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Welfare and the Politics and Historicity of the Anthropocene

Across the academy, from climate scientists to literary critics, scholars now debate the adoption and implications of the term Anthropocene to describe the current period of Earth and human history—a time when humans are making an unprecedented impact on global climate that has considerable consequences for many species, including our own (see Chakrabarty 2009, 2012; Crutzen 2002; Crutzen and Stoermer 2000; Kohn 2014; Morton 2013). Some, such as Paul J. Crutzen (2002) and Timothy Morton (2013), trace its inception to precisely 1784 with the invention of the steam engine and the beginning of humanity as a geophysical force" associated with greenhouse gas emissions (Morton 2013: 7). Others, such as Jan Zalasiewicz et al. (forthcoming), suggest placing its boundary in 1945 after which the chemical traces of nuclear bomb explosions are evident in Earth’s surficial stratigraphy. Regardless of whether the Anthropocene will be charted in the rock record or will achieve an official geological designation (see Vince 2011; Zalasiewicz et al. forthcoming), it is now broadly discussed because its implications transcend obvious environmentalist concerns and extend to how social scientists and humanist scholars conceptualize many of their
foundational categories, including even what it means to be human. The historian Dipesh Chakrabarty (2009: 201), for instance, suggests that human explanations for climate change now “spell the collapse of the age-old humanist distinction between natural history and human history.” To say the least, such pronouncements reinforce the need to analyze and perhaps rethink how we understand welfare in the context of climate change, especially as it relates to fundamental anthropological concerns with nature, culture, climate, history, and agency.

Although we share the well-founded concerns for mitigating global warming, in this essay we critically explore the Anthropocene’s philosophical and political implications for both constituting and understanding welfare in this “new” historiographical period. There is little doubt that human impacts on global climate now pose a veritable danger for many of Earth’s inhabitants as communities become more vulnerable to sea-level rise, species go extinct, and weather becomes more erratic (e.g., Lazrus 2012; Lavergne et al. 2010; Ribot 2014). Yet as Andreas Malm and Alf Hornborg (2014: 63, 66) have correctly noted, debates concerning the Anthropocene are so “dominated by the natural science[s]” that the concept furthers the divide between nature and humanity while it also “blatantly overlooks the realities of differentiated vulnerability on all scales of human society.” Indeed, there is a serious need for anthropologists to engage critically with emerging discourses on the Anthropocene and, at the same time, to do so with attention to how the concept both constrains and enables particular formulations of human and nonhuman conditions for well-being. As we argue below, ethnographic and archaeological research poses serious challenges to the universality of the nature-society and the natural-anthropogenic binaries that undergird narratives of the Anthropocene and that also subsequently frame conditions of welfare as a strict product of society, divorced from the social articulations humans establish with other things, materials, and organisms.

The traditional concept of welfare, at least in the Keynesian sense, envisioned a critical role for governments to care for the poor and the marginal whose basic needs remained unmet in a laissez-faire economy. Yet several neoliberal reforms since the 1980s have considerably weakened the foundations of welfarism (Harvey 2005: 298), an ideology that is now increasingly seen to benefit the lazy and unproductive segments of the population. Indeed, as Karen A. Curtis (2007: 31) argues, neoliberal economic restructuring has “pathologized” recipients of aid and welfare and weakened ties of kin and community. Therefore, anxious questions about the fate of a “withering” state that no longer “cares” for its marginal populations and severely limits their
access to essential social goods such as food, health, and education are by no means unfounded (see Makhulu, this issue). Yet there are also reasons to question the abilities of Keynesian-style welfare to capture the relationships that people establish with other humans and nonhumans, which eventually condition and produce collective experiences of well-being.

At the outset of this issue, Anne-Maria Makhulu cogently recalls the Aristotelian distinction between oikos and polis to resituate contemporary debates on welfare and state responsibility within the historical binaries of the domestic and the political—the former being the private domain of the household where material necessities are met and where the “human species” is reproduced and the latter the public domain that “lies beyond the domain of necessity” and where citizens are free to pursue activities that lead to self-actualization (McKeon 2005: 7). For most critics of a welfare state, material needs are equated with the realm of mere life (Makhulu, this issue: 4), an association that does little to disrupt the fundamental separation between the private and the public, the oikos and the polis, or, as Ariel Salleh (2006) argues, the natural and the cultural. Indeed, in Aristotelian formulations, oikos is associated with nature, where material needs are met, and polis with society, a space of freedom, innovation, and external association (Howarth 1996: 69).

How might such separations between the domestic and the political or between nature and society limit our pursuit of human and nonhuman welfare, especially in light of a sustained scholarly effort to “transcend the dualism of objects and subjects” (D. Miller 2005: 43)? Also, how might we broaden the debate on human welfare by moving beyond the restrictive framework of state power and responsibility to engage with questions of environment, matter, and climate? Such an exercise, we argue, is not just intellectually exciting but also politically necessary for capturing the range of human experiences that constitute well-being during a period in which humans and nonhumans are increasingly entangled in climate-related vulnerabilities. Insofar as our current understanding of polis continues to be built on the fundamental separation of nature and society, it is, Salleh (2006: 28) argues, “ill equipped to steer an ecological future.” In short, any understanding of welfare, especially at the time of ongoing climate change, must challenge the easy binary between the domestic and the political, and, more pertinently, it must also disrupt the boundaries between the natural and the social.

In this essay we argue that the Anthropocene, as a historiographical designation, is premised on the long-standing modernist distinction between society and nature (e.g., Latour 1993). Thus, even though its intended politics
of foregrounding human culpability in the climate crisis is progressive, it fails to question the enduring legacies and implications of separating human histories from natural histories. We thus begin our discussion of welfare in the Anthropocene with a review of long-term sociomaterial histories to probe the period’s uniqueness as a mode of human-environment interaction. However, rather than contributing to this debate by seeking to establish when the period started, we suggest that scholars might more productively approach the question of the Anthropocene orthogonally to its typical framing—asking instead whether the underlying distinction between natural and unnatural environmental conditions that undergirds the Anthropocene narrative is a useful analytical divide for understanding socioenvironments as they relate to contemporary concerns with welfare and environmental politics in the context of climate change. Thus we go on to question the ontological foundations of the Anthropocene and subsequently the corresponding binaries of public \((\textit{polis})\) and domestic \((\textit{oikos})\) that limit our understandings of welfare. Indeed, problematizing these boundaries forces analyses of historical human conditions and experiences of well-being to consider broadly the myriad relationships people establish with other humans, organisms, and things that collectively have an impact on their lives. As we argue below, in contexts of pronounced environmental changes it is thus a necessary prerequisite to keep analytical attention on weather and its materialities because of their daily and immediate experiential qualities, rather than merely attempting to make climate more intelligible to human perception. We then turn to ethnography in South Asia to assess how people engage with the materialities of environmental phenomena that affect their well-being. And finally, we reflect on the implications of our analyses for anthropology and for the politics of welfare in a rapidly changing climate.

**Questioning the Historicity of the Anthropocene and Its Silences**

As advocated by Crutzen and Eugene F. Stoermer (2000), the “Anthropocene” signifies a division in the geological periodization of Earth’s history that separates the current time of global human impacts on the planet’s ecology and atmosphere from the Holocene—the most recent geological epoch that spans approximately the past ten thousand years. Although the designation has not been officially adopted among geologists (e.g., Vince 2011; Zalasiewicz et al., forthcoming), it has gained considerable traction across the academy. Crutzen (2002: 23), an atmospheric chemist credited with popularizing the term, argues: “For the past three centuries, the effects of
humans on the global environment have escalated. Because of these anthropogenic emissions of carbon dioxide, global climate may depart significantly from natural behaviour for many millennia to come. It seems appropriate to assign the term ‘Anthropocene’ to the present, in many ways human-dominated, geological epoch, supplementing the Holocene—the warm period of the past 10–12 millennia.” In short, there is an overwhelming body of scientific evidence that points to considerable changes in Earth’s atmosphere, surface materials, and species distributions (including extinctions) associated with human activities and their unintended consequences over the past two hundred years, and particularly since the first nuclear bomb explosion in 1945 (e.g., Archer and Rahmstorf 2010; Crutzen 2000; Crutzen and Stoermer 2000; Lavergne et al. 2010; van den Brink et al. 2011; Sanderson et al. 2002; Zalasiewicz et al., forthcoming). Scholars have even suggested that human consumption of fossil fuels and the production of greenhouse gases, such as carbon dioxide and methane, might delay Earth’s next ice age (see McGuire 2012; Stager 2011).

It is with such quantifiably large and lengthy human impacts that the Anthropocene has been considered a qualitatively new historiographical period and humans new kinds of agents of environment change. The climate scientist William F. Ruddiman and colleagues (2015: 38), for example, have characterized formulations of the Anthropocene as marking a time in which “humans have replaced nature as the dominant environmental force on Earth.” Chakrabarty (2009) further underscores a historiographical distinction between humans as “biological” agents and “geological” agents that is made possible by such anthropogenic explanations of climate change. In his words, “humans are biological agents, both collectively and as individuals. They have always been so” (206). However, he continues, “humans have become geological agents very recently in human history. In that sense, we can say that it is only very recently that the distinction between human and natural histories—much of which had been preserved even in environmental histories that saw the two entities in interaction—has begun to collapse” (207). In this sense, as Malm and Hornborg (2014: 62) have noted, the Anthropocene periodization now implies that “the Enlightenment distinction between Nature and Society is obsolete.”

And yet, insomuch as it pronounces and foregrounds the agency of humans as an environmental force, the Anthropocene narrative also powerfully “silences” (sensu Trouillot 1995) a variety of social differences and landscape histories that are critical to contemporary understandings and experiences of socioenvironmental conditions. By definition, it attributes climate
change to humans as a single homogenous force and obscures underlying social inequalities and asymmetries related to both the production and experience of environmental circumstances. However, as is well documented, humans that have facilitated the production of greenhouse gases and global warming that arguably warrant the designation Anthropocene have not done so as a homogenous web or network of humanity; in the frank words of Malm and Hornborg (2014: 65): “A significant chunk of humanity is not party to the fossil economy at all.” Furthermore, it is important to note that the Anthropocene narrative reproduces the same nature-society binary it purportedly dissolves—distinguishing a time when the two realms could be usefully separated from the current period when they cannot. In this sense, the Anthropocene narrative is predicated on upholding a modernist distinction that not all of Earth’s inhabitants share. Such forced conceptualizations of environmental histories can severely limit our understandings of human (and nonhuman) welfare, particularly given that many of Earth’s human inhabitants recognize sociality among nonhuman species and materials that are threatened by changing climates (see below). Thus, although the adoption of the Anthropocene periodization calls needed attention to humans as agents of contemporary climate change, it does so at the cost of potentially obfuscating social differences, inequalities, and broader understandings of human-environmental histories and relationships with significant analytical implications for framing both human and nonhuman well-being and environmental politics that do not rest on the externality of Nature (see also Bhan and Trisal, forthcoming).

Indeed, a plethora of anthropological, historical, and environmental scholarship demonstrates that humans have always been enmeshed within a web of materials and organisms that collectively produce ecologies, geographies, and socioenvironmental conditions that are significant to human welfare; moreover, such entanglements between humans and nonhumans have always had the potential to affect global atmospheric conditions as they scale, challenging the uniqueness of the Anthropocene as a new period of human-environment interaction. For example, it is well documented that human land use was related to a cascade of mass extinctions when people populated new continents, such as Australia approximately fifty thousand years ago (G. Miller et al. 2005; Rule et al. 2012; Sandom et al. 2014). More recently, and more directly related to global warming, the reversal in atmospheric levels of methane, which decreased in the first half of the Holocene but then increased after circa 5000 BP (before the present), can likely be attributed to an expansion of human agriculture and pastoralism in South and East Asia.
Furthermore, environmental archaeology of the interior of South India has demonstrated that intensified agropastoral activities on the region’s rocky hills between circa 5000 BP and 2300 BP exposed soil matter to erosion, which in conjunction with broader monsoonal changes in seasonal rainfall significantly altered regional landforms and vegetation communities (see Bauer 2008, 2014; Bauer and Morrison 2013; Caratini et al. 1994; Fuller and Korisettar 2004). Despite human efforts during the period to prevent erosion and promote pasture growth through the construction of retention walls, soil erosion nevertheless intensified in locations where animal grazing was most dense (see figure 1) (e.g., Bauer 2014, 2015). These instances are, of course, just a handful out of countless examples of how human land use has greatly modified the distribution of carbon sequestering soil and vegetation prior to the Industrial Revolution (see, e.g., Michael Williams’s [2006] treatise on deforestation).

We highlight the environmental archaeology of South Asia not simply to illustrate that humans have significantly altered the environment for a long time, shaping the soils, landforms, and ecologies of the region’s rocky hills for
many thousands of years. Proponents of the Anthropocene are aware that humans have long modified environmental conditions (Zalasiewicz et al., forthcoming). Our point is more broadly to problematize the sharp ontological division between social and natural environments that underlies the Anthropocene narrative and has significant consequences for how we conceptualize society and the specificities of human well-being within the context of climate change. Both before and after the Industrial Revolution we see people taking up positions within their environments and constituting them with a range of materials and organisms that interact, collectively and recursively, to produce historical socioenvironmental circumstances.

Yet to argue that the Anthropocene begins when shifts away from “natural” planetary conditions, climatic or otherwise, can be recognized is effectively an argument that humans are no longer part of Nature. It is a similar argument of a particular kind of progressive human exceptionalism that allowed early social evolutionary thinkers, such as Lewis Henry Morgan (1868), nearly 150 years ago to create distinctions between “savage” and “civilized” people. Ironically, almost ten years before Morgan published *Ancient Society* ([1877] 1964), he also wrote about the same exceptionalism of the American beaver’s transcendence of Nature and how its dens, dams, and ponds evidenced “an artificial mode of life” similar to the distinctions Morgan (1868: 83) made between stages of human “savagery”: “As the dam is not an absolute necessity to the beaver for the maintenance of his life, his normal habitation being rather natural ponds and rivers, and burrows in their banks, it is, in itself considered, a remarkable fact that he should have voluntarily transferred himself, by means of dams and ponds of his own construction, from a natural to an artificial mode of life.” We stress Morgan’s framing of the American beaver’s “artificial mode of life” partly because beaver dams increase greenhouse gas production (e.g., methane) across broad areas of North America today (e.g., Naiman, Manning, and Johnston 1991; Yavitt et al. 1992), but more significantly because when taken together with that fact, his framing accentuates the problems with the natural-unnatural binary and the difficulties of drawing a strict line between what is “naturally” ecological and “unnaturally” geophysical. Indeed, geologists and climate scientists have long shown that the ecological history of Earth’s surface—particularly the distribution and composition of its respiring vegetative taxa and bacteria—has significant impacts on atmospheric conditions and climate.² Thus a strong argument can be made that biological agents are always simultaneously acting as geophysical agents when one considers the assemblages of interactions that produce atmospheric conditions. Only by removing humans (or beavers) from the conceptual category
of Nature and neglecting the relationships among the other materials and organisms that mediate their actions and effects do ecologies and climate become “artificial.”

While there are undeniable differences in the scale of the effects of humans on environmental conditions before and after the inventions of the steam engine and the atomic bomb, there are less clearly differences in kind. Yet by signaling the end of the natural-social boundary, the Anthropocene affirms that such a divide used to exist. Thus, although progressive in its corrective to climate change narratives that frame human actions as inconsequential, the Anthropocene silently ushers in a corresponding regressive environmentalism that reaffirms Nature. While it is no doubt critical to add empirical specificity to how and the degree to which humans historically have had an impact on planetary conditions (and continue to do so at an increasingly alarming rate), it seems that an important step in this direction would begin by recognizing that humans have always unequally shaped their socioenvironmental conditions. Instead of holding onto Nature as an other to society, such a framing would allow one more fully to question and investigate what kinds of sociomaterial conditions are valued or desirable for particular people in particular places and how those conditions might be experienced, perceived, produced, and disrupted—forcing discussion of who is responsible for particular changes, and on whom they have an impact, and challenging the Anthropocene narrative that treats humans as an undifferentiated species. Moreover, it would also allow the crucial recognition that not all humans conceptualize the world and their welfare by separating social actors and nonhuman environmental constituents (e.g., Descola 1994; Ingold 2000; Kohn 2013). Thus policies to promote visions of welfare in the context of climate-related vulnerabilities would be forced to recognize situated cultural differences, rather than promoting a universalist understanding of both Nature and desirable social conditions.

To underscore this point we turn to a discussion of one such community from the northwestern Himalayas and its members who see nonhuman environmental constituents as inseparable from their social and political lives. Such conceptions, we argue, are rooted in their everyday engagements and experiences with different kinds of nonhumans. Before turning to our ethnography, however, we discuss why an analytic attention to experiences of weather and human-nonhuman interactions might allow for a more grounded analysis of climate change. As Chakrabarty (2009: 220) effectively reminds us, people do not experience the world as a single species, and as a consequence the lengthy and global effects of human-related climate change do not readily fit human experience or historical imaginations.
Humans and Nonhumans and Weather and Welfare in the Anthropocene

To question welfare in the Anthropocene requires a consideration of how people experience climate change and environmental-related vulnerabilities as situated and differentiated actors—not simply as a species that exists in opposition to Nature. Fundamental to the commonly held distinction between weather and climate (prevalent in both popular and academic discourses) is the understanding that weather refers to local atmospheric conditions over a short period of time; it is temporary and chaotic, while climate refers to long-term patterns of weather in a given place (e.g., Archer 2007; Cunningham and Cunningham 2006; Sayre 2012). Thus, by definition, it is almost impossible for changes in climate to be perceived through individual experience. Hence it is arguably the difficulty with experiencing global warming that impedes public support against it, even though, as many climate scientists have demonstrated, it poses a grave concern for many of Earth’s inhabitants (IPCC 2013).

And yet, as Morton (2013: 15) persuasively reminds us, climate is real even when its “primordial reality is withdrawn from humans.” Far from being a mental or discursive construct, climate in his view is a hyperobject, in that it exists but is “massively distributed in time and space relative to humans” (1). A problem confronting us and many who write about the impossibility of “grasping” climate, however, is determining ways that a robust politics can be mobilized around an entity and its effects that defy immediate human experience (see Chakrabarty 2009, 2012; Crate 2011; Morton 2013; Vanderheiden 2008). How might human efforts be mobilized to stop climate change if the object under question remains elusive, even invisible? How can we meaningfully rethink human welfare in the context of climate change if the object of concern cannot be perceived? In our view, a critical intervention in understanding welfare in the face of climate-related vulnerabilities is to privilege the experience of weather instead of attempting to make “climate” more intelligible to human experience. A renewed focus on weather allows one to use graspable occurrences that shape everyday life and render it possible (or impossible) to generate a politics that foregrounds a profound rethinking of the ways human and nonhuman constituents entangle to produce environments.

As Morton and others have correctly noted, it is critical to problematize the relationship between weather and climate as it pertains to the human experience of global warming. Morton (2013) subverts the conventional distinctions between weather and climate, in that the former does not reflect climate even though it is undeniable in its immediacy. He cautions us
against resorting to a fallacy in which weather becomes more than a weak representation of climate. One need only read the claims of global warming denialists when weather conditions are anomalously cold to appreciate Morton’s provocative argument (e.g., Mooney 2014). Moreover, most meteorological scientists will be the first to clarify that no specific weather event can be linked to climate change. Yet if we consider climate, as Tim Flannery (2005: 20) does, to be “the sum of all weathers over a certain period, for a region or for the planet as a whole,” then weather is constitutive of our understandings and experiences of climate. Although global climate is nonlocal, its effects are experienced in particular places (e.g., Cassidy 2012; Lazrus 2012). While this framing risks conflating climate, as an abstracted representation, with its reality as a hyperobject (sensu Morton 2013), it nevertheless foregrounds what is experiential and what affects the lives of all inhabitants of Earth.

Weather is experienced by both humans and nonhumans. It occurs in time and place; it influences people’s day-to-day activities; it shapes their moods, forms memories, facilitates crop growth, moves markets, and enables people to enjoy the outside or confines them indoors. Weather is constitutive of human life. In shifting attention away from the incomprehensibility of climate and toward the everydayness of weather, we supplement Morton’s (2013: 48) treatments of weather as a “false immediacy” that perilously masks urgent concerns for global warming. Foregrounding weather makes human experience foundational to welfare in the current period of Earth and human history—a necessary step to understand the politics, everyday practices, vulnerabilities, and discourses related to global warming. Doing so makes the critical insights that anthropology has to offer deeply relevant to discussions or public action concerning welfare and climate change. Fittingly, the anthropological turn to study the intricate relationships between humans and nonhumans, and, more critically, to advocate a dismissal of an ontological dualism between “intentional worlds of human subjects” and an object world of material things, plants, and animals (Ingold 2000: 44), reaffirms the need to disrupt the binaries between nature and culture and to take seriously how people and communities around the globe continue to imagine their lifeworlds. We now turn to an ethnographic example from the Gurez Valley in northern Kashmir on the India-Pakistan border to elucidate the ways that people’s conceptualizations of well-being draw from an ontological making of the world in which humans and nonhumans are both active and vital participants of a social ecological order and where nonhuman constituents are not denied their “interiority” (see Toadvine 2007).
Materializing Welfare in the Gurez Valley

Known for its rich biodiversity and its extreme winters, Gurez remains cut off from the rest of the state for almost six months a year. Its “physical isolation”—a complex product of border-making processes between India and Pakistan that disrupted linkages between places and people—shapes the ways Gurezis speak about and engage with their landscapes. The Indian military has a massive presence in Gurez, and large portions of local land, forests, and meadows are used to sustain India’s defense and territorial interests. Indeed, most infrastructural investments in Gurez are designed to solidify Indian strategic objectives, often at the peril of local populations, who either migrate out of Gurez during winters due to lack of food and other vital resources or stay behind with very few amenities to help sustain harsh weather conditions (Bhan 2014). In a context where the government has done little to ensure yearlong connectivity or create avenues for their healthy survival, Gurezis’ notions of welfare rely on the complex sociality that exists between human and nonhuman actors in which people depend on their cattle, forests, wood, and glaciers for food, livelihood, and nurturance. For Gurezis, then, any discussion of welfare must engage with their everyday relationships with nonhuman environmental constituents and the ways recent infrastructural interventions, such as dams and reservoirs, are putting tremendous strain on such relations.

Whether or not humans are changing the planet enough to leave marks in the strata that warrant the epochal designation Anthropocene, there is little doubt that “humanmade infrastructure” has substantively “changed Earth’s biota and its hydrology through damming rivers, creating reservoirs, sucking dry aquifers, and melting glaciers” (Vince 2011: 33). Colossal infrastructural and ecological changes disrupt existing patterns of human-nonhuman relationalities in which both humans and nonhumans participate actively (albeit not always equally). For Gurezis, climate-related anxieties are the outcome of everyday disruptions between human-nonhuman relationships caused by massive infrastructural interventions that include the construction of a 330-megawatt dam on the disputed waters of the Kishanganga River.

The dam, Gurezis claim, has already restructured their customary relationships with their land and waterscapes, substantially altering the web of relationships among humans and nonhumans that frame notions of health, survival, and welfare in Gurez. The health of their forests, glaciers, and soil
is critical for their survival because care of the self is deeply imbricated with care for their nonhuman counterparts. Such perceptions are hardly romantic; instead, they are based on the material relations that structure Gurezis’ everyday lives, making it impossible to sustain the binaries that separate human from nonhuman well-being or environmental rights from human rights. For instance, the government’s schemes to displace the villagers by offering them a meager compensation in return, only for portions of land that are their “property,” or milkiyat, threaten Gurezis’ dependence on their land, animals, and forests. In a context where people own very small portions of land and rely mostly on the “commons” such as forests and glaciers for food, water, wood, and agriculture, such schemes commodify land and strip communities of their critical resource base.

In addition to altering the local political economy and making Gurezis dependent either on the military or on government compensation schemes, the dam has also triggered several anxieties related to climate change. “If climate change is indeed global, its consequences,” Julie Cruikshank (2005: 25) rightly claims, are “profoundly local.” Gurezis worry about “erratic weather” becoming a regular feature of life in the valley given the construction of the hydropower dam on the Kishanganga. The dam will do many things according to Gurezis; however, its function is not limited to channeling water and following the scientific script that treats dams and rivers as predictable physical entities. The Kishanganga, Gurezis claim, has “moods” that are variable and unpredictable (see figure 2). Memories of two massive floods in the 1970s and the 1990s are vivid and continue to shape their fears and anxieties. They worry that when blocked or rerouted the river will transform everything from weather to vegetation to Gurezi social and economic life. The water, they claim, “will rise” beyond the level demarcated by experts, and, once it does, water not only will “devour” land and houses but will also lead to more fog and cold, making it impossible to live in a place where the temperature already hits forty degrees below zero in the winter (pers. comm., July 13, 2013).4

Contrary to scientific reports, Gurezis do not perceive climate change as a rise in temperatures. According to them, the reservoir will accumulate water that will freeze in the winter and contribute to colder temperatures in the region. Furthermore, the dam, even though still in its construction phase, is already “stunting the growth of crops or killing their prized trout fish”—indicators that the locals use to demonstrate a substantive drop in temperatures (pers. comm., July 20, 2013). Most nonlocal engineers we spoke with denied the construction’s far-reaching effects on village communities.
Figure 2. View of the Kishanganga River, Gurez Valley. Photograph by Mona Bhan
or on the village ecology, although there is a plethora of reports suggesting that the large number of dams in the Himalayas have significantly changed its ecology and made mountain communities even more vulnerable to climatic shifts (e.g., Dharmadhikary 2008: 3; Grumbine and Pandit 2013; Rana et al. 2007; Valdiya 1992). The villagers in Gurez, too, point to visible alterations in their land, forests, rivers, and crops to substantiate their fears. With an already high water table, the land is marshier because of the reservoir. “You only have to dig a few feet to find water under this land; it is dal dal [marshy] and, therefore, hard to cultivate” (pers. comm., August 10, 2013). Gurezis view scientific reports of the dam’s viability and impact with deep skepticism, particularly in light of the fact that these rely on weather patterns of the previous hundred years while ignoring the Kishanganga’s desire to act of its own accord. Their anxieties are critical for alerting us to the dangers of human “hubris in a complex and unpredictable world” (Cruikshank 2005: 19). Gurezis articulate this view well when they claim that the river and its water has a “mind of its own,” one that will act according to its “will” and possibly destroy villages, fields, and homes if its tracks are forcibly altered. Climate-induced displacement is therefore a legitimate concern for many villagers who remain skeptical of India’s National Hydroelectric Power Corporation’s claims regarding the scale of displacements.

Just as with the Kishanganga, Gurezis speak of other environmental constituents as alive and sentient rather than as static, inert, or inanimate. They view nonhumans as vital participants in a social order in which herbs, trees, wood, rivers, glaciers, and dust act as allies but also contain in them unpredictable impulses that can disrupt the foundations of human life. Gurezis speak passionately about their glaciers, attributing to them features that are both benevolent and wrathful. Notably, much as Athabascan and Tlingit languages define glaciers and other landscape features “in terms of their actions” (Cruikshank 2005: 3), Gurezis think of their rivers and glaciers in terms of their capacity to do things. As glaciers move, they carve paths in mountains, allowing people to access highland pastures for their cattle in the summer. Glaciers also bring Gurezis wood from high in the forests, reducing women’s labor in collecting firewood and easing the financial burden on poorer households that can ill afford the purchase of fuel (see figure 3). In summer it is common to see people drying and stacking the wood carried by the glaciers, in preparation for winter. Far from being dead or inert, wood, for Gurezis, is an important actor that extends their lives and helps them survive the extremities of weather. According to Nazir Lone, a young Gurezi villager: “The government does not recognize the value of
wood. They pay us hardly anything in compensation for wooden houses; their schemes do not take into account the ways our wooden houses protect us from the fury of winter.” The relational qualities of wood and its abilities to insulate and withstand floods and earthquakes are seen as important foundations of a “Gurezi way of life,” which is built on recognizing that wood, much like other nonhuman environmental constituents, is also a cultural and social object that enables certain forms of life and modes of sociality. No wonder, then, that villagers are deeply upset about policies that pay Gurezis very little money as compensation for their wooden houses, considered by the government to be kutcha (a term usually reserved for mud houses) rather than pukka, or “concrete.”
In addition to focusing on the “nurturing” traits of their forests and glaciers, Gurezis also complain about how their glaciers can ruthlessly “kill” during avalanches, which are common in the valley and hence deeply feared. The extensive militarization of the region coupled with large-scale construction on the dam site has led to an unprecedented number of avalanches and subsequent deaths. In 2012 a young villager died in an avalanche after engineers demanded the opening of a road in January, a time when access is obstructed by six to twelve feet of snow. Gurezis blame the military and the corporation for being “unresponsive” to the rhythms of glacial shifts and behaviors; their overwhelming focus on security or efficiency, they argue, treats glaciers as nonactors, an unfortunate move in their view for a space carved by the swelling and retreat of glaciers, their ebb and flow, as well as by their wrath and generosity.

Stories about nonhuman actors that play a vital role in constituting people’s social lives in Gurez are many. But not all such actors are “indigenous.” Indeed, the dam’s construction has introduced a multitude of new constituents—metal, stones, rubble, dust—all of which have significantly altered villagers’ social and economic activities. Dust, for example, settles on glaciers and on plants and their wild fruit and leaves, “dirtying them” and rendering them impossible for human or animal use (see figure 4). That cattle now refuse to eat the grass growing in the vicinity of the dam makes it challenging for Gurezis to sustain a subsistence economy. People complain of the increased frequency of asthma and other respiratory disorders because of the mix of dust and rubble produced in the crushing plant located close to the village.

As the preceding discussion demonstrates, Gurezis view their rivers, forests, cattle, and glaciers as important constituents of a sociomaterial order and as actors that are indispensable for their everyday survival but which can also be potentially ruthless. Much like hunter-gatherer communities in India that see the forest as a “parent” (Bird-David 1990, 1992), Gurezis, too, emphasize the “caring” traits of forests while also relying on other nonhuman actors to forge a sense of self and personhood (West 2005: 633). Their attention to nonhumans allows us to see rivers, glaciers, and forests as actors in motion, without “[re]enacting dualistic ontologies that locate the natural and social in separate realms” (Sundberg 2011: 318). Such an approach provides a solid ground for discerning the everyday affinities and alliances but also the differences and disagreements that exist between humans and nonhumans, compelling us to engage with existing configurations of materialities and, at the same time, to be mindful of those that are yet to emerge.
Figure 4. Fine debris and dust generated at the dam site has settled on much of the pasture in the vicinity, making it inedible to livestock. Photograph by Mona Bhan
Discussion: Welfare and the Politics and Historicity of the Anthropocene

Thus far we have sought to problematize the a priori ontological separation of natural and anthropogenic environmental conditions and human and nonhuman social actors that shape narratives of the Anthropocene and welfare in the context of climate change. Such forced distinctions, we argue, have limited our ability to assess emerging vulnerabilities that pose a threat to human well-being and silence the perceptions and experiences of many communities vulnerable to climatic changes. To reiterate, we are not denying that the scale and magnitude of the human impact on climate and the multitude of nonhuman lifeforms and materials that inhabit Earth has significantly increased in the past two hundred years. Indeed, a plethora of scholarship demonstrates considerable (and alarming) changes in Earth’s atmospheric and ecological conditions associated with the unintended consequences of industrialization. However, our caution against accepting the designation Anthropocene is that it potentially ignores that humans have long been enmeshed in a web of human-nonhuman relationalities that are significant to understandings and investigations of both human and nonhuman histories (see also Ruddiman et al. 2015). By reifying the distinction between anthropogenic and natural planetary conditions, society and nature, the concept of the Anthropocene continues to produce Nature as an other set apart from humans in contemporary discourses of climate-related vulnerabilities. To be clear, yes, the scale of human impact on the planet is now different than it was in the past. Yet to suggest that the Anthropocene collapses the historiographical distinction between natural history and human history is also to obscure the underlying ontological issue that the boundary between natural history and human history has always been blurred.

In other words, we are questioning the usage of the Anthropocene not because we are denying the scalar significance of human actions in contributing to planetary conditions that affect both human and nonhuman welfare, but because humans and nonhumans have always been constitutive of these social conditions. This position, of course, is not to downplay the significance of human action or limit the responsibilities of human actors. It does, however, potentially extend agency to nonhumans given their participation in producing particular sociomaterial conditions. Indeed, whether one considers the movements of glaciers in the Gurez Valley as agentive actions that are constitutive of particular social conditions depends largely on how one conceptualizes terms. If intentionality is essential to “agency,” then, for most scholars, glaciers are definitionally precluded. Yet the social sciences and humanities are far from consensus on how intentions relate to
actions, and actions to social change—aside from the recognition that human actions are not equivalent to human intentions and that sociohistorical environments are conditioned by myriad unintended consequences (e.g., Bourdieu 1990; Dobres and Robb 2000; Pauketat 2000). A broader sense of agency as modifying “a state of affairs” (sensu Latour 2005: 71) would necessarily include the actions of glaciers in much the same way that Gurezis attribute agency to rivers, dust, land, glaciers, and the like. As Jane Bennett (2010: 5) effectively reminds us, materials do not necessarily conform “to the contexts in which (human) subjects set them.” However, this is also where nonhumans have limitations as “agents.” It is humans—how they engage nonhumans, assemble them, and negotiate the meanings of their actions—that largely establish the contexts for nonhumans to affect human affairs. As the case of Gurez demonstrates, large infrastructural changes such as dams and reservoirs that entail new institutional configurations, labor regimes, and economic formations substantially refigure existing human-nonhuman assemblages. It is therefore crucial that we historicize human-nonhuman relationships, paying attention to the ways such assemblages are produced. To problematize welfare in the Anthropocene by attending to human-nonhuman relationships is not to deny the role of humans or broad contextual configurations of political economy in contributing to particular sociohistorical conditions. Instead, it is to emphasize the complex associations that exist among humans and the other things, organisms, and matter that contribute to human realities and make human action highly contingent on other actors. In this sense, as the political economy of infrastructural development in Gurez reveals, a renewed focus on human-nonhuman relationships should not neglect human politics and agency in producing such engagements and assemblages; to the contrary, it should force analytical attention on how such entanglements are enabled and the conditions of possibility that influence them.

Decentering human agency complicates liberal notions of causality and responsibility that are critical to framings of welfare in the contexts of global environmental concerns with climate change (e.g., Sayre 2012; Vanderheiden 2008). Indeed, with agency distributed across an assemblage (sensu Bennett 2010), how can anyone be held accountable? Yet the terms Anthropocene and anthropogenic, premised on human exceptionalism, potentially also obscure notions of blame by attributing culpability to the human species as a totality. As Nathan F. Sayre (2012: 67) cogently articulates, a “politics of the anthropogenic must give way to a politics that identifies which people have caused which changes, with what consequences to whom, and demands a justice that is indistinguishably social and environmental at
the same time.” Clearly, then, the politics of the anthropogenic is largely silent on questions of power and difference, particularly given that humanity is not constituted by equal participants in the fossil fuel economy. Indeed, Malm and Hornborg (2014) have suggested that structural inequalities are a necessary condition for modern fossil fuel technology (see also Hornborg 2001, 2011), a technological dependence of industrial capitalism that Philip McMichael (2009) has further linked to inflated global food prices associated with current policies to promote biofuels. Needless to say, the Anthropocene’s emphasis on the human species as a geophysical force glosses these inequalities and hardly ensures a just politics of climate change. Instead, it becomes an alibi for powerful actors to escape the burden of causality and to ignore how certain communities that rely intimately on their surroundings might be more susceptible to climate change, given that it is hardly ever uniform in its devastating impacts on human populations (e.g., Lazrus 2012; Ribot 2014). Thus sweeping attributions of culpability to the human species as a whole weaken any claims to social, political, or environmental justice by silencing (even stabilizing) political economic inequalities that are foundational to the ways people experience climate-related disasters.

It follows that an important step in mobilizing a politics of climate change, we argue, is to recognize the vibrancy (sensu Bennett 2010) of non-humans and not to dilute human responsibility. While human actions are undeniably responsible for climate-related vulnerabilities, such actions and their impact make little sense outside a web of materiality within which human beings remain firmly enmeshed. To recognize the complexity of the Gurezi worldview is not to disregard human agency as much as it is to locate its impact within multiple assemblages of human-nonhuman configurations that are dynamic and emergent and therefore also not entirely predictable. Acknowledging matter’s vitality and sociality does not minimize politics; on the contrary, it allows new possibilities for political action that are grounded in relations between humans and nonhumans and a fuller recognition of their intimacies, affinities, and differences.

By taking questions of matter and materiality seriously, we can expand the basis for speaking about human welfare as well as social and environmental justice. If we take seriously the social role of glaciers—providers of wood, constructors of paths, and wrathful killers—it also becomes imperative to trace how these social roles are being altered and permits injured parties to highlight their experiences of injustice. For instance, the compensation scheme of the Indian government pays Gurezis only for their landed property that the dam will submerge. Such policies fail to take into account that it is also the forests, the mountains, and the glaciers, and not state- or corporate-sponsored
employment schemes, that enable Gurezis to create their livelihoods. Without the resources provided by glaciers and the forest, inhabitants of the Gurez Valley would experience forms of acute poverty incalculable given otherwise straightforward political economic indicators such as gross domestic product or assessments of landownership.

An emphasis on matter and materiality allows us to engage with the complex assemblages that enable well-being in particular places and that likewise generate myriad unintended consequences. Indeed, both archaeology and ethnography have demonstrated that materials frequently do not heed the intentions of humans. As reviewed above, significant soil erosion and vegetational changes occurred in prehistoric southern India despite the best efforts of human inhabitants to maintain optimal conditions for good pasture through the construction of retention walls. We call attention to the degree to which materials can act on their own because much of what passes as progressive politics on climate change in international forums (the Kyoto Protocol, for instance) also considers human technological progress as central to resolving the climate crisis (Toly 2005: 74), reinforcing triumphalist narratives in which humans will eventually subdue a recalcitrant Nature. Missing, and indeed largely ignored, is the materiality of nonhumans that are never guaranteed to be fully in conformity with human will, desire, or design.

A critical understanding of welfare within the context of climate change must thus be prepared to detail the intricate historical relationships among humans and nonhuman actors that make life possible (or impossible) in particular places. Anthropology, with its multidisciplinary methods, is better positioned than other disciplines to address such concerns, attuned to how people embedded in this materiality experience it, perceive it, constitute it, and reassemble it. As ethnography and archaeology have repeatedly shown, people develop fears and anxieties about materials that are part of their daily lives and that are differentially significant to their well-being. Paradoxically, while the Anthropocene adds a much-needed corrective to climate change narratives that view human action as inconsequential, it treats humans as if they were a single, homogenous force. It makes people relevant as agents of environmental change, while leaving people undifferentiated in terms of their feelings, anxieties, geography, culture, class, occupation, or historical relationships to the environment in particular places. Such a position leaves no scope for acknowledging distinct ways of environmental engagement across human societies, thus profoundly undermining alternative understandings and politics of welfare that do not follow the Promethean script of controlling and subduing Nature.
Notes

We owe a debt of gratitude to numerous friends, family, colleagues, and institutions that have both informed and supported the research that frames this essay. Special mention goes to the Archaeological Survey of India, the American Institute of Indian Studies, the National Science Foundation, DePauw University, and the University of Illinois for research permissions and funding that made much of the analyses that shaped our thinking possible. Thanks are also owed to Stanley Ambrose, Charles Roseman, Kathleen D. Morrison, and Rod Wilson for suggestions and for forwarding to us materials that helped shape our thoughts, as well as to Jesse Ribot, who graciously shared a forthcoming manuscript. An earlier version of this paper was presented in 2013 during the 42nd Annual Conference on South Asia at the University of Madison, where we received helpful feedback from participants. We would also like to thank Catherine Fennell for encouraging us to address the Anthropocene and Anne-Maria Makhulu for the kind invitation to contribute to this issue and for her helpful recommendations and keen editorial eye. Of course, any responsibility for errors or opinions remains solely our own.

1 Methane increases are estimated to account for “a quarter of anthropogenic greenhouse heat trapping” (Archer 2007: 116).

2 On the geological timescale, one could point to the oxygenation of the atmosphere during the Proterozoic eon (approximately 2.5 billion years ago) that was likely caused by cyanobacteria photosynthesis as an example of when geophysical history was significantly altered by surface ecology; the introduction of free oxygen into the atmosphere likely reduced the concentrations of methane and triggered a period of global glaciation (see Archer 2007; Flannery and Walter 2012; Frei et al. 2009; Sim et al. 2012; Kopp et al. 2005).

3 See also Ian Jared Miller’s (2013) analyses of nineteenth-century Japan in which he effectively argues that the Anthropocene be considered coeval with the development of “ecological modernity.”

4 Quotations in this paragraph and the subsequent paragraph come from personal interviews conducted by Mona Bhan in Gurez, Indian administered Jammu-Kashmir, between June and August 2013. Quotations translated into English from Urdu by Mona Bhan.

References


