

**THE LIFE OF MATTER
& THE MATTER OF LIFE**

Worlds Beyond Bios

**Sophie Chao
Christine J. Winter
& David Schlosberg
editors**

WORLDS BEYOND BIOS



BUY

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Edited by Sophie Chao,
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FOREWORD

Many of the following essays, poems, pieces of fiction, and transcribed theater were part of a symposium held at the University of Sydney from June 27 to June 29, 2023, and hosted by the Sydney Environment Institute. Although I was not able to contribute to this volume, I was a participant and left energized by the range of approaches and genres witnessed over the three days and by the generous and active debates among symposium participants after talks, over lunches, and in the hallways. One always assumes a symposium will generate the oxygen necessary for thought to grow. But, well, we know sometimes events become perfunctory—get in, do your job, get out. The symposium *Beyond Bios* was so thoroughly engaging, I wondered how the editors of this volume would get its critical and creative energy on the page. I need not have worried.

Worlds Beyond Bios, the book, is a multidisciplinary, mixed genre compilation of strategies for intervening in the long, grasping arm of colonial dispossession and consumptive capitalism; or, perhaps, the book presents a case for celebrating in a wild jig on the desert sands in the midst of monsters emerging as omens of all that has gone wrong since European ships began invading the Earth in search of loot. The authors herein ask what has always happened, what is happening, and what could happen if we were to lean into practices of thought this way rather than that? And, more specifically, because we lean best when we lean against something, this volume asks what worlds appear when we step away from the Western obsessions with life and death, the event and finitude, and the ways they have governed human and more-than-human existence and instead attend to how consumptive capitalism is digging ever deeper into the bowels of, usually, Black, brown, and Indigenous lands to fuel what will actually be no one's gleaming techno-future.

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Many worlds beyond bios are discussed in this collection. Some authors focus on worlds of sand, mountains, waters, dust, ghosts, sludge, soils, and so on, not so much to find evidence of bios or to demonstrate how we can reconceptualize them as if they were bios, but rather to emphasize how a certain divergence from bios can help us understand the operations of Western power and governance over existence. Other authors remind us that long before the ontological turn, the multispecies turn, the more-than-human and the more-than-natural emerged as academic and writerly frameworks, Indigenous and Native Peoples have said to settler subjects, your divisions are not ours. Your divisions are like a death star to our earths and Earth. And it is not just the way we see it. This is not just a cultural thing. You ignore what is all around you, sending you signs and signals of the struggle to exist in the ongoing onslaught of consumptive capitalism, at your own risk. That risk is now a reality. The authors within this volume suggest what can nevertheless be done.

Elizabeth A. Povinelli

January 18, 2025

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x : FOREWORD

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THINKING BEYOND BIOS IN AN AGE OF PLANETARY UNDOING

Sophie Chao

Somewhere in the Australian desert, a dead Aboriginal woman and her dead white dog ride a motorcycle under the silent gaze of Ursa Minor, Centaurus, and Crux. In a could-be-anywhere lab, a sterilized scalpel meets a plastic-filled seabird in haptic-necroptics. At that same moment, a Chamoru child asks her father on a beach in Hawai'i: Where does the ocean end? Eons past, a Viking fisherman might have gifted her a tale of sinewy ropes, woven of magic, membranes, and memory. Eons to come, a wrack zone might answer her with a frolic of faded balloons, broken flip-flops, and Styrofoam beads. In another elsewhere, dust clings to the lungs, saliva, and shelters of Garo coalminers on the India-Bangladesh frontier—silent witnesses to sedimented histories of colonial incursion and racial distinction. Miles away on the coast of Brunei, a land sickened with slick observes who comes to take and who leaves alive. In the heart of the Amazon, the spirit guardians of supay work alongside rocks, humans, and toucans to protect the forest through protest and law. Meanwhile, a lake in Bhutan has had enough of human hubris and the climate crisis. It heaves, darkens, and migrates elsewhere. Back in the Australian desert, the dead white dog is caught in a frenzy of sneezes. A selfie-seeking tourist has bumped against a million-year-old dome, shattering its ancient body of iron, manganese, and clay into dust.

The fragments above introduce some of the many protagonists animating the stories that follow. Each conjures in its own way how intensifying anthropogenic activity is reconfiguring conditions and possibilities of existence at a planetary scale and across differently situated yet interconnected bodies, landscapes, and matter. These fragments diagnose an age of unevenly shared crises, wherein colonial-capitalist (il)logics continue to naturalize the exploitation of resources for (some) peoples' ends and the subjection of humans to racialized hierarchies of worth.¹ They underscore

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how industrial processes are uncoupling life from death, diminishing death's capacity to channel vitality back to the living and the ancestral.² They speak to an epoch wherein conversations around the life of matter and the matter of life, if not new, have become newly prominent and urgent.³

Each fragment and figure, and the stories they story in the pages that follow, partake in these conversations by inviting the reader to ask: What happens when one thinks about worlds of matter and mattering beyond the categories and boundaries of secular scientific frameworks, including biology and species? What do alternative epistemologies reveal about the substance, scope, and spectrum of life and nonlife? Alongside matter, what role do immaterial, sacred, and ghostly beings play in the (un)making of power and politics? What, in sum, might it mean to imagine and engage with worlds and beings beyond bios?

In asking these questions, the volume before you joins a growing chorus of voices that push against dominant epistemologies anchored in rigid distinctions and hierarchies between the human and nonhuman, the animate and inanimate, and the living and nonliving. These include divisions within what Western philosophical traditions recognize as “life,” such as that articulated by Aristotle and theorized by Giorgio Agamben between *zoe* and *bios*—the former referring to bare, animal life stripped of speech, rights, and polis; and the latter referring to intelligent, social, and primarily human life, endowed with communication, voice, and political representation.⁴ They encompass the severance of Life as political subject from Nonlife as nonsubject that Elizabeth A. Povinelli argues undergirds the pervasive and pernicious logic of late liberalism.⁵ They lie at the heart of a raft of other entrenched dualisms, including body and mind and nature and culture, that, as Rosi Braidotti notes, position nonhuman lifeforms as “always second best” to human existence and exceptionalism.⁶

Pushing against these often-naturalized distinctions, our volume examines material entanglements by thinking with a spectrum of substances and subjects that fall outside the bounds of “life” as conventionally understood in terms of biology and the *bios/zoe* divide—from rocks, sludge, and spirits, to mountains, water, wrack zones, and more. In doing so, our volume complements posthumanist currents in the environmental humanities that unsettle anthropocentric paradigms by examining the situated entanglements of humans, plants, animals, microbes, and fungi, whose lives and deaths are thoroughly, if unevenly, intertwined with human social worlds.⁷ The forms of matter we attend to might not—or no longer—be considered “life” in the dominant, secular scientific sense of the word. But

as the chapters that ensue uncover, they, too, bear legible cultural, social, and political existences.⁸ They, too, become subject to control, mastery, and extraction. They, too, experience and embody harm, violence, and vulnerability. They, too, constitute emerging, processual, transforming, and inter-agentive entities, or what Tim Ingold calls “the material embodiment of *a certain way of being alive*” that is more than biology as currently envisioned.⁹

In attending to worlds beyond bios, we contend that in order to perceive, engage, and do justice to climate and environmental catastrophes, it is imperative to undo the normative binary of life and nonlife that has heretofore ordered priorities in political economy and beyond. We thus expand recent calls for an “anthropology of life” to an “anthropology of being,” moving from a “politics of life” to a “politics of relating” that recognizes material existents as transcending and troubling what life understood as species or organisms can encompass—a study of life as bios “but not only,” to transpose Marisol de la Cadena’s terms.¹⁰ Accounting for the differential world-making practices of beyond-bios entities complements renewed endeavors to extend the privilege of agency and politics once restricted to bios to the vitalistic and more-than-human realm of zoe.¹¹ It demands that one multiply the forms that one imagines life can take and the experimental tactics through which one encounters and represents them. It invites an attentiveness to alternative grammars of animacy and cosmopolitical processes that transcend, transform, or temper the dominance of cognition, intelligence, perception, and sentience as markers of meaningful existence.¹²

(Re)new(ed) materialism, material feminisms, and vital materialisms help many of us in countering the notion of matter as inert substance—subject to predictable, controllable, and mechanistic causal forces—and in directing attention instead to matter’s constitutive excesses, forces, vitalities, and relationalities.¹³ These currents center the agentic thrust, affective pull, and processual nature of matter in the coproduction of meanings, bodies, and experiences through the lens of agentivity, corporeality, encounter, intra-action, and care.¹⁴ They create space, in Diana Coole and Samantha Frost’s words, for “a radical reappraisal of the contours of the subject, a reassessment of the possibility and texture of ethics, an examination of new domains of power and unfamiliar frames for imagining justice, and an exploration of the sources, quality, and dimensions of agency.”¹⁵ In these and other respects, (re)new(ed) materialisms and material feminisms aid in reframing everyday material relations as a matter of political action, of concern, and of care in an age of geo-atmo-eco-social unraveling.¹⁶

Our contributors delve into worlds beyond bios in a threefold sense. First, they draw attention to beings, relations, matterings, and infrastructures lying *outside* dominant scientific taxonomies of biology and species that, while claiming universality as epistemic frameworks, do not encompass (and may subjugate) other ways of understanding the elements of life—for instance, the knowing and being of oceans, soils, dust clouds, and lakes. Second, they consider how beings both accommodated within and excluded from the scope of bios *exceed* the confines of biology through their materially distributed cultural, spiritual, political, and affective attributes and effects—as kin, guardians, threats, or portenders of futures to come. Third, they bring within analytical and ethical purview the formations and transformations of beings *beyond* their individual and collective life-courses or functionalities—as ruin and residue, witness and waste.

Taken together, these lines of inquiry uncover how biocentric epistemologies that exclude the liveliness of beings beyond bios may in fact be part and parcel of the threats posed to the continuance of life itself.¹⁷ They bring one to ask different questions of the worlds one inhabits and inherits. What earthly matter matters? How is the world in it, and how is it in the world? What is life when matter can die, heal, be mourned, or be reborn? How does one story matter and its myriad mutations? What politics of cohabitability and ecologies of obligation might be enabled by collectively imagining more capacious, critical, creative, and caring relations to matter in friction and matter in flux?

In opening the scope of inquiry beyond bios, this volume does not seek to eschew or elide the value of diverse other-than-human lives or to neglect the violence of racializing assemblages at a time when, as Cymene Howe and Anand Pandian note, the fact of life itself seems to have become a political act.¹⁸ Nor do we lay claim in our approach to presumptions of novelty that so often arise from the erasure of nondominant ontologies, epistemologies, and genealogies of knowledge and praxis. Nor do we seek the dismissal or abolishment of scientific ways of identifying and classifying life, or the flattening of the diversity of ways in which life is understood within biology itself. To approach the *beyond* of beyond bios in these ways would be to repeat the mistakes of certain strands of posthumanism that, in their effort to decenter the human, efface the complex intersections of race with culture, class, biology, and species and also elide the practices, philosophies, and protocols of Indigenous and other Peoples historically obscured within academic genealogies and canons of thought.¹⁹ It would further fail to acknowledge that questions around what life is and does have

never been static, nor have they gone uncontested within the ever-evolving fields of science and biology.²⁰

Rather, we use the term *beyond* in the spirit of Sheila Jasanoff's invitation to rethink the assumed primacy, authority, and monopoly of science *alone* in defining both what life is (and is for) and to bring science into conversation with other, no less meaningful ways of knowing life and being alive.²¹ In doing so, we seek to center matter's myriad and mutating relations to human *and* more-than-human collectives that have been treated historically by capitalist regimes as extractable geological matter, fungible bodies, ungovernable waste, debilitated beings, and lives better yet unborn.²² This includes matter's relations to plant, animal, fungal, viral, and microbial entities whose exploitation, extraction, and disciplining are naturalized under dominant political and economic orders.²³ It encompasses also matter's relations to diversely positioned and privileged humans whose bodies and socialities are alternately made and unmade by historically shaped processes including visions of (post)industrialization, regimes of class, ethnicity, and race, and the scars generated by climate change–induced disasters.²⁴

In exploring these complex enmeshments, we join others across both physical and disciplinary fields in thinking beyond hierarchical systems and fictions of individualism and autonomy and instead toward realities of interconnectedness and interdependence, in a world where the death of bios and beyond bios beings calls for its own self-identity to be acknowledged, defended, and mourned. We seek to unearth repressed or forgotten traditions across geographical and historical divides that make space for cultivating other kinds of cares and obligations toward the human, vegetal, animal, spiritual, elemental, and everything that exists—beyond and beside, and betwixt and between.²⁵ In doing so, we hope to feed into broader and deeper conversations surrounding possibilities for beyond bios solidarities, anchored in an ethics of responsibility, reciprocity, respect, recognition, and repair.

The chapters that follow examine worlds beyond bios through the lens of four types of materiality. Part I, Eco-Materialities, brings into the fold diverse elements and forces that sustain ecosystemic life and more-than-bios earthly relations—from sand, weather, and oceans, to mountains, fire, and stones. Part II, Techno-Materialities, encompasses the substances, skills, crafts, and processes involved in the making and doing of planetary matter and/in movement, including but not limited to instances of human and industrial intervention—from the arts of rope-weaving and waste-sorting, to

the mass-production of manufactured toasters, and the life-gifting labors of nourishing soils and waters. Part III, *Cosmo-Materialities*, centers sacral or otherwise more-than-metaphysical entities who straddle the line between the material and immaterial and the immanent and transcendent—from spirits, guardians, and ancestors, to monsters, specters, and ghouls.²⁶ Part IV, *Material Afterlives*, considers the consequential forms and effects of matter that may no longer be or might never have been alive, but that remain nonetheless lively as dead life, if also haunting and spectral—from animal corpses, pulped trees, and contaminated soils, to recycled sludge, dust particulates, and wrack zone debris.²⁷

We offer these terminologies not as mutually exclusive, exhaustive, or fixed taxonomies for apprehending worlds beyond bios but rather as tentative and fluid structuring devices that invite catachresis across and beyond laws, lands, and languages.²⁸ Our hope is that this classificatory grid might prove useful to readers and to disciplines at large in reimagining how beyond bios agencies might be conceptually and methodologically grappled with and storied. At the same time, and just as where each form of matter housed within this work depends on the angle through which it is explored, so too might each subtheme host other kinds of matter lying beyond its current purview—or morph and mutate to give way to other experimental systems of (un)naming and (re/dis)ordering.²⁹

The crosscutting, catalytic valences of the four subthemes outlined above are evidenced by a number of key conceptual insights that ripple across their various chapters. Central among these is an attention to how matter comes to matter *as* and *in* its relations—to human and other-than-human dwellers and denizens; to spatiotemporal points of origin and dispersion; to formal and everyday institutions and infrastructures; to supply chains and legal and regulatory systems; and to colonial-capitalist regimes, technologies, and imaginaries. Even in contexts where categories of life beyond bios *do* exist, these are rarely grounded in an ethic of hyperseparation or hierarchization.³⁰ Rather, they find root in a recognition of the intrinsic entanglement and mutual dependence of different bodies, selves, and energies, bound in relations of/as in-betweenness, or what Susan Reid and Astrida Neimanis call “the muddled middle.”³¹ The primary ontological unit of engagement here is not matter independently but rather the agential relatings between particular kinds of matter and the multiply situated processes, forces, and frictions that make matter possible, political, and plural in form and effect, and that demand, in Jelle J. P. Wouters’s terms, “continual acknowledgment and active renewal.”³²

A second connective tissue takes the form of an attention to affective materialities, or the capacity of matter to affect and be affected by human practice and behavior in ways that involve extralinguistic communicative styles and that can, but need not, be conditional on the possession or performance of either intentionality or sentience. As the stories of mountains, fire, dust, sludge, and lakes in this volume uncover, the affective materialities of beyond bios beings in their situated and specific intra-actions can be contextually life-sustaining and healing, or injurious and deadly.³³ They speak to power as a property of the regimes that harness materiality differently, but also as a constitutive property of matter itself.³⁴

In this respect, affective materialities conjure beyond bios beings not as idealized or romanticized entities but rather, to borrow Jane Bennett's language, as "destructive-creative force-presences" that demand reverence, respect, and responsibility on the part of humans, while never entirely falling within human control.³⁵ Centering the power of matter to condition or counter human life projects thus demands careful attention to the specificity of relations beyond bios in pushing against a "naïve materialism" that positions humans as the only ones exerting mastery over material worlds.³⁶ It draws attention to how affective materialities may be allied to emancipatory struggles for social justice and sovereignty or co-opted to further social exclusion and political interests.³⁷ It further uncovers the often contingent and risk-fraught forms of extralinguistic communication that operate across different kinds of bios and beyond bios selves in unequal positions of power.³⁸

Temporality, memory, and history constitute additional red threads within the weave of this work. Thinking with rocks' and waters' permanence, for instance, repositions human societies as fleeting microcosms within the *longue durée* of geological time—or Deep Time—that long predates the flourishing of biological life.³⁹ As expressions of what Elizabeth Duncan calls "material ongoingness," waste and dust "[hold] the political stakes of the past and shape the political stakes of the future," perduring not only in the memories of laborers and residents but also in the memories of grounds, soils, and rivers.⁴⁰ Across these and other contexts, matter's permanence works hand in hand with its transformability as it encounters other bodies and forces.⁴¹ In an epoch increasingly captive to the linear arrow of modern capitalist time-as-progress, and haunted by the debris of imperial pasts and their violent afterlives, attending to the material embodiment of time is not just an empirical and theoretical approach but also an ethical disposition.⁴² It brings one to consider whose memories, histories, and

futures matter, how we want to remember matter, and how we might want matter to remember us.⁴³

Another methodological-conceptual strand we foreground focuses on how intimate and sensory encounters and interactions with matter generate situated and shifting socio-material-ethical sensitivities.⁴⁴ Practices anchored in embodied engagement and distributed performativity, such as composting books, propitiating spirits, nurturing soils, cleaning up trash, or seeing one's body catch fire, bring to the fore corporeal relationalities and ecological intimacies with matter and its materialization that alternately reveal one's mastery over, companionship with, complicity in, or vulnerability to changing beyond bios worlds.⁴⁵ In doing so, these accounts center human perceivers and protagonists as situated in and among—rather than detached and above—the material worlds, corporealities, and flows of sensory and bodily awareness within which ideas about worlds beyond bios take shape and shape-shift.⁴⁶

Epistemic friction represents a further recurring motif in this work. Much like ropes that emerge through the careful and tactful negotiation of humans' and fibers' intentions, in what César Enrique Giraldo Herrera describes as a process of constant twisting and torquing, so too what matter *is* and how it comes to matter constitute sites where different ways of knowing and feeling rub against each other, revealing the challenge of integrating knowledge structures that view the world from, at times, vastly divergent but not necessarily incompatible vantage points.⁴⁷ This signals the necessity and challenge of reconciling scientific epistemologies anchored in strict subject-object distinctions, or what Philippe Descola calls a "naturalist" paradigm, with scientific paradigms rooted in ancestral intra-relationalities and responsibilities, or what Felicity Schaeffer calls "sacredscience."⁴⁸ Epistemic friction encompasses also the challenge of translating beyond bios worlds before dominant state institutions, legal systems, and market logics, the structures and strictures of which undermine communities' efforts to defend life itself, in an epoch whose spatiotemporal contours are increasingly defined by capitalism's war on the earth.⁴⁹

Not surprisingly, climate change and environmental crises constitute a prominent backdrop—or experiential frame, in Erving Goffman's terms—for many of the beyond bios relationalities, epistemologies, and praxiologies examined in this volume.⁵⁰ These crises manifest in multiple forms: from the corpses of plastic-filled birds, to the contaminated skin of ocean bodies, the burns suffered by human and nonhuman victims of climate change-induced forest fires, the destruction of sacred Aboriginal

rock formations by large multinational mining companies, the fifty billion tons of sand extracted annually for construction purposes, the substitution of ancient forests for pulp and paper operations, the extractive industries claiming control over subterranean resources and racialized bodies, and the extreme droughts and floods that have become the refrain of our times.

These material manifestations of environmental crisis uncover how the economization of life *and* nonlife relies both on the subjection of matter to anthropogenic manipulation and on the extraction of labor from, or dispossession of, human communities who continue to be treated, in Alexander Weheliye's words, as subhuman, nonhuman, and killable before the law.⁵¹ They point to how matter's changing forms and effects come to index, or act as a portent to and witness of, relations not being right or straight, as people's relationships with the world and with each other go awry.⁵² They identify in materiality and its flows, fragments, and frictions possibilities for different kinds of political action and strategy, both eventful and mundane, and collective and personal.⁵³ They also reveal how techno-fixes deployed to counter environmental degradation can sometimes end up replicating colonial-capitalist (il)logics by reinforcing racial hierarchies, exacerbating social inequities, and failing to hold the climate and its manifold materializations at their core.⁵⁴

Finally, several chapters in this collection approach material worlds through the lens of multispecies and multibeing justice.⁵⁵ These formulations build on diverse intellectual genealogies of, and ongoing struggles for, justice for and beyond the human—from environmental, climate, and ecological justice, to Indigenous, social, and racial justice. They bring into ethical and moral purview humans and nonhumans, but also matter, flesh, atmospheres, temporalities, and the diverse milieus that enable life to survive and thrive—from litho-, hydro-, and anthropo-spheres, to cryo-, bio-, and atmo-spheres. Both emphasize conditions, expressions, vulnerabilities, and relations of being beyond the categories and hierarchies of biology and species, beyond the organization of life to the ends of manipulation and profit, and beyond the colonial logics of individuated ownership and property.⁵⁶ They invite a reframing of justice not as an abstract ideal or principle but rather, in Karen Barad's words, as a "material set of im/possibilities with-in (of) the world" involving intra-active spacetime-matterings that account for devastations wrought as well as for possible histories and futures through which beyond bios beings might not only endure but flourish.⁵⁷

Such a reframing is vital to rethinking life and loss in a world wherein birth and death (good, bad, and other) are not the sole prerogatives of

the animate world and wherein so-called inanimate beings also have finite lives.⁵⁸ It helps one understand how matter's weaponization as an instrument of harm transforms it into both a subject and an object of *injustice* across dispersed colonial-capitalist trajectories, industrial supply chains, and regimes of labor. Tracing these trajectories and their multiple human and nonhuman actants brings to the fore how, ultimately, *all* matter matters as a matter of justice, and how a focus on relationality and material flows can help undermine the fiction of justice as the individuated privilege of (some) human beings.⁵⁹

Enacting justice with and for matter is no easy task. It involves embracing radical inclusivity in terms of who and what gets a say in decisions and negotiations that matter differently to different beings.⁶⁰ It begs a reckoning with the persistence—and sometimes necessity—of enacting radical exclusivity when interests do not align across lands, bodies, and existents.⁶¹ Navigating inclusion and exclusion in turn demands that differently positioned communities of “we” ask ourselves where and why boundaries are drawn between the bodily autonomy of the self and the other, in always already relational but never violence-proof worlds. Such decisions are rarely human-only. Lakes that flee, ancestors that abandon, and soils that kill reveal that matter, too, makes its own “agential cuts.”⁶² These beyond bios agential cuts uncover important insights into what and how relations are changing, and which relations need to be repaired or relinquished. They call on us to question passionately, visibly, and noisily what alliances or antagonisms we uphold or turn away from in designating some beings as life and others as nonlife, what material and ethical consequences arise in conceptualizing the world as divided in particular ways, and what communities of life these decisions make and unmake.

Origin stories matter. The volume before you was borne of an interdisciplinary symposium held at the Sydney Environment Institute in mid-2023. First as symposium organizers and then as volume editors, our impetus for this gathering of participants and contributions stemmed from different realms of expertise and experience. For Sophie Chao, a Sino-French anthropologist and environmental humanities scholar, it found its root in the knowledges and practices of Indigenous Marind communities in the Indonesian-occupied region of West Papua, who taught her over many years of fieldwork that rivers can die, raindrops can sing, and pebbles can weep.⁶³ For Christine J. Winter (Ngati Kahungunu ki Wairoa), an Anglo-Celtic-Māori political theorist, the project intersected with a broader

decolonial project that was pushing against dominant understandings of justice and its subjects through the lens of multispecies, environmental, Indigenous, intergenerational, and climate relationality.⁶⁴ For David Schlosberg, an American scholar of environmental and ecological justice, the undertaking rested within a long-standing interest in environmental politics and the emergence of everyday practices of sustainable materialism among civil society organizations that are attentive to the flow of materials through bodies, communities, economies, and environments.⁶⁵ More than anything, the symposium grew out of a shared desire to undertake the labor of rethinking the matter of life and the life of matter not from the premise of disciplinary siloes or regional provincialisms but rather in meaningful dialogue across fields and fieldsites, in mimesis of the relationality that shapes our worlds and our writs.

The twenty-three entries of this volume include conventional scholarly chapters as well as fables, poems, and philosophical reflections that, in their variety of genres, productively pair a “beyond bios” mode of thinking and representing with a “beyond ethnography” mode of experimenting with style.⁶⁶ They draw the reader into a journey through some of the many beyond bios zones of contact and encounter that were shared by symposium participants in the form of oral presentations, creative performance, and coproduced film.⁶⁷ In the pages that follow, we will traverse industrial oil palm plantations in rural Indonesia, sewage treatment plant-cum-conservation sites in urbanized Singapore, and dust-filled borderlands on the India-Bangladesh frontier. We will travel to the pastoralist landscapes of the Mongolian plateau, the sacred lakes of highland Bhutan, and the sentient forests of the Ecuadorian Amazon. Along the way, we will pause at the foot of towering mountains in Argentina and linger in the urban and outback terrains of Australia. We will immerse ourselves in a permaculture site on the Italian island of Sicily, attune ourselves to the militarized and spectral landscapes of the Scottish Hebrides, and be roped into museum and boating cultures in coastal Denmark. We will unearth deep coal pasts in the postindustrial leisure parks of the Ruhr Valley, follow the global supply chain of an electric toaster, and encounter pulp extractions and experiments in the Pacific Northwest of the United States. We will revel in the glum and glory of a choking ocean, a multibeing wrack zone, and a 360-million-year-old karst plateau, seen through the eyes of a dead woman and a dead dog.

In the image of its subthemes, matter in this volume—and in the worlds it creates and inhabits—refuses containment, confinement, or

capture. Instead, it soaks, seeps, and resurfaces across different landscapes and lifeforms. For instance, the nourishing ocean waters that Craig Santos Perez chants and exalts in his opening poem transmogrify elsewhere and elsewhere into devastating floods, warring waves, mermaid abodes, gender-bending wrack zones, spiritual guardians, and the remedy for ailments afflicting both human and horse.⁶⁸ Terrain equips us in Gastón Gordillo's essay to navigate the vertiginous verticalities of snow-capped peaks—but its manifold affordances as an “interscalar vehicle” also help us think through the flattened ecologies of industrial monocrops, the manicured landscapes of post-coal recreational grounds, the urban power stations that sustain flourishing avian communities, the greasy sheen of oil-charged rivers, and the glossy surfaces of eviscerated leatherback turtles, all the way down to the minute textures of rock, stone, and sand.⁶⁹ Across each of these sites, scales, and subjects, the specter of anthropogenic climate change is never far off—at times presiding, at others lurking. In the process, shape-shifting histories of capitalism, climate coloniality, extractivism, militarism, and urbanization come to define (but not determine) the contours of possibilities for relating, reconnecting, and reckoning justly with worlds beyond bios.⁷⁰

How one stories matter is inflected by scholarly genealogies, conceptual frameworks, and research methodologies which in this collective find root in, and cross-pollinate with, insights from anthropology, the environmental humanities, cultural studies, feminist posthumanism, geography, political theory, philosophy, Science and Technology Studies, socio-legal studies, and environmental history, among other disciplines. Many of us do this work of storying through the lens of Indigenous and other Global South philosophies, practices, and protocols that have long challenged dominant framings of matter as something one cannot “see” or that “does not speak.”⁷¹ Such philosophies and practices defy colonial-capitalist (il)logics by refusing rigid distinctions between bios, zoe, geos, and atmos, and instead engaging with beings and worlds beyond the divides of the physical and metaphysical, spiritual and material, and natural and cultural.⁷² Other authors retrieve and reflect on beyond bios knowledges, traditions, and archives within the West that have been obscured by dominant systems of knowledge or that have emerged in response to the violence and erasures of technology and militarization in the form of legends and lore. Some authors insist in their contributions that Indigenous and other non-Western theories of matter must be brought into conversation with, rather than in opposition to, modern science, (re)new(ed) materialisms, and

posthumanisms. Others call for a return to the roots of seemingly commonplace English words—*monster*, *text*, *harmony*, *spent*—in whose etymologies another ethics of relationality might be (un)earthed and enacted.⁷³ Many demonstrate how doing justice to lively materialities demands something other than strict argumentation and analysis—a stepping beyond scholarly comfort zones and into the realms of creative writing, recited poetry, and choreographed performance.

Disciplines and genres of writing aside, the form and feel of this volume, together with the conceptual apparatus it offers, are centrally shaped by the lively congeries of beyond bios beings in whose companionship our authors sentipensar—*thinkfeel*—their way through matter’s multitudinous forms.⁷⁴ Our guides in this endeavor include sands and spirits, water and waste, rocks and wracks, coal and carcasses, fires and forests, mermaids and monsters, ropes and rocket plumes, and sonars and sludge. They encompass dust and debris, lakes and libraries, pulp and pollution, traces and toxicities, Country and contamination, neo-natures and necropsies, Kuku and Kawsak Sacha, and Supay and Samay. As physical presences and conceptual apparatus, or what Donna Haraway calls “material-semiotic figures,” these beyond bios beings lead us in different ways toward the immaterial (thought, form, language, emotions, and values) and to the ethical practices and discourses that emerge from material realities and their multiply situated consequences.⁷⁵ They open speculative space for unexpected forms of exchange and cocomposition while also acting as fleshly analytics for processing uncertainty, contingency, and incommensurability. Storying *with*, rather than just *about* or *for*, these diversely situated beings as “involved existents” uncovers how their participation in, and disruption of, anthropocentric and biocentric orderings of the political are critical to the continuance of life, as it is known by different positioned and privileged communities of “we.”⁷⁶

In each of these representational acts, diverse stories and modes of storytelling reveal their poetic and political force as action, process, and meaning—as a way of taking crisis seriously, of insisting on what demands noticing, of drawing together what classifications split apart, of putting different violences in conversation to show how they fortify each other, of empowering and inspiring, and of forging creative and coalitional forms of environmental pedagogy and practice.⁷⁷ This kind of storywork demands intellectual commitment and emotional courage. It positions readers and writers as apprentices of what Jo-Ann Archibald Q’um Q’um Xiiem and her colleagues call story-talk, story-listen, story-learn,

story-teach—that which makes one story-ready in order to breathe life into healing and rekindle pathways back to home fires.⁷⁸

We share these stories for scholars and students alike, in the spirit of renewing our commitment to addressing together a question posed over two decades ago by Lynn Margulis and Dorion Sagan, one that predates and pulsates through contemporary scholarship on and struggles for justice in beyond bios worlds: What is life?⁷⁹ This is a question not only for biologists but also for philosophers, anthropologists, geographers, historians, political theorists, artists, activists, and many others. While we do not presume to encompass all forms of liveliness within our work, we hope to demonstrate how thinking beyond bios ultimately brings us back to questions about human, animal, and vegetal lives and relations—but from different starting points, through different trajectories, and with different implications.

For some of us, this demands an extension of what counts as life beyond the frame of biology and species in both their descriptive and prescriptive aspects. For others, it calls for a critical interrogation of life-centric idioms' own limits in encompassing sentience, affectivities, and animacies across their multidimensional manifestations. In grappling with material worlds through their material-semiotic expansions and contractions, our contributors cautiously guard against the annulment of difference or the framing of matter as amorphous borderlessness. Rather, we hope with our words and our writing to center other ways in which beyond bios liveliness comes into being, becomes differentiated, comes together, and moves apart—through relations of matter, but also of movement, texture, tone, amplitude, flow, force, and touch.⁸⁰

At the same time, we remain cognizant of the limits of matter's knowability to us, as humans, and of the ethical prerogative that acknowledging and respecting that radical alterity entails.⁸¹ As María Puig de la Bellacasa notes in relation to soil, “nothing comes without its world”—and yet the more-than-human worlds of matter are often irreducible to, and in excess of, what humans can make of them.⁸² The needfulness of relating to and of reimagining relations in the context of the present ecological crisis thus also entails holding onto hesitation about what *can* be known, in and about beyond bios worlds.⁸³ It calls for the kind of humility that Tyson Yunkaporta invites in reconnecting with “broken landscapes” and rectifying capitalist-colonial modernity as “wrong story.”⁸⁴

This humility involves learning to notice and attune to the worlds around us while holding onto their specificity and connection.⁸⁵ It nourishes, in Octavia Butler's words, a stance of speculative openness that

juxtaposes questions of what *is* or what *should* be, with questions of *if* only, *if* this goes on, and what *if*.⁸⁶ What *if*, for instance, stones were taken seriously as ancestors, interlocutors, historical records, aesthetic transformations, and portals into neglected histories? What *if* water were approached as a teacher, fellow traveler, and bodily intersection? What *if* dust were experienced as an atmospheric communion across space, time, and matter and as a witness to sedimented pasts? What *if* rocket plumes were today's monsters, and asbestos fibers today's specters?

Experiments in speculative tactics allow us to trace the cacophony of recombinant possibilities that unfold from any particular starting point, to push back the conceit of universality for human-only ends, and to unshackle ourselves—even if momentarily—from the haunting aura of catastrophic risk and existential dismay.⁸⁷ They take up the challenge, as Rosi Braidotti and Hugo Reinert write, of describing “lucidly, secularly, fairly, and with a sense of social justice, what is commonly referred to as ‘life,’” while acknowledging that “the domain of life does not necessarily coincide with, or exhaust, the domain of vulnerability.”⁸⁸ In both respects, experiments in tactics stay with the trouble of considering what counts as life and whose life counts in an epoch of planetary unmaking, wherein life itself has become an arena of heightened contention and struggle—rarely reducible to the biological, everywhere at stake, and yet nowhere exactly the same.⁸⁹ This kind of thinking is less about performing newness than about renewing our commitment to life writ large(r) in a nowness wherein the sacred and the sentient are no longer sufficient grounds for protection—a nowness that is both already too late and in which efforts cannot wait.

At once perilous and promissory, this unevenly distributed nowness inflects the different moods of the chapters that follow. Some center the despair, spentness, and paralysis that permeate attempts to reconfigure the political, corporeal, and ethical in an age when becoming climate-changed is a matter of life and death, constituted as much by struggles for justice as by recognition of complicities, non-innocences, and impurities.⁹⁰ Others embrace fable-telling, pleasure, humor, and irreverence as necessary strategies of survival and forms of radical care in the face of dark presents and potentially darker futures.⁹¹ These strategies often entail moving beyond a combative and controlling stance toward matter and giving ourselves over to matter in ways that queer whom we consider as kin, what ecologies of practice can emerge within and against extractivist (il)logics, and what cares and consents (or lack thereof) shape the lively and lethal material worlds one inherits and transmits.⁹² They exhort us not to relinquish

desires but rather—or also—to consider whose desires matter, their consequences, and what kinds of wonder, enchantment, astonishment, and surprise might be forged in and with beyond bios worlds.⁹³

As such, our collection is less concerned with elaborating abstract or universalizing theoretical arguments than with extending tentative invitations to you, the reader, that might move you toward different intellectual, affective, ethical, and literal terrains.⁹⁴ To invite, as the etymology of the English term suggests, is to extend an invitation—but it is also to summon, to incite, and to challenge.⁹⁵ To invite brings into question who gets to invite or be invited, on what grounds, and to what ends.⁹⁶ In the spirit of exploring matter through different modalities and moods, we invite you to walk to the water and sit with the sand, to delve in the dust and tarry with terrain. We invite you to take seemingly silly questions of beyond bios worlds seriously—like is a grain of sand alive or are toasters subjects of justice.⁹⁷ We invite you to listen to land while recognizing that no relationship can be demanded of it, that no timelines can be imposed upon it, and that land might answer you with floods, flies, and fires—or a whole bunch of silent cadavers.⁹⁸ In the process, we hope the matter we story might nourish a practice of nomadic ethics that thinkfeels with different entities and epistemologies to unearth unexpected continuities across contexts of care and contexts of crisis, and across sedimentations of colonial-capitalist power binding seemingly distant lands and communities.⁹⁹ For partial connections do exist between these sands, beaches, and mountains and your sands, beaches, and mountains. We cherish the possibilities that can eventuate out of shifting the grounds of the relationship between matter and beholder. In the spirit of superabundant “and, and, ands” over exclusionary “or, or, ors,” we invite you to reimagine through the stories we offer a different kind of “yourness”—one that is not tethered to the tired and terrible trope of individuated possession, occupation, or appropriation, but rather animated by the shared, bodily, intergenerational, and multibeing “oursness” that composes both the life of matter and the matter of life.¹⁰⁰

NOTES

Acknowledgments: I thank coeditors David Schlosberg and Christine J. Winter for their substantive inputs toward this introduction and contributors Elizabeth Duncan, Ute Eickelkamp, Zsuzsanna Ihar, Giulia Lepori, Malini Sur, Blanche Verlie, and Jelle J. P. Wouters for their thoughtful suggestions.

- 1 Koshy et al., *Colonial Racial Capitalism*; Yusoff, *Billion Black Anthropocenes*; Yusoff, *Geologic Life*.
- 2 Rose, “Multispecies Knots”; Livingston, *Self-Devouring Growth*.
- 3 Miller, *Materiality*; Coole and Frost, *New Materialisms*; Hetherington, *Infrastructure, Environment, and Life*; Alaimo and Hekman, *Material Feminisms*.
- 4 Thacker, *After Life*, 6–22; Agamben, *Homo Sacer*; Braidotti, “Politics of Life”; Esposito, *Bíos*. The bios/zoe distinction is attributed to Aristotle as an element within his broader notion of “life in itself,” or *psukhe*. For a counter-reading of Aristotle, see Finlayson, “Bare Life.”
- 5 The geontological distinction between Life/Nonlife, Povinelli argues, preceded the partitioning of Life from Death, creating the grounds from which biopolitical power emerged and representing a new and deadly planetary challenge in the present. Povinelli, *Geontologies*, 79.
- 6 As Braidotti notes, zoe covers all nonhuman animals as well as other “others” conjured by dominant Western logics, such as the sexual other (the woman) and the ethnic other (the native). It marks the outside of the vision of the “human” subject not just as a species, but as a male, white, heterosexual, Christian, property-owning, standard language-speaking individual. Braidotti, “Between the No Longer and the Not Yet,” 13–14; Braidotti, “Locating Deleuze’s Eco-Philosophy,” 98, 105. On the racial hierarchies conjured by Western constructs of the “human” and of “bare life,” see Weheliye, *Habeas Viscus*.
- 7 For notable examples, see inter alia van Dooren, *Flight Ways*; Tsing, *Mushroom at the End of the World*; Helmreich, *Alien Ocean*; Haraway, *When Species Meet*.
- 8 Elinoff and Rubaii, *Social Properties of Concrete*.
- 9 Ingold, *Perception of the Environment*, 89, emphasis added. The nonliving or no-longer-living dimension of “matter” finds expression in the term’s etymology that, as Ingold reminds us, stems from the feminine-gender Latin and Greek words for wood (*mater*)—a substance that “is or has been alive.” Ingold, *Being Alive*, 27–28.
- 10 De la Cadena, “Runa”; Kohn, *How Forests Think*, 229; Kohn, “How Dogs Dream,” 6. See also Bennett, *Vibrant Matter*, 61; Thacker, *After Life*, x.
- 11 Braidotti, “Locating Deleuze’s Eco-Philosophy,” 98; Clavería, “Convertir la zoe en bíos.”
- 12 Kimmerer, *Braiding Sweetgrass*, 48; Stengers, “Cosmopolitical Proposal”; Kohn, *How Forests Think*.
- 13 Here, we follow Diana Coole, Samantha Frost, and Sherilyn MacGregor in qualifying new materialisms as “renewed materialisms” in light of the long-standing and heterogenous theoretical precedents that explore worlds

through the lens of matter and materialization—including those obscured or marginalized by dominant scholarly currents. Coole and Frost, “Introducing the New Materialisms,” 4, 9; MacGregor, “Making Matter Great Again?”

- 14 Neimanis, *Bodies of Water*; Braidotti, “Nomadic Ethics”; Stengers, *Cosmopolitics I*; Haraway, *When Species Meet*; Barad, *Meeting the Universe Halfway*; Puig de la Bellacasa, *Matters of Care*.
- 15 Coole and Frost, “Introducing the New Materialisms,” 37.
- 16 Latour, “Why Has Critique Run Out of Steam?”; Puig de la Bellacasa, *Matters of Care*; Braidotti and Bignall, *Posthuman Ecologies*; Schlosberg and Coles, “New Environmentalism of Everyday Life.”
- 17 Hetherington, “Keywords of the Anthropocene,” 10.
- 18 Howe and Pandian, “Introduction,” 17. See also Escobar, *Territories of Difference*. On racializing assemblages, see Weheliye, *Habeas Viscus*.
- 19 Here we heed Brendan Hokowhitu’s and Zoe Todd’s critiques of new materialism’s and ontological anthropology’s almost entire failure to interact with Indigenous knowledges and scholarship whilst employing the nomenclature “new” as yet another example of Western claims to knowledge itself. Hokowhitu, “Indigenous Materialisms”; Todd, “Indigenous Feminist’s Take on the Ontological Turn.” See also TallBear, “Why Interspecies Thinking Needs Indigenous Standpoints.” On the intersections of culture, race, and species, see inter alia Kim, *Dangerous Crossings*; Moore, Pandian, and Kosek, “Cultural Politics of Race and Nature”; Jackson, “Outer Worlds”; Haritaworn, “Decolonizing the Non/Human.”
- 20 The classificatory schemes and undergirding logics determining what counts as life within the field of biology have changed over the course of history; and they continue to be differently conjured and contested across disparate settings and practices, including those enacted in laboratories, clinics, and museums (for an exploration of life’s changing meanings and scope in the biological sciences from the early nineteenth century to the present, see Helmreich et al., *What Is Life?*). The dynamism of science as epistemology mirrors that of life’s own contours and categories, as these are increasingly understood by biologists through principles of motion, movement, flow, and flux—not as composed of static particles or things but rather as arising from interdependent processes that are stabilized and maintained at different timescales, and from the macroscopic to the microscopic and molecular levels. Such principles, Nick Lane writes, are applicable to life’s myriad forms and also to its origins in deep time as “the product of restless planetary processes,” operating across the intermeshed realms of the chemical, biological, and geological. They further manifest in the context of emergent scientific inquiries and new experimentations in the realms of biotechnology, astrobiology, microbiology, and artificial life—or what Stefan Helmreich terms “‘limit biologies’—that further destabilize and uncouple

naturalistic understandings of the relationship between organismic life forms and sociocultural forms of life.” Lane, *Transformer*, 117; Helmreich, *Sounding the Limits*, 1, 16. See also Wellmann, *Biological Motion*; Wahlberg, *Contested Categories*; Nicholson and Dupré, *Everything Flows*, 11, 13; Chao, “Meaning of Life.”

- 21 Jasanoff, *Can Science Make Sense of Life?*
- 22 Bolender, “Pulp Frictions,” this volume; Sur, “Frontiers of Dust,” this volume; Yusoff, *Billion Black Anthropocenes*; King, “Labor of (Re)reading Plantation Landscapes”; Hage, *Is Racism an Environmental Threat?*; Pellow, *What Is Critical Environmental Justice?*; Puar, *Right to Maim*; Taylor, *Beasts of Burden*; Murphy, *Economization of Life*; M. Y. Chen, *Animacies*.
- 23 García Ruales, “Corazonando,” this volume; Zakaria, “Ways to Love Sludge,” this volume; Gruen, *Ethics of Captivity*; Blanchette, *Porkopolis*; Chao, *Shadow of the Palms*.
- 24 Eickelkamp, “After Coal,” this volume; Verlie, “Climatic Corporeality,” this volume.
- 25 Sultana, “Resplendent Care-Full Climate Revolution”; Sultana, “By Whose Words Shall We Know”; Despret and Meuret, “Cosmoecological Sheep.”
- 26 Here, we find inspiration in Nils Bubandt and Mayanthi Fernando’s theorizations of a “nonsecular” or “more-than-natural” Anthropocene that includes gods, specters, the nonliving, the nondead, and other magical beings whose (im)material presences call on us to rethink “the nature of the real” in a secular age. Bubandt, “Anthropocene Uncanny,” 3, 8; Fernando, “Supernatureculture.”
- 27 Govindrajan, “Spectral Justice”; Tsing et al., *Arts of Living*.
- 28 Tsing, “Catachresis for the Anthropocene,” 2–10.
- 29 For comparable examples of experiments in naming and visibilizing life and matter in the Anthropocene, see Neale, Addison, and Phan, *Anthropogenic Table of Elements*; Howe and Pandian, *Anthropocene Unseen*; Tsing et al., *Arts of Living*.
- 30 Fijn, “Five Eco-Material Connections,” this volume; García Ruales, “Corazonando,” this volume.
- 31 Reid and Neimanis, “Multibeing Drag Rift,” this volume. Reid and Neimanis’s engagement with the wrack zone as the “muddled middle” in this work echoes Tiffany Lethabo King’s theorization of the shoal—an offshore geologic formation that is neither land nor sea—as a metaphor, mode of critique, and methodology for understanding the encounter of Black studies and Native studies. Much like the wrack zone and other composites of matter examined in this volume, the shoal, Lethabo King writes, “can erode over time, drift, and eventually accumulate in another location. Its unpredictability exceeds full knowability/mappability . . . [it] is . . . a dynamic

and moving set of processes and ecological relations . . . an interstitial and emerging space of becoming. . . .” King, *Black Shoals*, 1–4.

- 32 Wouters, “Making Worlds with Mermaids,” this volume.
- 33 Articulated by Barad as part of their theory of agential realism, intra-action takes as its premise the inseparability of components of any phenomenon and the consequent responsibility that accrues to an individual observer in including or excluding certain dimensions of that phenomenon and, in doing so, effecting a separation between subject and object. From this perspective, matter does not refer to a fixed substance but rather to a “substance in its intra-active becoming—not a thing, but a doing, a congealing of agency.” It points to the world itself as “an open process of mattering through which matter itself acquires meaning and form through the realization of differential agential possibilities.” Barad, *Meeting the Universe Halfway*, 141, 817, 822.
- 34 Marx, *Capital*. See also Rajan, *Lively Capital*; Barua, “Animating Capital.”
- 35 Bennett, *Vibrant Matter*, 54.
- 36 Harvey, Krohn-Hansen, and Nustad, “Introduction,” 3; Liboiron, *Pollution Is Colonialism*, 24.
- 37 On the allyship or co-optation of what de la Cadena calls “earth-beings” in struggles for justice, see de la Cadena, *Earth Beings*; Cotofana, *Xenophobic Mountains*; Govindraján, “More-Than-Human Supremacy.”
- 38 Kohn, “How Dogs Dream,” 18.
- 39 Fitz-Henry, “Toward a Geological Humanism?,” this volume; Irvine, *Anthropology of Deep Time*.
- 40 Duncan, “Waste and the City,” this volume. See also Duncan, “Making Sense of Waste.”
- 41 Braidotti, “Between the No Longer and the Not Yet,” 12.
- 42 Benjamin, “Theses on the Philosophy of History”; Stoler, *Imperial Debris*; Barad, “Troubling Time/s”; Winter, “Does Time Colonize?”
- 43 Eickelkamp, “After Coal,” this volume.
- 44 Carlile, Nicolini, and Langley, *How Matter Matters*.
- 45 Weston, *Animate Planet*, 10. We borrow the term “performativity” from Barad to push against the primary of representation over matter itself and the assumed power of words to represent supposedly preexisting things. Performativity, Barad writes, shifts the focus of research to matters of practices, doings, and actions that “allow matter its due as an active participant in the world’s becoming.” In doing so, performativity challenges the givenness of any category of being, centering instead the practices through which categorical boundaries are stabilized and destabilized in the course of matter’s materialization. Barad, “Posthumanist Performativity,” 802–10.

- 46 Ingold, *Being Alive*, 10.

- 47 Herrera, "Minding the Ropes," this volume; Tsing, *Friction*; Rahder, *Ecology of Knowledges*; Cruikshank, *Do Glaciers Listen?*; de la Cadena and Blaser, *A World of Many Worlds*.
- 48 Descola, *Beyond Nature and Culture*; Schaeffer, *Unsettled Borders*. Sacredscience, Schaeffer writes, "confuse[s] the temporal fabrications and historical erasures that segregate tradition from science, the human from the non-human, the subject from the object, the local from the universal, the past from the future, and so on." It thus stands in contrast to the objective approach in Western science that alienates one phenomenon from another in order to control the natural world through the extraction of knowledge and of resources. Schaeffer, *Unsettled Borders*, 2, 8, 17–18.
- 49 Foster, Clark, and York, *Ecological Rift*. On the promise and perils of rights of nature movements seeking to expand the scope of justice beyond the human, see Ruiz-Serna, "Transitional Justice Beyond the Human"; Lyons, "Rights of the Amazon."
- 50 Goffman, *Frame Analysis*.
- 51 Murphy, *Economization of Life*; Weheliye, *Habeas Viscus*; Teaiwa, *Consuming Ocean Island*; Yusoff, *Billion Black Anthropocenes*; Morris, *Asylum and Extraction*.
- 52 Ihar, "Omenic Missiles, Cold War Specters," this volume; Musharbash, "Strange Lights, New Skies," this volume.
- 53 Hollo, *Living Democracy*; Meyer, *Engaging the Everyday*; Schlosberg and Craven, *Sustainable Materialism*.
- 54 Zakaria, "Ways to Love Sludge," this volume; Benjamin, "Race After Technology"; McKittrick, *Dear Science*; Liboiron, *Pollution Is Colonialism*; Carver, "Repair Is Broken"; Táiwo, *Reconsidering Reparations*.
- 55 On multibeing justice, see Reid, "Imagining Justice with the Ocean"; Reid, "Ocean Justice"; Reid and Fishel, "From Land to Sea"; Reid, "Multibeing Ocean." On multispecies justice, see Chao et al., *Promise of Multispecies Justice*; Celermajer et al., "Multispecies Justice"; Chao and Celermajer, "Introduction"; Weaver, *Bad Dog*; Winter, "What's the Value of Multispecies Justice?"; Tschakert et al., "Multispecies Justice."
- 56 Banerjee and Wouters, *Subaltern Studies 2.0*; Winter, *Subjects of Intergenerational Justice*; Simpson, "Indigenous Resurgence"; Tuck and Yang, "What Justice Wants"; Jasanoff, *Can Science Make Sense of Life?*, 37–38.
- 57 Barad, "After the End of the World," 104–5. See also Barad, "Troubling Time/s."
- 58 Barad, "After the End of the World," 92.
- 59 Winter and Schlosberg, "What Matter Matters as a Matter of Justice?"
- 60 Schlosberg, *Defining Environmental Justice*; Winter, "What's the Value of Multispecies Justice?"

- 61 Here, we draw on Eva Giraud's call for attention to entities, practices, and ways of being that are foreclosed when other entangled realities are realized. Such an ethics of exclusion, Giraud notes, is an inevitable component in the composition of the world and associated sociotechnical infrastructures and political decisions. Whether they are forcefully imposed or strategically deployed, ethics of exclusion demand visibilization, responsabilization, and politicization. Giraud, *What Comes After Entanglement?*, 171–82.
- 62 Barad, *Meeting the Universe Halfway*, 348.
- 63 Chao, *Shadow of the Palms*.
- 64 Winter, *Subjects of Intergenerational Justice*.
- 65 Schlosberg and Craven, *Sustainable Materialism*.
- 66 For a resonant invitation to embrace philosophically and poetically inclined anthropological representations in rethinking the category of the “human” as the primary object of anthropological inquiry, see Rees, *After Ethnos*.
- 67 Pratt, *Imperial Eyes*, 7; Haraway, *When Species Meet*, 219.
- 68 Perez, “Chanting the Waters,” this volume.
- 69 Gordillo, “Power of Mountains,” this volume; Hecht, “Interscalar Vehicles.”
- 70 Mameni, *Terracene*; Murphy, “Alterlife,” 498; Sultana, “Climate Coloniality”; Liboiron, *Pollution Is Colonialism*; Tschakert et al., “Multispecies Justice.”
- 71 Miller, *Material Culture*, 85–108; Miller, “Materiality,” 5; Grosz, Yusoff, and Clark, “Geopower, Inhumanism and the Biopolitical,” 145.
- 72 TallBear, “Beyond the Life/Not Life Binary”; de la Cadena, *Earth Beings*, 25; Povinelli, *Between Gaia and Ground*, 82. On atmos as a lens through which to challenge the division between terra and non-terra, see Zee, *Continent in Dust*.
- 73 Musharbash, “Strange Lights, New Skies,” this volume; Lepori, “Water and Soil Relationality,” this volume; Chao, “Spent Earth,” this volume.
- 74 Central to the practices of Latin American land-rights activists examined by Arturo Escobar, and akin to the notion of *corazonar* developed by Patricio Guerrero Arias in relation to the onto-epistemologies of the Kitu Kara People, *sentipensar* (thinkfeel) is a way of apprehending the world that does not separate thinking from feeling, logic from emotion, or knowledge from caring in differentiating and translating interculturally notions of life. It positions affects and sensations as companions to cognition and reason in knowing, being, and acting in the world. Escobar, *Sentipensar con la tierra*; Escobar, *Territories of Difference*, 2; Arias, “Corazonar.”
- 75 Grosz, *Incorporeal*, 822; Alaimo and Hekman, “Introduction,” 8.
- 76 Povinelli, *Geontologies*, 79, 142.
- 77 Bennett, *Influx and Efflux*, xvi; Ingold, *Being Alive*, 169.

- 78 Archibald Q'um Q'um Xiiem, Lee-Morgan, and De Santolo, "Decolonizing Research," 2, 17. See also Chao and Enari, "Decolonising Climate Change"; Tsing, "More-Than-Human Sociality"; van Dooren and Rose, "Lively Ethnography."
- 79 Margulis and Sagan, *What Is Life?*
- 80 Reid and Neimanis, "Multibeing Drag Rift," this volume; Bennett, *Vibrant Matter*, 61.
- 81 Chatterjee and Neimanis, "Intimacy Without Mastery."
- 82 Puig de la Bellacasa, "Nothing Comes Without Its World."
- 83 Strathern, *Relations*, 182.
- 84 Yunkaporta, "All Our Landscapes Are Broken"; Yunkaporta, *Sand Talk*.
- 85 Swanson et al., "Bodies Tumbled into Bodies," M7; Liboiron, *Pollution Is Colonialism*, 22.
- 86 Butler, "Devil Girl from Mars." See also Thaler, "What If."
- 87 Neale, Addison, and Phan, "Introduction," 13; Howe and Pandian, "Introduction," 22.
- 88 Braidotti, "Between the No Longer and the Not Yet," 13; Reinert, "About a Stone," 97.
- 89 Coole and Frost, "Introducing the New Materialisms," 15; Thacker and Ruiz III, "Era of Zoë and Bios?"
- 90 Verlie, *Learning to Live with Climate Change*; Shotwell, *Against Purity*.
- 91 Hobart and Kneese, "Radical Care"; Alaimo, *Exposed*, 26. See also Weston, *Animate Planet*, 10.
- 92 Todd, "Fish, Kin, and Hope"; Davis, *Plastic Matter*; Ureta and Flores, *Worlds of Gray and Green*.
- 93 Ogden, *Loss and Wonder*; Bennett, *Enchantment of Modern Life*; Ingold, *Being Alive*; Stengers, "Diderot's Egg," 11; Ballesterio, *Future History of Water*, x–xi; Mavhunga, "Whose?"
- 94 Anthropologist Deborah Bird Rose's pithy rebuttal of abstracts inspires us to go against the grain of scholarly conventions in offering invitations over arguments. Bird Rose, "Slowly," 1.
- 95 Etymonline, "Invitation (n.)," accessed March 8, 2024, <https://www.etymonline.com/search?q=invitation>.
- 96 Derrida, "Step of Hospitality/No Hospitality," 75–156.
- 97 Winter, "Sand as Subject," this volume; Schlosberg and Winter, "What Matter Matters," this volume.
- 98 Aluli-Meyer, "Our Own Liberation"; Tynan, "What Is Relationality?"
The reference to cadavers is inspired by contributing poet Judith Nangala Crispin's artistic practice, which transforms dead animals—particularly

roadkill—into photographic prints through long-exposure cliché-verre techniques. This practice found root in Crispin’s attempts to listen to Country and the dead bodies through which Country communicates the harms wrought by settler-colonialism and capitalism. Described by Crispin as a “genuine collaboration with the landscape,” the prints feature deceased birds and animals of the Australian bush and desert but also clay, sticks, leaves, seeds, sap, ceremonial ochres, stones, and other animate matter that together experience and enact Country in its (de)composition. Hennessy, “Artist Who Turns Roadkill into Fine Art”; Sydney Environment Institute, “Indigenous Philosophies.”

99 Povinelli, *Inheritance*; Braidotti, *Transpositions*.

100 Randall, *Songman*, 24; Randall, “Oursness.” See also Winter, *Subjects of Intergenerational Justice*; de la Cadena, “Making the ‘Complex We.’”

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