

# Introduction

## *Stories Come to Matter*

Serenella Iovino and Serpil Oppermann

After three and a half centuries spent charting and measuring material nature as though it were a pure exterior, we've at last begun to notice that the world we inhabit (from the ocean floor to the upper atmosphere) is alive.

—David Abram, *Becoming Animal*

We are a part of that nature that we seek to understand.

—Karen Barad, *Meeting the Universe Halfway*

**A**N ANCIENT MEDITERRANEAN landscape; an endangered species in the Amazon; the Library of Congress; the Gulf Stream; carcinogenic cells, DNA, dioxin; a volcano, a school, a city, a factory farm; the outbreak of a virus, a toxic plume; bioluminescent water; your eyes, our hands, this book: what do all these things have in common? The answer to this question is simple. Whether visible or invisible, socialized or wild, they are all material forms emerging in combination with forces, agencies, and other matter. Entangled in endless ways, their “more-than-human” materiality is a constant process of shared becoming that tells us something about the “world we inhabit.” This world, we understand through them, is far from being a “pure exterior,” as the first epigraph says, and it is also far from being “pure.” It is filled instead with intermingling agencies and forces that persist and change over eons, producing new forms, bodies, and natures. It is through all these natures, agencies, and bodies that “the world we inhabit,” with all its stories, is “alive.”

The conceptual argument of *Material Ecocriticism* is simple in its outlines: the world's material phenomena are knots in a vast network of agencies, which can be “read” and interpreted as forming narratives, stories. Developing in bodily forms and in discursive formulations, and arising in coevolutionary landscapes of natures and signs, the stories of matter are everywhere: in the air we breathe, the food we eat, in the things and beings of this world, within and beyond the human realm. All matter, in other words, is a “storied matter.” It is a material “mesh” of

meanings, properties, and processes, in which human and nonhuman players are interlocked in networks that produce undeniable signifying forces.

In the past years, the activities and properties of these networks of bodies and discourses, which Donna Haraway has called our “material-semiotic reality” (*Haraway* 2), have captured unprecedented attention in many areas of research, generating a powerful “turn to the material” in the environmental debate. Clarifying the position of the environmental literary criticism in this scenery, *Material Ecocriticism* aims to open an interpretive horizon for the complex interrelations between discourse and matter and to intensify the dialogue with authors who have brought “the materiality of the human body and the natural world into the forefront” of analysis (Alaimo and Hekman 1). The ecocritical vision proposed in this volume explores such a dimension in literary texts as well as in the forms this materiality assumes in the “material-semiotic” world. As the approaches taken by the featured authors clearly indicate, a *material* ecocriticism examines matter both *in* texts and *as* a text, trying to shed light on the way bodily natures and discursive forces *express* their interaction whether in representations or in their concrete reality.

The idea here is to couple ecocriticism’s interest in revealing the bonds between text and world with the insights of the new materialist wave of thought. This is not an easy task, if we consider the breadth of such a conceptual debate. The “material turn” is an extensive conversation across the territories of the sciences and the humanities and embraces such fields as philosophy, quantum physics, biology, sociology, feminist theories, anthropology, archaeology, and cultural studies, just to name a few.<sup>1</sup> Whether one labels it “new materialisms” or “the material turn,” this emerging paradigm elicits not only new nonanthropocentric approaches, but also possible ways to analyze language and reality, human and nonhuman life, mind and matter, without falling into dichotomous patterns of thinking.

The goals here at stake are ambitious and deserve a closer examination, which will be essential to understand the scope of our ecocritical discourse. As Diana Coole and Samantha Frost note in their introduction to *New Materialisms*, at the very heart of the debate is “a challenge to some of the most basic assumptions that have underpinned the modern world, including its normative sense of the human and its beliefs about human agency, but also regarding its material practices, such as the ways we labor on, exploit, and interact with nature” (“Introducing” 4). The first of these “most basic assumptions” is the chasm between the human and the nonhuman world in terms of agency. Compared to a human endowed with mind and agentic determinations, the material world—a world that includes “inanimate” matter as well as all nonhuman forms of living—has always been considered as passive, inert, unable to convey any independent expression of meaning. The drawbacks of this vision are considerable. Besides restricting the latitude of

ethics to our species, this dichotomous ontology has also reinforced other common misunderstandings, including the “break-it-and-fix-it mentality of some environmental rhetoric, a mentality informed by the assumption that human agents (knowingly or inadvertently) create ecological problems, but can readily solve all of them at will with the right technology” (Phillips and Sullivan 446). But how does such mentality deal with the complex phenomena in which human agency is only a part of the picture? How does it conciliate with the entanglements of more-than-human forces and substances, which, visibly or imperceptibly, merge with the life of our bodies and places? Are we really in control of the many worlds—the worlds of electricity, toxins, fungi, climate patterns—inhabiting our world, when even the simple use of an antibiotic can exert a long-term interference on the complex balances of our microbiome, and therefore on our health? To overlook the complexity of this landscape of forces and all the “nonhuman powers circulating around and within human bodies” (Bennett, *Vibrant* ix) leads not only to a very partial vision of the world’s processes, but also to behaviors whose consequences might affect the entire biosphere. It is quite arduous for humans to declare their agentic independence in a hybrid, vibrant, and *living* world.

Bridging the current developments in sciences and technology with motives borrowed from a tradition of immanent thinking that “breaks through . . . the mind-matter and culture-nature divides of transcendental humanist thought” (Dolphijn and van der Tuin 96), the new materialist thinkers invite us to reconsider the categories of this world. Their main claim is that discourses about the *living* world, though necessary, are per se insufficient, if separated from their broader material substratum of inanimate substances and apersonal agencies. In other words, not everything that happens in this world and interferes with living systems is “alive” in the biological sense. Agency assumes many forms, all of which are characterized by an important feature: they are *material*, and the meanings they produce influence in various ways the existence of both human and non-human natures. Agency, therefore, is not to be necessarily and exclusively associated with human beings and with human intentionality, but it is a pervasive and inbuilt property of matter, as part and parcel of its generative dynamism. From this dynamism, reality emerges as an intertwined flux of material and discursive forces, rather than as complex of hierarchically organized individual players.

Seeking to provide a more accurate (and also more ontologically generous) picture of reality, the new materialists argue for a “theory of distributive agency.” Accordingly, the “root or cause of an effect” (Bennett, *Vibrant* 31) is not a human subject—posited in isolation from the nonhuman—but a material-semiotic network of human and nonhuman agents incessantly generating the world’s embodiments and events. “Nonhuman” here denotes “a community of expressive presences” (Abram, *Becoming* 173): not only sentient animals or other biological organisms, but also impersonal agents, ranging from electricity to hurricanes,

from metals to bacteria, from nuclear plants to information networks. Contrary to the vision fixed on human supremacy, a different approach based on a confederation of agencies implies that things and nonhumans in general are no longer seen as mere objects, statically depending on a subject, but as “full-fledged actors” (Latour, *Pandora’s* 174). Whether materializing in species extinction, climate patterns, racial discriminations, health policies, in the practices of extraction, transformation, and consumption of natural resources, or in the many voices and experiences of a more-than-human mind, the world’s phenomena are segments of a conversation between human and manifold nonhuman beings, which act together and “exchange properties” in indissoluble “collectives,” as Bruno Latour insists (*Politics* 61).

The term “conversation” here is not simply a metaphor. The new materialisms suggest that things (or matter) draw their agentic power from their relation to discourses that in turn structure human relations to materiality. Resisting the emphasis on linguistic constructions of the world, formulated by some trends of postmodern thought, the new materialist paradigm is premised on the integral ways of thinking language and reality, meaning and matter together. A key point, provided by Karen Barad’s theory of agential realism, is that phenomena result from the intra-actions of material and discursive practices and agencies, which coemerge at once (hence *intra-* and not *interaction*), thus constituting the world “in its ongoing becoming.” Matter and meaning, Barad states, are “inextricably fused together, and no event, no matter how energetic, can tear them asunder. . . . Mattering is simultaneously a matter of substance and significance” (*Meeting* 3). Meaning, she maintains, is “an ongoing performance of the world in its differential intelligibility” (335).

This is a crucial theme in the discourse of the new materialisms, and it has been stressed from different but concurring perspectives. The power of matter to build dynamics of meaning in and across bodies can be detected, for example, in the biosemiotic assumption that “the natural world is perfused with signs, meanings, and purposes which are material and which evolve” (Wheeler, “The Biosemiotic” 279), making life an embodied process of understanding (or, in Barad’s terms, “differential intelligibility”) that engages all beings “from the humblest forms of single-cell life upwards” (271). As Wendy Wheeler writes, “What goes on *inside* an organism, and *between* an organism and its environment (the two processes being intimately connected) always involves what . . . we must call interpretations—however minimal” (“The Biosemiotic” 271).<sup>2</sup> In other words, the borders between meaning and matter are constitutionally porous, making the “intimate” material-semiotic connection between the “inside” and “outside” of organisms recognizable at smaller as well as larger levels of organization. Such dynamics are also visible, in fact, in the complex pathways of trans-corporeality—the transits of substances and discursive practices within and across bodies—insightfully conceptualized

and explored by Stacy Alaimo in *Bodily Natures*. Illustrating the mutual interferences of places, sociopolitical practices, and the health of all living organisms, trans-corporeal dynamics reflect the way bodies “interpret” the ecologies of discourses and forces with which they interact, reconfiguring subjectivity as interfaced with landscapes of risks, biological materialities, and “power structures” (86).<sup>3</sup> Finally, the coemergence of matter and meaning and the permeability between the inside and the outside are also present in the elemental embodiments of the “more-than-human world” as examined by David Abram.<sup>4</sup> In tune with the biosemiotic insight of a universe “perfused with signs” in which mind is “immanent in all things” (Wheeler, “The Biosemiotic” 272), and also in terms that resonate with Alaimo’s trans-corporeality as a “bodily immersion” within “a landscape of interactions” (*Bodily* 70), Abram draws an ecophenomenological vision of natural life as a congealing of imaginative and biological processes, as the “state of mind” of a storied world, in which humans and nonhumans are “carnally immersed” (*Becoming* 123). In all these cases, the porosity of biosphere and semiosphere, the trajectories of toxins and discourses across living bodies, and the fact that the world’s imagination is “an ever-unfolding story” embedding “our variously sensitive bodies” (Abram, *Becoming* 270–72) exist in a dimension where meaning and matter are inextricably entangled, constituting life’s narratives and life itself.

On this conceptual horizon, the world’s vibrant materiality appears as a “web teeming with meanings” (Wheeler, “The Biosemiotic” 270), in which humans, nonhumans, and their stories are tied together. The emerging dynamics of matter and meaning, body and identity, being and knowing, nature and culture, *bios* and society are therefore to be examined and thought not in isolation from each other, but *through* one another, matter being an ongoing process of embodiment that involves and mutually determines cognitions, social constructions, scientific practices, and ethical attitudes. In this perspective, there is no simple juxtaposition or *mirroring* between nature and culture, but a combined “mesh.” Here culture and nature become a hybrid compound, congealing, to use Haraway’s term, into *naturecultures*. This natural-cultural plexus is the cypher of our world, and therefore the necessary terrain of every critical analysis.

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All these ideas—a distributive vision of agency, the emergent nature of the world’s phenomena, the awareness that we inhabit a dimension crisscrossed by vibrant forces that hybridize human and nonhuman matters, and finally the persuasion that matter and meaning constitute the fabric of our storied world—are the basic premises of material ecocriticism. In this volume we explore this landscape of “swarming” agencies, with the conviction that ecocriticism can adopt and fruitfully develop on the perspective provided by the new materialisms. What lies

behind the nodes of the ecological crisis—pollution, mass extinctions, poverty, enslavement of humans and animals, and many other forms of oppression—are tangles of natures and cultures that can be unraveled only by interpreting them as narratives about the way humans and their agentic partners intersect in the making of the world.

At first glance, these points are not new in ecocritical studies. If ecocriticism has a grounding assumption at its origin, it is the tight connection between literature and the natural-cultural dynamics of the material world. More specifically, and despite its increasingly varied and multivalent definitions, analytical strategies, and theoretical standpoints, ecocriticism's initial objective stands intact: seeking "to restore the significance to the world beyond the page" (Rigby, "Ecocriticism" 154–55).<sup>5</sup> In her memorable introduction to *The Ecocriticism Reader*, Cheryll Glotfelty posits that "literature does not float above the material world in some aesthetic ether, but, rather, plays a part in an immensely complex global system in which energy, matter, *and ideas* interact" (xix). Framing these insights within the new conceptual premises, material ecocriticism traces the trajectories of natural-cultural interactions by reading them as "material narratives." In other words, it analyzes the interlacements of matter and discourses not only as they are re-created by literature and other cultural forms, but also as they emerge in material expressions. Its particularity, as previously stated, is that it heeds matter not solely as it appears in texts, but as a text itself. This extension of the realm of textuality beyond the margins of canonical texts and, as we will see, the elaboration of a "diffractive" methodology resulting from the intra-action (or, using Glotfelty's famous metaphor, "cross-pollination") between human interpreter and material textuality are, in our opinion, the main additions of this new paradigm to the field of ecocritical studies.

Bodies, both human and nonhuman, provide an eloquent example of the way matter can be read as a text. Being the "middle place" where matter enmeshes in the discursive forces of politics, society, technology, biology, bodies are compounds of flesh, elemental properties, and symbolic imaginaries. Whether performing their narratives as statues in a square, teachers in a classroom, plankton in the ocean, fossils trapped in a stone wall, or chickens in industrial factory farms, bodies are living texts that recount *naturalcultural* stories. The key point in this argument is that all things and beings, as David Abram reminds us, "have the ability to communicate something of themselves to other beings" (*Becoming* 172). The recognition of their agency as an intrinsic property "steadily bodying forth [their] own active creativity and sentience" (170) not only insinuates new conceptions of nature, life, and materiality, but also relocates the human in a larger material-semiotic "collective."

Material ecocriticism argues that there is an implicit textuality in the becoming of material formations, and this textuality resides in the way the agentic

dimension of matter expresses itself, as well as in the way bodies emerge in the combined and simultaneous action of material dynamics and discursive practices. Whether a thing or a living creature, “every being that matters” is, to quote Haraway, “a congeries of its formative histories” (*Haraway* 2). In the way it “joins text and body in . . . material semiosis and semiotic materiality”—whether in transcorporeal, biosemiotic, or evolutionary terms—every being has a story to tell; it is “semiotically active” (*When Species* 163, 250). Its inner interplay of agencies has a spatiotemporal trajectory; set within this world, its materiality is punctuated over time with meanings. It is a *storied* matter.

Material ecocriticism, in this broad framework, is the study of the way material forms—bodies, things, elements, toxic substances, chemicals, organic and inorganic matter, landscapes, and biological entities—*intra-act* with each other and with the human dimension, producing configurations of meanings and discourses that we can interpret as stories. Even though no preordered plot can rigorously distinguish these stories of matter, what characterizes them is a narrative performance, a dynamic process of material expressions seen in bodies, things, and phenomena coemerging from these networks of *intra-acting* forces and entities. Seen in this light, every living creature, from humans to fungi, tells evolutionary stories of coexistence, interdependence, adaptation and hybridization, extinctions and survivals. Whether perceived or interpreted by the human mind or not, these stories shape trajectories that have a formative, enactive power. Think of our planet: the transformative stories built by telluric powers, magnetic forces, clashing and melting elements, and dawning forms of life extend the past of the earth into our present, determining the way all beings articulate their relationships to the world. In the same way, all matter—even the one that we do not see, sense, or suspect—constantly interacts with other matter, whether in human or nonhuman forms. Far from being a naive concession to animism or any mythos, framing this interplay in a narrative dimension is essential in the economy of ecological discourse. As Jeffrey Cohen has written,

to believe that rivers compose might be to project human qualities on indifferent things. . . . Yet what is at stake in limiting agency to an origin in human volition—as if we intend much of what we accomplish? The profundity of climate change in the Anthropocene argues against such easy alignment. Causes tend to be known retroactively when they are known at all, traced back . . . through volatile knots of human and inhuman actors operating in alliance as well as at odds with each other. (“Ecology’s Rainbow” xxiv)

Reading into the “thick of things,” material ecocriticism aims to explore not only the agentic properties of material forms, whether living or not, whether organic, “natural” or not, but also how these properties act in combination with other material forms and their properties and with discourses, evolutionary paths, po-

litical decisions, pollution, and other stories. The “volatile knots” of human and nonhuman agents, as Cohen insists, thus not only are crucial to “apprehend the environment dis-anthropocentrically” (xxiv), but also invite us to read their stories in the way they induce a transformation in plotting “dis-anthropocentric” disciplinary discourses and political, cultural, and ethical models. How would, for instance, “the maps of sustainability change, if we read ‘through bodies’ the stories of these encounters? How would we deal with waste . . . if we followed the narrative patterns that matter, in visible and invisible forms, draws across bodies?” (Iovino, “Steps” 144). We need to read *through* all these stories if we want to encourage new visions that have less harmful effects on the world of bodily natures.

This form of “material narrativity” also leads to a different and less human-centered idea of literature. Framed as material-discursive encounters, literary stories emerge from the intra-action of human creativity and the narrative agency of matter. Playing together, *this* shared creativity of human and nonhuman agents generates new narratives and discourses that give voice to the complexity of our collective, highlighting its multiple and “fractal” causal connections and enlarging our horizon of meanings. In other words, narrative agency and human creativity coemerge in new and more complex levels of reality. Here human and nonhuman players produce narrative emergences that amplify reality, also affecting our cognitive response to this reality.

We are well aware that “stories” or “narratives,” if applied to matter, might be read as a metaphor. We want, however, to challenge the criticisms of anthropomorphizing matter and use this human lens as a heuristic strategy aimed at reducing the (linguistic, perceptive, and ethical) distance between the human and the nonhuman. So understood, anthropomorphism can even act against dualistic ontologies and be a “dis-anthropocentric” stratagem meant to reveal the similarities and symmetries existing between humans and nonhumans. As Jane Bennett has compellingly argued:

A touch of anthropomorphism . . . can catalyze a sensibility that finds a world filled not with ontologically distinct categories of beings (subjects and objects) but with variously composed materiality that form confederations. In revealing similarities across categorical divides and lighting up parallels between material forms in “nature” and those in “culture,” anthropomorphism can reveal isomorphism. (*Vibrant* 99)

More basically, however, we can explore this “narrativity” of matter—bodies, natures, cultural forms—because the meanings it conveys are not separated from us. As a part of these “confederations” of “variously composed materiality,” we are entangled with their material agency and emerge *together* as storied beings. If humans are fruits of the world’s becoming, this interpretation is a way to take part “in bringing forth the world in its specificity, including ourselves” (Barad,



*Meeting* 352). This is our way, as Barad would say, “to meet the universe halfway, to move toward what may come to be in ways that are accountable for our part in the world’s differential becoming” (353). In material-ecocritical terms, the human agency meets the narrative agency of matter halfway, generating material-discursive phenomena in the forms of literature and other cultural creations, including literary criticism. Also the way we interpret the world’s narratives is evidently a mode of intra-action, a phenomenon emerging from the world’s creativity. In other words, this is one of the endless ways of being “a part of that nature that we seek to understand” (67).

Ecocritics have long talked about “narrative scholarship.”<sup>6</sup> Material ecocriticism is a way to give the adjective “narrative” a more ontologically complex meaning. “Narrative” in this sense means the way our interpretation is itself intermingled with what it considers, in a material and discursive way. In this material “narrative scholarship,” the interpreter and the interpreted emerge together, in intra-action. This critical practice is therefore a further development—and, in a way, a completion—of traditional narrative scholarship, with the difference that the emanating point of the narrative is no longer the human self, but the human-nonhuman complex of interrelated agencies.

In this conceptual framework, the project of material ecocriticism can, therefore, be understood as an approach that entails a critical self-reflection on our part as humans and on the constitutive engagement of human discursive systems with the material world. Integrally situated in this dance of matter and meanings, our cognitive practices participate in the world’s “differential intelligibility.” As Barad explains: “We are not outside observers of the world. Neither are we simply located at particular places *in* the world; rather, we are part of the world in its ongoing intra-activity” (184). Interpretation, therefore, “is an ontological performance of the world in its ongoing articulation. . . . Knowing is a matter of intra-acting” (149). But in a storied world, every cognitive appropriation creates “interference patterns”; it happens by way of “diffractions.” As Barad, again, writes:

Diffraction is a material-discursive phenomenon that challenges the presumed inherent separability of subject and object, nature and culture, fact and value, human and nonhuman, organic and inorganic, epistemology and ontology, materiality and discursivity. . . . *Diffraction is a material practice for making a difference, for topologically reconfiguring connections.* (381; emphasis in the original)

One of the basic insights of material ecocriticism consists in turning this “diffractive” reading into an interpretive methodology to be applied in the fields of literary and cultural studies and to conceive textual interpretation as a “practice of entanglement.” Reading the discursive and the material, the cultural and the natural *diffractively*, not in separation, means reading them through one another. Instead of concentrating on texts and seeing how they “reflect” the world’s

phenomena—natural life or a society’s cultural practices—such an interpretation reads world and text as an agentic entanglement. This involves a reconceptualization of both the idea of text (as distinct from other nontextual material formations) and the idea of world (as “the outside of text”). According to this vision, text and world can be read as “circulating references,”<sup>7</sup> the same way that nature and culture can be *read and thought* through one another in laboratories, gender politics, or hybrid collectives of humans and nonhumans. In all the fields of life, the materiality of beings and of substances that support their existence is deeply related to the ways this materiality is conceptualized and discursively formulated. Therefore, instead of transforming “nature” into an endless series of interpretations, the “diffractive” method allows us to actively participate in a creative process in which material levels and levels of meanings emerge together, contributing to the world’s becoming a web teeming with collective stories.

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Like all the entanglements of material and discursive agencies at work in the world’s becoming, material ecocriticism is a “collective” effort. Even though, with essays and conference presentations, we might have been instrumental for its first explicit developments, material ecocriticism articulates motives traced by authors and texts that, within and across the field of the new materialisms, continue to trigger the creativity of ecocritics involved in reinforcing this new paradigm. The material ecocritical approaches presented here should, thus, be read in dialogue with the authors who are frequently quoted (and, in some fortunate cases, even materially present) in the pages of this volume, but they also engage a lively conversation with thinkers such as Gregory Bateson, David Bohm, Deleuze and Guattari, Antonio Damasio, Bruno Latour, Rosi Braidotti, Vicki Kirby, Bill Brown, Manuel De Landa, Andrew Pickering, and Joseph Rouse, to name just a few. The theoretical territories explored here are heterogeneous and mix their boundaries with several fields, ranging from biosemiotics to the ecology of mind, from ecological postmodernism to posthumanism, from “thing theory” to object-oriented ontology (OOO). A relationship of particular intensity is the one that connects material ecocriticism with all the trends and figures of material feminisms, especially where the exploration of the agency of matter meets the categories of ecocultural and feminist discourses, as exemplified in the works of Stacy Alaimo, Karen Barad, Susan Hekman, Catriona Sandilands, and Nancy Tuana. A powerful conversation is also set up with posthumanism and the post-human approach to cultural and literary texts, with such authors as Donna Haraway, Cary Wolfe, N. Katherine Hayles, Giorgio Agamben, Jeffrey J. Cohen, and Roberto Marchesini. And, though the passage of the new materialisms to the field of ecocritical studies would have hardly happened without the influence of books

such as David Abram's *Becoming Animal*, Stacy Alaimo's *Bodily Natures*, Karen Barad's *Meeting the Universe Halfway*, Jane Bennett's *Vibrant Matter*, and Wendy Wheeler's *The Whole Creature*, it is interesting to see how their conceptual lines are developing in many autonomous ecocritical pathways.

The fast-growing literature and the limits of this introduction make it impossible for us to map all the emergences and coemergences of this field of research. In previously published essays we have tried to provide a detailed sketch of the genealogy and morphology of material ecocriticism.<sup>8</sup> Because these writings are all materially available in the virtual sphere, we have chosen not to repeat their argumentative outlines in this introduction. We cannot, however, omit from this bird's-eye overview a reference to some of the publications that, though in some cases not explicitly connoted as "material ecocriticism," have contributed to shape the theoretical horizon in which this book is situated. The first of these publications is the *ISLE* special cluster titled *Material Ecocriticism: Dirt, Waste, Bodies, Food, and Other Matter* (2012), edited by Heather Sullivan and Dana Phillips, an inspiring collection of essays that, being the first concerted articulation of these topics, is an indispensable reference for our area of study. Remarkable examples of material ecocriticism *avant la lettre* can also be listed in some of the essays published in *Ecocritical Theory: New European Approaches*, edited by Axel Goodbody and Kate Rigby (2011). In particular, Heather Sullivan's interpretation of Goethe's *Faust* in the diffractive key of affinity studies, Laura Dassow Walls's contribution subtitled "Latour on Walden Pond," and Anne Elvey's explicit emphasis on the "matter of texts" openly call into question the necessity to consider materiality and textuality together, theorizing their relationship as a "chiasm" in which "boundaries are not frontiers but rather contact surfaces."<sup>9</sup> A noteworthy consonant approach can also be traced in the way Rob Nixon (*Slow Violence and the Environmentalism of the Poor* [2011]) pits the interlacements of politics, global pollution, and environmental justice against a temporal horizon in which bodies and places become expressive sites of neocolonial forms of violence. Finally, it is very important to us to stress the crucial convergence that material ecocriticism has with the ecocritical projects led by Jeffrey J. Cohen. With their emphasis on hybrid agencies, material narrativity, and "dis-anthropocentrism," his collections *Animal, Vegetable, and Mineral* (2012), *Prismatic Ecology* (2014), a special issue of *postmedieval* titled *Ecomaterialism* (2012), and the now forthcoming *Elemental Ecocriticism* (these last two publications edited with Lowell Duckert) clearly belong to the same creative and conceptual atmosphere of this volume and of our research.<sup>10</sup>

It is necessary to note that, like the new materialisms, material ecocriticism does not acknowledge or require any "overall orthodoxy" (Coole and Frost, "Introducing" 4). Thematically and stylistically, "material ecocritics" are still explor-

ing their personal ways into this ecocritical paradigm, making material ecocriticism a polyphonic chorus, which addresses the issues at stake from various but complementary angles. This reflects in the way our volume is organized and in the approaches here represented.

By opening the book with “Theories and Relations,” comprising five chapters, we aim to expose the ways in which material ecocriticism can be theorized. Starting with the insights of ecological postmodernism, integrating the new materialist conceptualization of agency with the perspectives of systems theory, and moving to the viewpoints of cultural ecology, biosemiotics, and posthumanism, these essays demonstrate that a theory of material ecocriticism can begin in multiple pathways. The opening chapter, Serpil Oppermann’s “From Ecological Postmodernism to Material Ecocriticism: Creative Materiality and Narrative Agency,” acknowledges a genealogical lineage between these two fields, especially visible in the way they describe matter in terms of its internal experience, agentic creativity, and vitality. Visible at all levels of the natural world (from atoms to complex structures here called “compound individuals”), the power of matter to create and transmit “stories” through the interchange of forces and forms resonates, in Oppermann’s interpretation, with the postmodern emphasis on the reenchantment of nature. From a quite different angle, Hannes Bergthaller’s “Limits of Agency: Notes on the Material Turn from a Systems-Theoretical Perspective” illustrates both the potentialities and the risks of the new materialist vision of agency. By examining the developments of these ideas in biology (as described by Francisco Varela and Humberto Maturana) and in social studies (as in Niklas Luhmann’s social systems theory), Bergthaller proposes to integrate autopoiesis in the ontology and ethics of the new materialisms. In the third chapter, “Creative Matter and Creative Mind,” Hubert Zapf scrutinizes the question of cultural and natural creativity from the combined perspective of material ecocriticism and cultural ecology. A nondualistic analysis of material-discursive dynamics, cultural ecology—of which Zapf is one of the major exponents—is set in a dialogue with biosemiotics and mind theories and proposed as a tool to bridge the materiality of the world’s agency with the apparent “disembodiment” of discursive constructions in literary texts. “Laterally” introduced in Zapf’s essay, biosemiotics is a discipline that, being a privileged interlocutor for material ecocriticism, is present in our volume with two dedicated studies. The first of these essays, included in this section, is Wendy Wheeler’s “Natural Play, Natural Metaphor, and Natural Stories: Biosemiotic Realism.” Giving an account of biosemiotics as a discipline that challenges a “simple” materialism, the author shows how the homologies existing between aesthetic and natural forms actually disprove the old distinctions between culture and nature, mind and body, “essenzialized” human self and natural others. The essay that completes “Theories and Relations” is Heather

Sullivan's "The Ecology of Colors: Goethe's Material Optics and Ecological Post-humanism." Reading Goethe's *Theory of Color* through the new materialisms, the author argues that his anti-Newtonian stance displays striking similarity to Barad's notions of diffractions and intra-action. Focusing on the way colors emerge via the intra-action of light, energy, bodily natures, and technological enactments, Goethe's optics offers, in Sullivan's interpretation, a precursory form of ecological posthumanism, which is here developed by the author as an integral part of material ecocriticism.

"Narratives of Matter," examining the ways meanings, stories, signs, and discourses are embedded in material forms, intra-acting with the lives and landscapes of humans and nonhumans, is the title of the second section of *Material Ecocriticism*. In the opening essay, "Bodies of Naples: Stories, Matter, and the Landscapes of Porosity," Serenella Iovino analyzes the material-discursive entanglements of her "porous city" (as Walter Benjamin defined it), by discussing two examples of "storied matter": the plaster casts created by archaeologists in excavating Pompeii's ruins and the "war on the bodies of Naples," as represented in Curzio Malaparte's novel *The Skin* (1949). Considering the way the diffractive dynamics of nature and memory are embodied in Naples's reality, Iovino argues that interpretation participates in the "differential becoming" of this reality, adding new levels to the place's mind. In the second chapter, "When It Rains," Lowell Duckert discusses the impersonal agency of rain, describing it as a vital materiality that resists the binaries between in/human, in/organic, and climate/culture. When it rains, he maintains, we recognize reality as a system in cascade: networks of in/human things that, in their random swerves and collisions, *precipitate* ("bring about") alliances, stories, and desires. Finally, by putting modern travel literature into conversation with actor-network theorists, the essay considers new ways of narrating embodied experience. The third chapter is Simon Estok's "Painful Material Realities, Tragedy, Ecophobia." Drawing from his idea of "ecophobia," Estok considers how conceptual and discursive displacements of pain measure and manifest our delusions about human exceptionalism and anxieties about death. The author argues that theorizing ecophobia through discussions and narratives about pain allows us to see the thick materiality of our embeddedness, which, in many ways, is synonymous with *involvement* in processes of interacting agencies. This section concludes with Timo Maran's "Semiotization of Matter: A Hybrid Zone between Biosemiotics and Material Ecocriticism." Addressing the notion of "storied matter," Maran analyzes what he calls the "semiotization of matter," a process by which the environment is materially and semiotically shaped by humans. The way humans "semiotize" matter, he argues, can interfere with the ability of many nonhuman species to perceive and interpret these environments. The degradation of the habitats of many nonhuman species can therefore be framed in

terms that are not only ecological, but also semiotic: it is a material-semiotic practice, whose consequences are difficult to predict but nevertheless crucial for the survival of our “collective.”

The third part, “Politics of Matter,” concentrates on cutting-edge topics of ecocritical studies—biopolitics, detritus, pain, and disability—shedding light on the way material-discursive dynamics concur to shape the human, nonhuman, and environmental political dimension. The section opens with “Pro/Polis: Three Forays into the Political Lives of Bees” by Catriona Sandilands, an essay in which the interspecies bond between humans and bees is exposed as a biopolitical one. Via three theoretical and zoosemiotical “forays” into the possibilities of bee politics, and a material-ecocritical reading of Sean Borodale’s *Bee Journal*, Sandilands demonstrates that beekeeping may ground a practice of human attentiveness to bees that allows a more deeply egalitarian politics to emerge. The second chapter, Dana Phillips’s “Excremental Ecocriticism and the Global Sanitation Crisis,” articulates what he calls a “subsidiary” discourse of material ecocriticism. Displaced from the sight, and more often from the consciousness, excrement embodies, for Phillips, the way modern societies both produce and suppress the environmental crisis. Developing his “excremental ecocriticism” through texts that deal with the chaotic and “recalcitrant agency of shit,” the author interprets the “global sanitation crisis” as an entanglement of material emergences, cultural-technological practices, and historical-political factors that involve both colonial and postcolonial ecologies. In the third chapter, “Oceanic Origins, Plastic Activism, and New Materialism at Sea,” Stacy Alaimo elaborates a “marine” version of her foundational concept of trans-corporeality. Retracing the evolutionary, economic, and ecological exchanges and entanglements of human life and the life of the seas, Alaimo demonstrates how a trans-corporeality extended to the seas links humans to global political networks of consumption, waste, and pollution. The last chapter of this section is Eli Clare’s “Meditations on Natural Worlds, Disabled Bodies, and a Politics of Cure.” In this narrative prose, Clare explores the tangle of *normal* and *natural*, *abnormal* and *unnatural* and the use of medical technology to preserve life and to reshape bodies. Creating a parallel between the ecological restoration of a prairie ecosystem and the politics of cure as the “restoration” of the health of human bodies, the author turns to disability and discusses the contradictions emerging from the medical industrial complex and the biopolitical categories of human and natural “normality.”

The fourth section of the volume is titled “Poetics of Matter.” This title not only is due to the relevance that the aesthetic dimension has in this section, but—more profoundly—also resonates with the Greek root of “poiesis,” implying a literal sense of “making.” In our perspective, participating “diffractively” in the world’s becoming, the creative entanglements of agencies are not only ways of world mirroring but coemerging “ways of worldmaking” (see Goodman, *Ways of*

*Worldmaking*). The “poetical” dimension of material ecocriticism is here explored by turning particular attention to art, poetry, and philosophy. The opening essay, Cheryll Glotfelty’s “Corporeal Fieldwork and Risky Art: Peter Goin and the Making of *Nuclear Landscapes*,” instantiates this “mutual making” between human and nonhuman agency via artistic creation. Engaging a conceptual and personal conversation with the landscape photographer Peter Goin, Glotfelty examines his work *Nuclear Landscapes* (1991), a project documenting several American nuclear test sites. By analyzing Goin’s artistic intra-action with the landscape as it materializes in his photos, Glotfelty sheds light on the way his art discloses many co-emerging levels, which include not only the ecological, political, and technological agencies at work in the material making of America’s nuclear landscapes, but also the artist’s own body, which intra-acts with all these material-discursive processes in a trans-corporeal way. In the second chapter, “Of Material Sympathies, Paracelsus, and Whitman,” Jane Bennett proposes a “vibrant-materialist” theory of “sympathy”—the presence of affecting affinities between bodies—taking her cue from two literal arts of world making: alchemy and poetry. The author concentrates on Paracelsus’s attunement to the sensuous specificities of bodies and Walt Whitman’s invocations of “sympathy” in *Leaves of Grass*, exploring how both authors conceive the affective bonds at work between the bodies of people and the bodies of animals or landscapes. She also considers another kind of “sympathy”: the one between some bodily postures (tilted head, bent back, open mouth) and democratic moods or ethical dispositions (nonchalance, industriousness, civic affection). Joni Adamson’s “Source of Life: *Avatar*, *Amazonia*, and an Ecology of Selves” constitutes the third chapter of this section. By analyzing Juan Carlos Galeano’s *The Trees Have Mothers* (2008) and James Cameron’s *Avatar* (2009), Adamson scrutinizes the cooperation of agencies between these films and the cosmologies of Amazonian oral traditions. The author argues that the Amazonian concepts of boundary crossing, dreaming, and an “ecology of selves” in which trees have “mothers” and all sentient beings are considered “persons” or “selves” open a way to “multinatural worlds” and to a mutual creation of humans and non-humans by way of ethical-aesthetical encounters. Timothy Morton’s essay “The Liminal Space between Things: Epiphany and the Physical” completes this section. Drawing from object-oriented ontology, Morton analyzes causality not as a mechanical grinding underneath things, but as an aesthetic emanation of them. A phenomenology of causality is thus necessary for understanding what Morton calls “epiphany,” which is how things come into being and contribute to the making of the world. The essay achieves this by examining *Twilight Epiphany*, an artwork by James Turrell that puts human construction in dialogue with the sky.

*Material Ecocriticism* concludes with a short final section composed of “Dip-tych on Material Spirituality” and a lyrical-philosophical afterword composed by David Abram. In the diptych—two independent but thematically related short

essays—Kate Rigby and Greta Gaard sketch their proposals for a possible dialogue between material ecocriticism and nondualistic forms of “material spirituality.” In her part, Rigby contends that material ecocriticism could be considerably enriched by taking account of older forms of nonreductive materialism, such as that which pertains to Aboriginal narratives and practices of country and their onto-poetic understanding of reality as a dynamic order of mutual arising. Combining the insights of Buddhism with her ecofeminist activism, Gaard argues for what she calls a “mindful” material ecocriticism: an ecocriticism able to bridge Buddhism’s three characteristics of existence—impermanence, no-self, and dependent origination—with the material ethics of contemporary movements such as climate justice, interspecies justice, and indigenous rights.

Finally, David Abram’s piece, “The Commonwealth of Breath,” accompanies us through the transformations of air, a material spirituality and an elemental medium that binds our awareness to that of countless other creatures, congealing in the embodied stories of the more-than-human world.

David also suggested the heading of this last section, “Open Closure.” We take it as a good wish, while, closing this introduction, we invite the readers to open the door of material ecocriticism and to join the authors of this book along the pathways through which stories come to matter.

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## Notes

1. For a panorama of this debate, see Coole and Frost, *New Materialisms*; Dolphijn and van der Tuin, *New Materialism*; and Hicks and Beaudry, *Oxford Handbook of Material Culture*.

2. As Timo Maran has also stressed, “Sign processes take place not only in human culture but also everywhere in nature. . . . *Meaning is the organising principle of nature.*” Therefore, “semiotic and communicative processes [are] an indispensable part of living nature” (“Where?” 455, 461, 458).

3. On the topic of ecological health, its use in ecocritical discourse, and its narrative metaphors, also in connection to material ecocriticism, see Garrard, “Nature Cures?”

4. The phrase “more-than-human” was introduced in 1996 by Abram in *The Spell of the Sensuous*. Abram used it as a way to overcome the nature-culture bifurcation, suggesting that the human world should be considered a subset of the more-than-human world, as the subset of a material collective that contains, yet exceeds, all our human designs.

5. In *The Future of Environmental Criticism*, Lawrence Buell has provided a canonical description about the development of ecocritical studies based on the “wave” metaphor. While the “first wave” of ecocriticism focused mostly on nature writing, the “second wave,” he argues, has taken a more “sociocentric direction,” moving “toward substantive engagement with issues of environmental welfare and equity of more pressing concern to the impoverished and socially marginalized” (112). Buell’s theorization has been recently complemented with the addition of a third wave, which, according to Joni Adamson and Scott Slovic, “recognizes ethnic and national particularities and yet transcends ethnic and national boundaries” (“Shoulders” 6). We have many branches of ecocriticism today, such as postcolonial, environmental justice, urban,



bioregional, place-based, transnational, and feminist ecocriticisms with various methodologies and perspectives that converge only on the general agreement of construing more egalitarian, nonanthropocentric discursive formations. Therefore, with its many definitions, ecocriticism forms a rhizomatic network of diverse approaches to literature, culture, and the more-than-human world (see Oppermann, “Rhizomatic Trajectory”). In our view, material ecocriticism, with its material-semiotic and posthumanist liaisons, might be intended as a further “wave” of ecocriticism, which expands rather than confronts the initial premises of the field (see also Slovic, “Editor’s Note” 619).

6. Scott Slovic can be considered the most prominent exponent of this ecocritical methodology. See, among his many works, *Going Away to Think: Engagement, Retreat, and Ecocritical Responsibility*. John Elder’s *Pilgrimage to Vallombrosa: From Vermont to Italy in the Footsteps of George Perkins Marsh* also deserves an important mention.

7. “Circulating References” is the title of a chapter of Latour’s *Pandora’s Hope*. For an application of this model to ecocriticism, see Laura Dassow Walls’s excellent essay “From the Modern to the Ecological: Latour on Walden Pond.”

8. See in particular our *ISLE* diptych “Theorizing Material Ecocriticism” and our essay “Material Ecocriticism: Materiality, Agency, and Models of Narrativity.” See also Iovino, “Steps to a Material Ecocriticism” and our individual essays: Iovino, “Material Ecocriticism: Matter, Text and Posthuman Ethics”; and Oppermann, “Rethinking Ecocriticism in an Ecological Postmodern Framework.”

9. The quotation is taken from Louise Westling’s description of Maurice Merleau-Ponty’s “bodily phenomenology” of the world, in the same book (135). The quoted essays are Heather I. Sullivan’s “Affinity Studies and Open Systems: A Nonequilibrium, Ecocritical Reading of Goethe’s *Faust*,” Laura Dassow Walls’s “From the Modern to the Ecological,” and Anne Elvey’s “The Matter of Texts: A Material Intertextuality and Ecocritical Engagements with the Bible.”

10. Without explicitly using ecocritical categories, the special issue *Things of the European Journal of English Studies* 15.1 (2011), edited by Maurizio Calbi and Marilena Parlati, delineates interesting convergences with the project of material ecocriticism. Also worth mention are some inspirational essays by Patricia Yaeger, appeared in *PMLA* (“The Death of Nature and the Apotheosis of Trash” [2008], “Sea Trash, Dark Pools, and the Tragedy of Commons” [2010], and “Literature in the Ages of Wood, Tallow, Coal, Whale Oil, Gasoline, Atomic Power, and Other Energy Sources” [2011]).

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