CHAPTER 10

Past Politics and Future Environments

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The world is being torn apart, and academics are busy studying it! I am unable to recall when and where the above quip was entered into a notebook of mine. Perhaps I chanced upon it on a Twitter handle while 'doomscrolling' or maybe took note from graffiti scrawled on some forlorn wall? It is equally most unlikely that the sarcasm is what caught my eye. Much more likely, on the other hand, that I was inspired by the unstated but evident—that academia and activism can be intellectually impoverished when kept apart. Though, for most, the opposite sentiment is what prevails today—that higher education would be better off if it were entirely purged of any sort of active politics, with students kept focused on getting jobs and clearing their educational loans. Such clear reasoning for an apolitical university has, nonetheless, yet to decisively win. More so amongst the young. If anything, political activism has all but exploded and run rampant in recent years within the high walls of many a university. A slew of campaign style movements, for example, have erupted across some of the most conservative and elite campuses in the United States and Europe: notably, the pro-Palestinian encampments against the genocide in Gaza alongside the dogged demand for university administrators to disinvest from Israel, non-violent actions called the 'extinction rebellion occupations' aimed at challenging 'big oil' or 'dirty energy', and the 'de-commemoration' agitations which demanded the removal of colonial era monuments and called for the renaming of public spaces which invoked imperial pasts.

Within the same stride of this loud unrest, the higher education landscape in India has also been witnessing a rough shake-up. With much of the current upheaval being directly traceable to the troubled ascendance of 'Hindutva' as the governing ideology, following the Bharatiya Janata Party (BJP) achieving successive parliamentary majorities under the leadership of

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Narendra Modi. Hindutva, in terms of a crude definition, can be described as a right-wing ideology that is based on politically weaponizing Hinduism by imagining the latter as a majoritarian, supremacist, and exclusivist form of cultural nationalism (J. Sharma 2015; Ananthamurthy 2016; Patel 2020). With the BJP, thus, firmly in the saddle as the central government, the Indian university system and higher education institutions in general have experienced a precipitous and pronounced decline in their academic freedoms, despite laudable fightbacks and courageous challenges by students and the faculty.[1]

This deep ideological churn afflicting Indian politics is, however, not an exception in our troubled times. The world over, in the past decade or so, a host of 'strong-men' have emerged whose political style and actions have essentially sought to undermine democratic values. The likes of Viktor Orbán (Hungary), Donald Trump (USA), Mohammed bin Salman (Saudi Arabia), Narendra Modi (India), Recep Erdoğan (Türkiye), and Jair Bolsonaro (Brazil), to name a prominent few, have unquestionably posed unprecedented challenges for the post-war liberal and democratic consensus. Arguably, decades of neoliberal globalization and the concomitant increase in wealth concentration alongside the intense poverty of the vast majority of the populace has been critical to spurring what has increasingly begun to be described and theorized as a hard shift to a new version of 'populism'—crudely defined as the mobilization of the so called 'pure people' against the 'corrupt elite' (Mudde and Kaltwasser 2017; Kaltwasser et al. 2017). These populist leaders, moreover, have been particularly adept at generating and harnessing a momentous upwelling in nativism, cultural chauvinism, ethno-exclusivism, and majoritarianism.[2] Amidst this rapidly changing political landscape, university students and academia in general have increasingly found themselves having to confront a slew of repressive measures such as censorship, intolerance, ideological policing, and even vigilante violence.[3]

Compounding these very substantial losses in political freedoms is the other unmissable and defining feature of our times: the growing anxieties over a warming planet. Worries that have become particularly acute in the past several decades, with millions of people all over the world suddenly finding themselves on the front lines of extreme weather events such as floods, droughts, hurricanes, mega-storms, and severe heat waves. For many Earth System (ES) scientists, this sudden and startling spike in the frequency of natural disaster events strongly suggests that we might already be amidst a much 'Altered Earth' (Zalasiewicz 2022). Put differently, we

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may be experiencing the end times of the Holocene epoch—the last 11,700 years of relative climate stability that enabled human flourishing.

The Earth System, as a concept, refers to the coupling of two otherwise distinct components: the 'ecosphere' (comprising the atmosphere, biosphere, and cryosphere) and the 'anthroposphere', which refers to all human activity. And if indeed our Earth System is out of sync with its previous epochal level climatic variability, then, in the estimate of Jeremy Davies, the most critical challenge for human survivability in the coming times will be the urgency to either address the 'terminal crisis of the Holocene' or acknowledge that our troubled times are announcing the 'birth pangs of the Anthropocene' (Davies 2016). In either case, societies will increasingly be dealing with radical uncertainties with regard to environmental change and, invariably, also lose the ability to predict seasonal weather behaviour.

In one of the earliest formulations for the humanities and social sciences, Libby Robbins and Will Steffen define the Anthropocene as the 'momentous and historical change in circumstances whereby the biophysical systems of the world are now no longer independent of the actions of people' (Robin and Steffen 2007: 1699). Given that human choices and actions in the Anthropocene epoch are capable of influencing and transforming planetary-level systems, we, that is, humanity as a whole, have potentially become the vector that is capable of bringing about a 'sixth mass extinction event' (Kolbert 2014). It bears remembering that during the fifth mass extinction event—the cretaceous–tertiary extinction that occurred 65 million years ago—most biological life, including the entire species of dinosaurs, was eliminated. This fifth mass extinction event, however, was a result of non-human factors. Referring, in the main, to the impactful effects that were brought about by the crashing of a 10-kilometre-long asteroid on earth in what is today the Gulf of Mexico. Upon hitting the earth, the sheer immensity of the asteroid's impact had set off a massive thermal pulse that violently swept across and eliminated most forms of biological life.

The current planetary threat to all biological life from global warming can be considered similar in scale to that of a devastating impact from a large asteroid. Global warming refers to the build-up of greenhouse gases (GHG) in the atmosphere and is measured in carbon dioxide (CO_2) equivalents. According to the scientific consensus on the subject, an increased concentration of GHG in the earth's atmosphere will amplify the trapping of ever larger quantities of solar radiation, thereby preventing the latter from otherwise escaping into outer space. This build-up of radiated heat within the atmospheric skin of planet earth is likened to creating a greenhouse effect.

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The concentration of greenhouse gases for 2024 stood at 422.03 parts per million (ppm) (National Oceanic and Atmospheric Administration n.d.), which is almost a 150 per cent increase from its previous value of between 260–284 ppm in the eighteenth century or the pre-industrial period (McNeil and Engelke 2014: 65–69). Human economic activities have been one of the prime drivers for the current build-up of GHG, especially in the continued use of fossil-based fuels. And if the rate of these carbon-based emissions continues to remain unchecked, it is widely held, global warming in the very near future could breach critical thresholds of the Earth System and thereby potentially make all biological life unsustainable on the planet. This sixth mass extinction event, however, would be the result of an anthropogenic forcing—a human rather than a naturally or non-human caused extinction event.

What then becomes of environmental history in our current context, caught as the field appears to be between the hammer of populism and the anvil of climate change? Peter Sutoris, in a recent monograph compellingly titled *Educating for the Anthropocene,* reflects on the many dilemmas in having to 'educate ourselves out of unsustainability' (Sutoris 2022). Through an engaged ethnography of how students and teachers in two high schools (South Africa and India) engage with the challenges of environmentalism, Sutoris concludes that a depoliticized, bureaucratized, and instrumentalized teaching ends up reinforcing the belief in the need for 'endless economic growth' rather than becoming a source for a meaningful critique of the latter.

Sutoris, nonetheless, believes that pathways for crafting hopeful environmental futures through environmentally informed school curricula still exist. The emphasis, he avers, however, will greatly depend on how environmental activism can be connected to schooling. The success of which will require the profound resetting of educational goals by developing what he terms as three 'antidotes': (*a*) creating a scope for enabling students to cultivate a 'radical imagination' to think the unthinkable by questioning the existing 'dominant paradigms' on economic growth, (*b*) embrace 'agonistic pluralism'—turning disagreements into sources for strengthening democratic solidarities, and (*c*) the need to be mindful of 'historical responsibility', whereby actions and thoughts must acknowledge the 'debts to the dead' and 'debts to the unborn' (Sutoris 2022: 151–194).

While the actual transformative potential of the three 'antidotes' is debatable, what Sutoris has nonetheless flagged for us with his detailed ethnography is the urgency for aligning the practice of pedagogy with the coming challenges of climate change and the larger linkages that environmentalism has with democracy. In other words, a business-as-usual

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attitude for schooling will most certainly leave students ill-prepared for dealing with a radically changed future, marked by extreme weather events, climate chaos, economic scarcities, social anxieties, and political instabilities.

The need to repurpose schooling to meaningfully take on climate change concerns can be similarly scaled up to pose questions for the university. Can existing academic disciplines and fields such as environmental history respond to the emerging realities created by climate change? Put differently, is academia still rooted the Holocene imagination? Christophe Bonneuil and Jean-Baptiste Fressoz, in their *Shock of the Anthropocene,* spell out the challenge:

> A few decades ago, the 'environment' was still understood as that which surrounds us, the place where humans went to extract resources, deposit waste, or even that in certain places was to be left virgin…. The concept of the Anthropocene challenges this separation and … [in] place of the 'environment' there is now the Earth system…. Instead of 'master and possessors of nature', we find ourselves each day a bit more entangled in the immense feedback loops of the Earth system. (Bonneuil and Fressoz 2016: 20)

Clearly, from the earlier observations, there is an evident and significant distinction that is being drawn out: between the environment as a central concept for writing environmental history in the Holocene, in contrast to the role of the Earth System in the epoch of the Anthropocene. As Bonneuil and Fressoz clarify, while in the Holocene the environment was discussed in terms of how it was modified or (ab)used, in the Anthropocene, the appropriate level of concern should be on how the Earth System can be kept viable for supporting all life on the planet. In effect, future environments and the politics of global sustainability become critical themes for exploration and discussion in the Anthropocene. But will such a stark conceptual shift—from environment to Earth System—undermine the conceptual grounds for writing environmental history both as a field within academia and a crucial ingredient for environmental activism? Put differently, if the object of analysis is no longer the environment per se but more centrally about the Earth System and the varied ecological feedbacks and geochemical thresholds, does the field of environmental history become irrelevant in the context of global warming and climate change? After all, the concerns, themes, and methodologies for tracking environmental change and documenting political struggles over natural resources have been crucial for the making of compelling narratives for environmental history and for defining the field itself.

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This chapter, however, will only attempt a modest stab, at best, at exploring whether environmental history can hold intellectual ground in the Anthropocene through the notion of environmentalism. Several caveats are in order. First, if the response is to be kept meaningful, especially given that this is only a chapter-length effort, then the exercise must perforce be limited or restricted to being only within a tractable and manageable sub-field—environmental history of South Asia (EHSA). Second, key to highlighting the differences between the EHSA and the Anthropocene, I aver, is understanding their respective conceptual consequences for environmentalism or environmental activism. In other words, I try and explore the divide between the EHSA and the Anthropocene in terms of what they potentially throw up for what can be defined and considered as being environmentalism or environmental activism? These qualifications apart, we are still required to begin by throwing a searching light on the notion of the Anthropocene.

What Becomes of the 'Anthropocene'

In a popular retelling, Paul Crutzen, a Nobel prize-winning chemist, at a conference on the earth sciences just outside of Mexico City in 2000, impetuously declared in an exchange with fellow panellists that the planet was no longer within the climatic bounds of the Holocene epoch. And then, almost as an afterthought, went on to assert that renaming the current epoch as the Anthropocene would be better able to acknowledge the overwhelming impact of the Anthropos—human.[4] In 2009, an Anthropocene working group (AWG) was set up to investigate and assess whether a convincing case could be made for locating a shift in the Earth System within a new geological timeline. After a decade of evidence gathering, debate, and discussion, the AWG in 2019 concluded that the earth had indeed entered a new phase and opened the possibility for placing it within a distinct geological unit. The subsequent procedure for placing the earth in a new geological timeline, however, was required to be based on the assessment of the foremost expert body on such matters: the International Subcommission on Quaternary Stratigraphy (SQS). In what appeared to be a highly charged meeting in February of 2024, twelve members voted to reject the proposal, while only four votes were secured in favour (Witze 2024: 249–250). Despite the majority verdict, the chair of the SQS, Professor Jan Zalasiewicz of the University of Leicester, went on to maintain that the 'vote had not followed the rules' (Carrington 2024).[5]

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There is, nonetheless, already an embrace of the Anthropocene notion by a range of international organizations and by numerous academic departments.[6] In recent years, a noisy commotion of sorts has broken out in the humanities and the social sciences over the conceptual appropriateness and relevance of the Anthropocene.[7] Three conceptualizations, in particular, have become contentious: (*a*) humans as geological agents, (*b*) the Earth System, and (*c*) planetary boundaries.

In a seminal intervention in a 2009 essay titled 'The Climate of History', the postcolonial theorist and historian Dipesh Chakrabarty argued that the humanist distinction between natural history and human history appears to have collapsed within the reckoning of the Anthropocene (Chakrabarty 2009). And at the heart of this striking claim was the equally striking announcement of a rupture wherein the notion of humans could no longer be correctly and helpfully grasped as biological agents, that is, the biological–cultural human—the central character of environmental histories since the 1970s and whose actions caused deforestation, pollution, environmental degradation, and resource depletion—had now been transformed into a 'geological agent', possessed of the capacities to bring about a planetary level impact. This is to imply, in Chakrabarty's understanding, that the human geological agent had the power to potentially bring about a mass extinction event, that is, a human-induced planetary-level mass extinction event, which would be equivalent or akin to the fatal impact of an enormous meteorite strike or the prolonged eruptions of super volcanoes or the shattering of the earth's crust by massive tectonic activity. The human, thus, by having pumped close to a trillion metric tons of human-produced carbon dioxide into the earth's atmosphere, was not only profoundly altering the chemical composition of the latter but, in doing so, had become in recent times the single most defining and critical influence in shifting the Earth System.

The framing of planet earth as an Earth System was inaugurated with the emergence of the Earth Systems Sciences (ESS) in the 1980s and was greatly spurred onwards by the Cold War (1947–1991). The Cold War decades were shaped by intense geopolitical rivalries between the United States of America and the former Soviet Union (USSR), which, in particular, involved an expensive race between the two countries to build planetary-level surveillance capacities through space research (Hamblin 2013). And it was in keeping with the need to develop such a planetary-level gaze from outer space that saw ESS research receive a huge boost as a super discipline: a holistic big picture approach to map, monitor, and study the planet as a 'coupled human and ecological system' through satellites,

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remote sensing technologies, computer models, and databases (Lövbrand, Stripple, and Wiman 2009).[8]

The ESS, in effect, was oriented towards not only tracking environmental changes and the spectrum of human impacts on varied aspects of the processes that make life possible on the planet but, critically as well, it could also help identify a probable 'shift' in the Earth System itself; for example, the huge GHG build-up in the earth's atmosphere could now be meaningfully grasped as a crisis that could be brought about with the crossing of certain critical environmental 'thresholds' or vital 'tipping points' or the development of negative feedback loops. Consequently, for Bonneuil and Fressoz, the Anthropocene 'cancels the peaceful and reassuring project of sustainable development'. Undermining, thereby, the simple belief that there could actually be a mutually negotiated settlement between the realms of the economic, the social, and the environmental (Bonneuil and Fressoz 2016: 22). Living in the Anthropocene requires us to grapple with a highly unpredictable Earth System that profoundly breaks with previous ideas about controlling and dominating nature. No longer, as Bonneuil and Fressoz go on to bluntly conclude, can there be attempts at reaching a 'compromise between human exploitation and nature conservation' (Bonneuil and Fressoz 2016: 24).

At the heart of this reorientation away from sustainable development is the notion of planetary boundaries. In what proved to be one of the most cited papers in recent years, a large number of scientists—following an interdisciplinary exercise in 2009, published in the highly regarded scientific journal *Nature*—identified what they termed to be nine planetary boundaries, with each boundary serving as a sort of 'guardrail' that could raise red flags and warnings if a vital biophysical process that was critical to the functioning of life on earth had been transgressed because of human activity. Through this unique means of monitoring quantified critical life processes, a safe operating space (SOS), according to these scientists, could be objectively established. In their estimate, consequently, as long as pursuits for human flourishing did not transgress any of the planetary boundaries and stayed within the SOS, the Earth System could be thus kept resilient and relatively stable for all planetary life (Rockström and Klum 2015: 59–80). The planetary boundaries framework, hence, not only seems to have revived the spaceship–earth metaphor but has unapologetically put ESS in the cockpit while giving the steering wheel and control levers to humans. In effect, with the Holocene as its reference point in the rear-view mirror, a dominant and defining role for human stewardship now becomes critical to assembling an SOS for the Anthropocene.

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Clearly, the Anthropocene forces a drastic conceptual reorientation. Nature in an altered earth cannot be left to itself if biological life is to be sustained and human flourishing is to be made possible. Can the EHSA respond to such a change in perspective? While this chapter will argue that the EHSA is uniquely positioned to effect such a mood change, it will first require us to rehearse and evaluate the three broad frameworks that have thus far defined the field and situate them within the broader context of environmental politics: (*a*) the colonial watershed thesis, (*b*) continuities with change, and (*c*) the globalists.

'Colonial Watershed' and the Developmental State

Environmental history of South Asia as a self-conscious field is widely credited to have come into its own following the publication of Ramachandra Guha's *The Unquiet Woods* (1989). Central to the plot, in this now much celebrated monograph, was the fate of the oak (Quercus leucotrichophora) and conifers forests (Cedrus deodara [Himalayan cedar], Pinus wallichiana [Himalayan pine], Cupressus torulosa [Himalayan cypress], and Abies spectabilis [Himalayan fir]) in the lower Himalaya region, which were systematically felled by British colonial authorities from the mid-half of the nineteenth century (Guha 1989).[9] The huge demand for these Himalayan forests was, in the main, driven by the requirements of the then fledgling colonial railways for 'sleepers'—the wooden crossties that are laid between two tracks. This overriding need to secure access to the then still very dense forests in the Himalaya caused the colonial government, Guha argues, to establish a forest department that maintained its essentially extractive agendas through the notion of 'scientific forestry'. Critically, as the forest department began to expand its bureaucratic control over the region's forests, local communities steadily lost their customary access to their village woodlands and forests.

Unquiet Woods essentially rested on two striking claims. First, that colonial forest policies inaugurated a decisive and unprecedented ecological rupture with the introduction of systematic harvesting, management, and control of timber in the Himalayan region. Second, that pre-colonial societies—dominated by predominantly subsistence-based and relatively homogeneous peasant communities—coexisted in relative ecological harmony or equilibrium with their surrounding environments. In effect, for Guha, the 'colonial watershed moment' describes and explains how South Asia's harmonious environmental pasts were undermined by British colonial strategies for resource extraction and exploitation.

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In a subsequent 1992 publication titled *This Fissured Land* and co-authored with the ecologist Madhav Gadgil, the equilibrium–rupture model was further elaborated. Accordingly, the pre-colonial world in the Indian subcontinent or South Asia (much of which was equivalent to the territorial extent of British India) was described as wholly marked by a 'considerable degree' of social coherence and ecological stability. And it is only upon the march of British colonialism, industrialism, and consumerism in the subcontinent that the innumerable self-sufficient communities living in ecological equilibrium were now forced to suffer 'ecological decline'. These new forces of modernity that emerged from the womb of nineteenth-century Europe, moreover, were so powerful and seductive that in Gadgil and Guha's reckoning, '[t]he process of ecological change they initiated would continue, and indeed intensify, after they [the British colonialists] left Indian shores' (Gadgil and Guha 1992: 118).

Unsurprisingly enough, Gadgil and Guha's colonial watershed thesis was particularly attentive to the challenges and consequences of development. From the 1960s and well into the 1980s, as Radhika Krishnan points out, Nehruvian nation-building and the status of science and technology increasingly came under scrutiny from a range of activists, thinkers, and popular movements. At heart was the belief that the pursuit of development was turning out to be a zero-sum game, in which the ecological costs of economic growth were being mostly borne by marginal communities who were critically dependent upon local natural resources and had access to a plethora of common property endowments such as forests, rivers, grasslands, wetlands, and so on (Krishnan 2018).

Earlier in 1982, the Centre for Science and Environment (CSE), an Indian non-governmental organization, published a comprehensive report on what they chose to term as the first assessment of the State of the Environment (SOE) in India. Titled as *The First Citizens Report,* the editors were able to convincingly underline that 'conflicts in the developmental process' were essentially 'conflicts over [natural] resources'. Development and the model for economic growth, in effect, were brewing an environmental crisis and undermining the subsistence abilities of many small and marginal communities (CSE 1982). Gadgil and Guha's writings were not only in step with much of the CSE's assessments but their colonial watershed thesis helped arm India's then fledgling environmental movements with a compelling neo-traditional narrative, whereby ecologically harmonious communities could offer alternative imaginations for achieving sustainability.[10] For Gadgil and Guha, thus, environmental histories could support environmental politics by helping environmentalists and activists

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understand how India's ecological pasts could be repurposed for challenging the reigning orthodoxies on development and economic growth (Sinha, Gururani, and Greenberg 1997).[11] In terms of who could be the likely social and political constituency for driving environmental movements in India, in a subsequent monograph titled *Ecology and Equity,* Gadgil and Guha put forward the category of the resource-prudent 'ecosystem people' (Gadgil and Guha 1995). Comprising in the main of hunter-gatherers, nomads, pastoralists, subsistence peasants, and forest dwellers, these ecosystem people, once sufficiently mobilized, could take on the interests of the *omnivores,* the narrow elite who made up the ranks of the resource profligate and who mostly inhabited urban environments.

In sum, Gadgil and Guha had turned environmental history not only into a compelling framework for informing environmental politics but, critically as well, gave perspective to a then still fledgling environmental movement in India. The colonial watershed thesis, moreover, was able to conceptually tap into the then reigning mood for sustainable development, which as a notion had been defined and mooted earlier in 1987 by the World Commission on Environment and Development (WCED) in their widely endorsed report titled *Our Common Future* (often referred to as the Brundtland report). The appeal of sustainable development lay in the rather disarming suggestion that all of humanity had the ability and the means to 'meet the needs of the present without compromising the ability of future generations to meet their own needs' (World Commission on Environment and Development 1988).[12]

Continuity-with-Change as Policymaking

Following India's balance of payment crisis of 1991, the country's basic economic architecture began to be radically reorganized. From being a 'statist, import substitution model of development with a socialist flourish', the Indian economy throughout the period of the 1990s was beginning to be profoundly transformed through a new regime that sought to 'liberalize' trade, tariffs, and exchange rate policies.[13] According to the astute political scientist Atul Kohli, this period of intense economic transformation in India proved to be a pro-business turn rather than a pro-market growth strategy. Put differently, the seeding of the perceptible structural shift, for Kohli, essentially began not from the 1990s but from the 1980s onwards with the Indian government's wilful and steady decision to 'embrace Indian capital as the main ruling ally' (Kohli 2011).

Amidst this period of drastic economic reorientation, the then still incipient scholarship on EHSA also began to reconsider the environmental

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pasts of South Asia under a fresh framework, which began to be popularized as the 'continuity-with-change' approach. The 1996 monograph by Mahesh Rangarajan was perhaps among the first to trouble the equilibrium–rupture model (Rangarajan 1996). While his monograph, *Fencing the Forest*, took the familiar route of arguing that imperial forestry led to radical changes in the social and ecological fabric within the Central Provinces in British India, these changes did not fall singularly upon any pre-colonial community that was living in some sort of 'steady-state ecological harmony'. If anything, according to Rangarajan, tensions between inhabitants of the hill areas and the cultivators of the lowlands had caused landscapes to undergo very substantial transformations even prior to the arrival of British colonial rule in the region (Rangarajan 1996: 200).

The publication of Sivaramakrishnan's *Modern Forests* in 1999 further added to the new change in mood, with a rigorous examination of colonial forestry plans and their implementation in the woodlands of eastern India (Bengal). He particularly noted that a homeostatic or equilibrium view of nature offered little understanding about the region's many layered social contexts and ecological possibilities (Sivaramakrishnan 1999).The idea of ecological change, for Sivaramakrishnan, more pointedly, could not be grasped as a one-dimensional shock. Rather, *Modern Forests* argued that the colonial encounter in woodland Bengal revealed that yawning gaps existed between the implementation of colonial forest policy, social and ecological complexity on the ground, and the perplexing problem of local resistance. Put differently, the Gadgil–Guha thesis appeared naive, if not entirely ahistorical.

Just as the new arguments against the colonial watershed thesis began to gain acceptance, the social anthropologist David Mosse, with the publication of *Rule of Water* (2003), brought in a fresh set of critiques by throwing a spotlight on irrigation in pre-colonial and colonial south India. By problematizing environmental history writing through discussions on collective action and policymaking, the monograph was able to make several compelling claims. It pointed out that the Tamil countryside, with its characteristic tank system, was inherently unstable, changeable, and often subject to recurring extreme events such as floods (Mosse 2003: 7). Consequently, the irrigation community in south India sought to hedge their investments in tank construction and maintenance not through strategies for achieving village level isolation but the reverse by seeking out the patronage of powerful strong men, alliance building, the cultivation of reputation, and the accumulation of honour (Mosse 2003: 5). In effect, instead of finding the enduring indigenous and autonomous community

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at the heart of a tank system, Mosse, through the lens of environmental history, was able to argue that pre-colonial practices involved the careful massaging of tentative and delicate negotiations with local and regional power groupings.

The 'traditional timeless community', hence, for Mosse, was non-existent. Amidst the backdrop of a growing critique of the quest for an eternal ecosystem community, Arun Agarwal and K. Sivaramakrishnan, in a jointly edited collection of essays under the unlikely title *Social Nature* (2001), pressed for another sharp conceptual reorientation (Agrawal and Sivaramakrishnan 2001). For one, they argued that the divide between an 'autonomous nature' and a 'human constructed landscape' was actually a far fuzzier boundary in much of South Asia. Forests and settled agriculture—for example, through the course of the Indian subcontinent's long and troubled histories—existed in a state of flux, by which the agrarian frontier was often in retreat as much as there were periods when it advanced against forests and pastures (Agrawal and Sivaramakrishnan 2001: 1–22). The environmental dynamics, moreover, between pastoralism, shifting cultivation, pristine forests, nomadism or desert, and wetland ecologies were made up of layered material interactions and cultural interdependencies. Put differently, Agarwal and Sivaramakrishnan argued that the 'malleability of landscapes' in South Asia brought to the fore the problem of trying to understand how history, power, and identity shaped varied ecological imaginations, natural resource conflicts, and environmental politics (Agrawal and Sivaramakrishnan 2001: 6).

By the latter half of the 1990s, there appeared a clear intellectual reorientation within the EHSA, with a slew of studies now suggesting that South Asia, when placed within larger frames of time, was marked by fluid landscapes, evolving social–ecological arrangements, and boundaries between nature and culture prone to being constantly shifted. Furthermore, instead of the previous emphasis on critiquing only the developmental state, the continuity-with-change advocates turned their sights on researching the environmental implications in a number of new concerns such as governance, law, citizenship, environmental impact assessment, and conservation. While the Gadgil–Guha framework sought, in the main, to address popular grassroots environmentalism and the politics of sustainable resource use, the continuity-with-change enthusiasts focused instead on directing environmental histories towards addressing environmental policymaking.

The EHSA, consequently, sought to become relevant to audiences in advisory committees, wildlife biologists, conservation bodies, and

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environmental regulators.[14] The shift to policy worlds and experts, however, did not automatically lead to the 'rule of the expert'. The emerging challenge, in the main, rested on a different awareness, best described by the erstwhile Minister of the Environment and Forests Jairam Ramesh (2009–2011) as 'balancing ecological concerns with the imperative of high economic growth' (Ramesh 2015: 7). For the minister, though, and understandably perhaps, the balance should favour a 'middle path'—neither the fundamentalism of 'grow now, pay later' nor the entire rejection of economic growth.

Environmental history, as primarily an input for policymaking, had to be mindful of the realities and pressures for economic growth, even as it had to meaningfully address the challenges of explaining and documenting environmental degradation, that is, an environmental narrative that could appeal to conservation experts, committees, and legal tribunals by being able to offer practical, pragmatic, and cautionary possibilities for policymaking. The weight of environmental history thus appeared to have been bent towards advancing institutional capacities for environmental decision making rather than exclusively feeding, as in the colonial watershed framework, into the requirements for environmental movements, politics, and activism.

Globalizers and the Emergence of Anxiety

Richard Grove's magisterial *Green Imperialism,* published in 1995, went against the run of the then-existing EHSA scholarship (Grove 1995). According to the historian Sivaramakrishnan, *Green Imperialism* advanced, amongst many others, two particularly striking formulations. First, British India was largely recast in the role of being a giant outdoor 'experimental laboratory and field research station' which provided environmental knowledge and theories that helped spur the development of a 'global environmental consciousness'. In effect, according to Grove, significant and cutting-edge research in environmental ideas and discoveries travelled from the tropics or the colonial periphery to Europe or the metropolitan centre rather than the reverse. Second, Grove's *Green Imperialism* argued that EHSA could no longer be 'easily written as another episode in the history of colonial domination and indigenous resistance' (Sivaramakrishnan 2007: 105). Rather, by documenting and exploring the varied European colonial encounters in the tropics through the trade and territorial expansion of the Venetian, Dutch, English, and French maritime powers between 1660 and 1860, one could trace, map and document the birthing of the environmental

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sciences and the evolution of Western global environmentalism, and track the assembling of a dense number of global scientific networks that aimed to monitor and study the causes of environmental change.

But central to the making of global environmentalism, Grove repeatedly underlined, was the 'bourgeoning influences of climatic theories' and, in particular, the increasing receptivity to 'desiccationist' discourses which tended to establish strong links between deforestation, rainfall decline, crop loss, desertification, and inevitably climate change (Grove 1995: 158–167). With anxieties, thus, growing that forest loss could ultimately end up in political instability, the otherwise aggressive European quest to dominate people and extract resources from the tropics found itself, in time, being checked and dialled downwards. Increasingly, as science experts and their networks talked up the dangers of environmental degradation, colonial governing dispensations became alarmed enough to find ways for reigning in the gargantuan colonial appetites for tropical goods and materials through institution-based conservation efforts such as forest departments. Alongside this were developed science-based capacities for documenting a range of concerns such as tropical medicine, meteorology, botany, zoology, geology, soil sciences, horticulture, and a host of other aspects related to tropical environments. Governing the tropics and harnessing its resources, in other words, produced a novel global-level understanding within the European intellectual world, not only of the interconnectedness of environmental processes but also an alarm about how fragile environments once degraded could lead to dire political consequences.

Undoubtedly, arguments and writings that fell under the colonial watershed thesis and the continuity-with-change frameworks, as mentioned earlier, did much to explore, document, and specify how colonialism generated a distinct and unique environmental footprint in South Asia. Grove's oeuvre, in contrast, shifted the angle of vision by largely emphasizing two aspects of the European colonial encounter in the tropical world. First, organizing conservation or a restraint in colonial extraction agendas through the institution of forest departments, for example, were essentially driven, he argued, by 'anxieties' of the colonial state, which saw in environmental degradation the frightening potential for political instability. Second, it was precisely such anxieties which, moreover, were loudly talked up by a new scientific elite that ended up driving the colonial governments to establish science-based institutional responses for conservation, such as forest departments, soil science, botanical gardens, and so on. Inevitably, an innumerable number of scientific networks were spawned that began to monitor environmental conditions at the global

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level. *Green Imperialism*, in effect, can be more meaningfully grasped as an intellectual history that mapped the emergence of a global environmental consciousness rather than centrally being about an environmental history of environmental change per se. This novel framework, in effect, underlined the urgency for exploring the 'tensions' between an 'insecure colonial state and the climatic environmentalism of the new scientific conservation elites' (Grove 1995: 485). An approach that can perhaps be best referred to as a 'globalist' framework. A term that can also be traceable to the writings of Richard Grove, for whom a planetary scale for analysis would be critical for understanding how ideas and theories about environmental change from the early modern period onwards were assembled through the varied processes and politics of globalization, especially between the seventeenth to the nineteenth centuries.

Two monographs that were published in 2006 can help us grasp how a global scale analysis can further fine-tune the globalist approach within the scholarship on EHSA. Ravi Rajan's *Modernizing Nature* discussed how modern attitudes to 'natural resource management' were first incubated in specifically European settings before being implemented in the colonies of South Asia. The argument here was that ecological change in British India was driven and determined, in the main, by European contexts, circumstances, and knowledge, even as local contexts shaped and distended many of the implementation outcomes.[15] Colonial forest policies, in effect, in Rajan's opinion, stemmed from a larger set of calculations than simply that of colonial conservation efforts or from local extractive agendas; he sought to argue that the peculiar pattern, pace, and modes of ecological change in British India were a result of a broader European-led global quest to create a new type of 'modern' nature: a nature turned into an abstract commodity and a resource that could be alienated from community access and its cultural entanglements. For Rajan, therefore, explaining the emergence of a modern notion of nature was key to unlocking the colonial strategy in British India and its ecological impacts.

By similarly invoking a broad-ranging global scale, Rohan D'Souza's *Drowned and Dammed* argued that the British colonial ecological imprint in India was essentially shaped by the peculiar dynamic of capitalism, albeit in a colonial context. Through the course of the nineteenth century, it is pointed out, colonial flood control initiatives in the Mahanadi delta in eastern India transformed what was previously a flood-dependent agrarian regime into a flood-vulnerable landscape; while in the pre-colonial period cultivators in the Mahanadi delta tapped the fertilizing silt that was brought in by the seasonal inundations, under the colonial dispensation,

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the introduction of bourgeois property in land forced a decisive ecological rupture between the rivers and the surrounding flood plains. By instituting land as permanent and exclusive ownership rather than allowing it to remain as an ecological relationship within the rhythm of seasonal inundation, flooding in the delta, D'Souza argues, was radically recast as a calamitous event. The Mahanadi delta was thus transformed and inserted into the larger narrative of colonial capitalism through the idea of flood control with the technological accompaniments of embankments, canals, and ultimately, a large dam (R. D'Souza 2006).

For writings within the globalizer framework, though environmental change was crucial to understanding the European encounter in the tropics and the 'periphery', what, nonetheless, remained central to the plot was the emergence of a new and unprecedented environmental consciousness which informed governance and administrative practices.[16] Hence, whether it is Grove's notion of 'western environmentalism' or Rajan's discussions on 'modern nature' or D'Souza's attempts to explain 'colonial capitalism's' distinct attitudes towards river control, the emphasis is on exploring how transnational science networks such as forestry, botanical gardens, or irrigation engineering played crucial roles in determining attitudes towards the natural world and consequently spurred environmental ruptures and transformations.

The globalizer framework, in essence, argued for moving beyond local, regional, or national scales in their explorations, while remaining alert to how environmental knowledge assembled through global interactions defined political contexts and shaped specific kinds of attitudes to nature. In several ways, the globalists, with their emphasis on studying the politics of knowledge-production within global scientific institutions and tracking how transnational science networks were assembled, helped set up rich possibilities for carrying out conversations between EHSA and the field of political ecology.[17]

While, arguably, political ecology gained considerable traction as an academic field following the publication of the path-breaking monograph by Piers Blaikie and Harold Brookfield, titled *Land Degradation and Society* (1987), the novelty in questioning the relationships between soil degradation and political economy drew from an earlier body of scholarship. In particular, as Tim Forsyth informs us, a slew of writings in the 1960s and 1970s sought to explore how the ecological sciences themselves needed to be understood as being 'inherently' political (Forsyth 2003: 4–5), that is, ecology as a form of science that aimed to study and understand biophysical processes was also clouded by assumptions about the place of the human in nature and

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how human impacts on the environment could be tied to issues of social inequality and injustice. The ecological sciences, in other words, rather than being neutral, were riddled and shaped by politics and issues of power.

Globalizer approaches within the EHSA, by thus focusing on how environmental consciousness or scientific attitudes towards the natural world were shaped in the early modern period by processes of globalization, European colonialism, Western cultural perceptions, emergent capitalism, and indigenous resistance, put the sciences on the environment under a historical lens. And, critically as well, revealed how what passed off as the scientific understanding of nature was deeply contested and politically charged. The globalist strand of scholarship within the EHSA, in effect, could be empirically and theoretically productive for political ecology by providing facts, evidence, insights, and conceptualizations for understanding how imperial imperatives drove and shaped the sciences in the colonies.[18]

Concluding Remarks

While the three frameworks—colonial watershed, continuity with change, and the globalizers—do capture a large slice of the existing scholarship, they do not exhaust the entire spectrum of writings, arguments, and ideological positions in what is unquestionably by now a large and sprawling sub-field within environmental history. In recent decades, the EHSA has witnessed a huge surge in the publication of monographs and peer-reviewed articles. This new bourgeoning list of themes and concerns would have further revealed how nuanced and sophisticated the EHSA response and contributions have been to the challenges of environmentalism and environmental activism.[19] My choice, however, to insist on having only a schematic, terse, and limited analyses of only three frameworks was as much forced by the limitations of the chapter-length format as it was required to retain the primary focus. As stated at the outset, the main thrust of this effort has been to explore whether the EHSA could speak to the possibilities for environmentalism in the epoch of the Anthropocene. Put differently, once ESS and the planetary scale become the dominant paradigms for discussing biological survivability and human flourishing in our times, will local, regional, and even national frameworks for environmental politics get marginalized or, at best, become mere subplots within debates framed by discourses on the Anthropocene?[20] Johan Rockstrom, in a recent reflection, noted that ESS insights on emerging global risks 'puts into question whether the nation-state is an appropriate unit for governing human development on

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Earth'. Accordingly, in Rockstrom's estimate, the ESS has, over the years, helped deliver three crucial 'conclusions for future world development': (*a*) a safe and just future for humanity on Earth is more than 'only' solving the climate crisis, it requires safeguarding the resilience and life-support systems of all planetary boundaries, in particular a functioning biosphere, (*b*) meeting scientifically defined global sustainability criteria for climate, biosphere, and pollutants is a prerequisite for attaining the aspirational outcomes for world development expressed in the United Nations Sustainable Development Goals. Continued unsustainable development puts security, social stability, equity, and prosperity for the entire world at risk, and (*c*) nothing less than social transformation at a global scale (that is, non-linear pace and scale-of-change processes) is required for a safe and just landing for world development within a stable Earth System.

Clearly, for Rockstrom, ESS thinking is fundamentally oriented towards meeting the challenges for developing a 'global governance architecture' and aimed primarily at addressing the needs for managing the 'Planetary Commons: clean air and water, biodiversity, healthy oceans, and a stable climate' (Rockström 2024: 5). Consequently, with the scale thus turned to the planetary, especially in the pursuit of achieving a 'stable climate', can there still be a case for the relevance of the EHSA or is it the moment to throw in the towel, metaphorically speaking, and embrace Anthropocene studies as 'the' successor field?

On the other hand, what can one make of environmental politics or the equivalent of the latter in the epoch of the Anthropocene? Will it essentially boil down to all actions and interventions that help us maintain planetary boundaries, the biophysical guardrails that provide us a safe operating space within which all life can be enabled to flourish? If such is the case, will environmentalism become chiefly the domain of ESS? Will only Earth System scientists be exclusively allowed to draw red lines when it comes to monitoring biogeochemical and physical indicators and decide upon which kinds of Earth System thresholds cannot be crossed? In other words, will it turn into a demand for a kind of planetary stewardship that is based on an even stronger version of environmental techno-managerialism or what John Dryzek has termed as 'promethean environmentalism'—solving environmental problems through technological fixes (Dryzek 2022: 58)? Or as Mark Lynas, the British author and journalist, remorselessly declares, 'Nature no longer runs the Earth. We do. It is our choice what happens from here' (Lynas 2011: 8). For Lynas, modern technology—'the tools of the gods'—should enable us to successfully transcend even the 'inferno' of climate change. Nothing should be off the table for managing the planet

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into staying well within the zones of sustainability, from genetic engineering to nuclear fission along with unbridled optimism for achieving human flourishing (Lynas 2011: 18–29, 229–244). Unsurprisingly, geo-engineering as a means for 'solving' our way out of the contemporary climate crisis has more than its fair share of critics and doubters. Clive Hamilton's timely monograph *Earth Masters*, published in 2013, was persuasive in warning that it was precisely such 'technological thinking' with its inbuilt proclivity for 'system analysis, risk assessment and cost–benefit calculation' that has led to the 'objectification of nature'. The source of the fatal rupture between humans and natural worlds in our modern times and which ultimately has plunged us into the contemporary crisis of global warming (Hamilton 2013: 200).

Environmental histories of South Asia, on the other hand, as pointed out earlier, had sought to evolve a sense of environmentalism and activism based not only on documenting the resistance against environmental degradation but also in finding agency within village communities, forest peoples, and other kinds of 'indigenous' voices. And even when experts such as biologists or engineers or soil scientists or medical surgeons were woven into the environmental narrative, it was centrally about their contrarian opinions and challenges against institutional orthodoxy that was mostly highlighted. Significantly as well, for EHSA, the main plot lines have revolved around aspects of ecological change, environmental injustice, environmental degradation, environmental ideas, and the quest for sustainability. Such environmental plots, so to speak, it must be noted, would be well within the folds of the Holocene imaginations about nature.[21] In contrast, to acknowledge the Anthropocene, as Jeremy Davies puts it, is to understand that

> [the Anthropocene] … redistributes agencies, reconfigures systems, and reorders the loops of consequences and assimilation out of which the workings of the earth are made. The transition from one epoch to another is *a generalized disruption*, a drawing of new accounts. (Davies 2016: 8, italics mine)

In other words, there cannot be a return to the Holocene, once the latter's boundary conditions and biogeochemical and physical thresholds have been irretrievable crossed. The shift in the Earth System, bluntly stated, will be irreversible. The Anthropocene, consequently, will unquestionably announce what ecologists Richard Hobbs, Eric Higgs, and Carol Hall have aptly conceptualized as a 'New Ecological World Order' (Hobbs, Higgs, and Hall 2013). An ecological world that will now be made up of 'novel

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ecosystems, no-analog communities and ecological surprises' (Williams and Jackson 2009). This novel ecosystem will not only refer to a historically unprecedented configuration of biotic and abiotic components but that, equally, the new arrangement of ecological relationships cannot be returned to the previous 'historical statis'. Conservation or preservation strategies aiming to return to the variabilities of the Holocene may be pointless, if not impossible, given that a radically different climatic regime might scramble all previous predictabilities. Environments in the epoch of the Anthropocene, therefore, can no longer meaningfully evoke nostalgia. At best, there can be a sense of melancholy, for ecological relationships that can only be remembered for being irrecoverably lost (R. D'Souza 2022).

With a return to Holocene 'pasts' thus rendered impossible and the present characterized as one chiefly marred by anxieties about a sixth planetary extinction, environmentalism in the Anthropocene essentially becomes 'future-facing'. And it is in in line with such a reckoning that the writings of Emma Marris, somewhat wistful but clear-headed reasoning should be considered. Having 'forever altered the Earth', she surmises, we can no longer 'abandon it to a random fate' and hence the only choice going forward lies in 'managing' the planet. While staying clear of the geo-engineering enthusiasts, Marris urges us to consider 'juggling goals' for 'different ends'—for historical restoration, for species preservation, for self-willed wilderness, for ecosystem services, for food and fibre and fish and flame trees and frogs (Marris 2013: 170–171). What emerges as environmentalism in the absence of a baseline ecology or a native ecosystem, for Marris, is the notion of a 'rambunctious garden', which suggest going full throttle ahead to build designer ecosystem or 'de novo' creations whereby history becomes a guide instead of a straightjacket (Marris 2013: 131). The rambunctious garden concept, in fact, seems to run in the opposite direction to another equally persuasive push that is referred to as 'rewilding'. The notion of wilding has in recent years received a considerable fillip from the inspired writing and environmental activism of Isabella Tree, whose efforts to return a financially failing British farm (Knepp Castle Estate, West Sussex) to what she terms as nature has become an inspiring story. Not only has Knepp, over a 17-year period of rewilding, registered a return of several previously lost bird species and animals but the former farm is now a bustling conservation hotspot. For Isabelle Tree, rewilding is 'restoration by letting go, allowing nature to take the driving seat', which is in sharp contrast to conventional conservation, based on control and targets (Tree 2018: 8).

While ideas around the rambunctious garden and rewilding can indeed open up fresh new possibilities for rethinking the project of

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environmentalism in the contexts of global warming, climate change, and the Anthropocene, they nonetheless do not speak to the full spectrum of our current political and economic challenges. Several, as yet unresolved, questions continue to persist: which countries should bear the historical responsibility for carbon emissions? Can high rates of economic growth be pursued by shifting to renewable energy? Can the marginalized and the disempowered be protected from the impacts of extreme weather events? Christophe Bonneuil and Jean-Baptiste Fressoz, in their important intervention *Shock of the Anthropocene* put forward seven compelling thematic narratives to explain the full force and complexity of the human impact on climate (Bonneuil and Fressoz 2016).[22] The literature discussing climate change as a problem of political injustice, not to mention the emerging writings on politics in the Anthropocene, is, in fact, a large sprawling debate and cannot be captured in this chapter-length effort.

At heart, this chapter has sought to argue that our holocene understanding of the environment cannot be simplistically carried over into Anthropocene discourses. In the context of radical climate uncertainty and following a shift in the Earth System, the notion of the environment can no longer meaningfully reinforce the conceptual distance between culture and nature. Through a review of three frameworks in the sub-field of EHSA, I have sought to, howsoever modestly, underline that environmentalism in the Anthropocene has to be severely qualified if it is to draw upon past politics and the Holocene imagination. The Anthropocene, in sum, makes the environment a future-facing quest.

Notes

1. On the attacks on academic freedom in India, see some of the stellar work by Sundar (2018; 2020). See also the webpage of the initiative to document the range of threats and attacks on academic freedoms by the India Academic Freedom Network; https://www.indiaacademicfreedom.net/ (accessed 10 February 2016). See also John (2023) and Lall and Anand (2022).
2. On populism's 'emotional life' of hate, violence, resentment, and anger, see Illouz and Sicron (2023).
3. For details on the attacks on democratic functioning, see the Academic Freedom project website: https://v-dem.net/our-work/research-programs/academic-freedom/ (accessed 17 April 2024). See also the latest Academic Freedom Index (AFI) (2024), which provides an overview of the state of

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academic freedom in 179 countries in 2023. The AFI is downloadable for free from the webpage of the V-Dem Institute (Varieties of Democracies) project.

4. In a strict sense, the Anthropocene had been in usage as early as the 1980s by the limnologist Eugene F. Stoermer. For the story on Paul Crutzen and his reference to the Anthropocene in the 2000 conference, see Ellis (2018).
5. Despite the epic academic row over the voting, the International Union for Geological Sciences (IUGS) endorsed the negative vote of the SQS in March of 2024, with 15 votes in support of the rejection, one abstention, and one person who did not vote.
6. For a crisp short review of the embrace of the Anthropocene concept by international organizations such as the United Nations Intergovernmental Panel on Climate Change and in various academic disciplines, see Thomas (2002).
7. Julia Adeney Thomas has rehearsed the considerable discussion on the Anthropocene and placed the different narratives into three types of storytelling: (*a*) anything goes, (*b*) the singular story, and (*c*) democracy of voices. Arguing, in essence, that despite the different emphasis and the many nuances, there could be more than one possible true story or an emancipatory project in navigating the Anthropocene; see Thomas (2022).
8. See also Lenton (2016).
9. See also the twentieth anniversary edition of *The Unquiet Woods* (2010) brought out by Permanent Black, with review essays by Amita Baviskar, Joan Martinez Alier, and Paul Sutter. For an excellent historiographical review of scientific forestry in colonial India, see Dangwal (2009).
10. The interpretation of Gandhi as an environmental thinker and the significance of his ideas for environmental politics in contemporary India is apparent in many of Guha's writings through the 1990s. See, for example, Gadgil and Guha (1994).
11. See also M. Sharma (2012).
12. See also Jeffrey (2015).
13. For a lucid and accessible introduction to what constituted liberalization in India, see Bhaduri and Nayyar (1996). See also the fiercely critical set of essays against financial liberalization, neo-liberalism, and corporate globalization in India by Bhaduri (2009).
14. A sampling of this turn to policymaking is visible in the following volumes: Saberwal and Rangarajan (2003), Rangarajan, Madhusudan, and Shahbuddin (2014), and Srinivasan and Velho (2018).

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15. In *Green Imperialism,* Rajan argues that Grove fails to engage with the 'ideologies of resource management'. Put differently, the very science that Grove maintained was generative of conservation and preservation knowledges was, in Rajan's opinion, deeply implicated in various high imperial political and economic agendas (Rajan 2006: 4).
16. For edited collections that adopt the globalist framework see Grove, Damodaran, and Sangwan (1998), Kumar, Damodaran, and D'Souza (2011), Damodaran and D'Souza (2020), and Peet and Watts (2004).
17. For a broad survey and critique of political ecology, see Peets and Watts (2004).
18. For Deepak Kumar, 'colonial science can be defined as a dependent science where-in a result-oriented research in applied science heavily supersedes the curiosity-oriented research in pure science' (Kumar 2006).
19. To mention but a few recent themes: Debjani Bhattacharya has insightfully pushed EHSA in the direction of urban environmental history; see the path-breaking D. Bhattacharya (2018). Mukul Sharma provides us one of the first thoughtful efforts in helping us understand the sociological complexity of caste and environmentalism in India; see M. Sharma (2017). Neeladri Bhattacharya's critically acclaimed monograph helps us reconsider the dramatic and radical transformation of Indian agriculture as being a profound problem of the subcontinent's environmental history; see N. Bhattacharya (2018).
20. For a discussion on what the Anthropocene discourse implies for the nation centred environmentalism, especially for the 'Global South' or 'developing world, see R. D'Souza (2015).
21. The Holocene as a geological unit of time was first proposed in 1867, formally submitted to the International Geological Congress in Bologna in 1885 and officially ratified by the Committee of the International Union of Geological Sciences (IUGS) in 2008. See also Roberts (2004).
22. The seven narratives are Thermocene (political history of CO_2), Thanatocene (war), Phagocene (consumerism), Phronocene (modernity), Agnotocene (economics), Capitalocene (colonialism), and Polemocene (industrialization).

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