an eon is at least an interval of a half a billion years.

^{vii} The International Geological Congress (IGC) has been meeting since 1878 in three to five year intervals (IUGS 2009). The next meeting is in South Africa, in 2016, where the latest evidence for the existence of the Anthropocene will be marshaled by the Anthropocene Working Group to be voted on by the International Commission of Stratigraphy (ICS), the keepers of the geological timeline. The Anthropocene Working Group of the International Union of Geological Sciences and ICS is made up of approximately twenty-nine member scientists from approximately fourteen countries (the US, Spain, Germany, the UK, Switzerland, Brazil, Kenya, France, South Africa, Australia, Norway, Austria, Canada, and China). The disciplinary background of members includes archeology, chemistry, geology, Earth systems, and the Earth sciences.

^{viii} Anthropologists have long concerned themselves with the impacts of humans on their environments as a historical and evolutionary question, and this is far too expansive of a conversation to describe here. In this article, I am focusing on the Anthropocene idea as it is used by scientists today and as it is becoming popularized in the social sciences. This is a culturally specific idea of recent origins, and I am interested in investigating its current uses, implications, and materializations.

^{ix} For a discussion of climate refugees see McKee 2011, Collectif Argos 2010, McAdam 2009.

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^x The Bahamian lobster industry is many decades old, but MSC certification is a new iteration. MSC certification also comes with increased licensing requirements and the ability to trace catch back to specific fishing boats, allowing for greater “transparency” in the market.