



EXTENDING

Making Meaning with the White Mountains

ECOLOGY



An ongoing collaboration with:
Hubbard Brook, forest
Rich Blundell, ecologist
Rita Leduc, artist

An **oika** Project

Museum of the White Mountains
Exhibition Oct. 2023 - Jan. 2024
Curated by Meghan Doherty



An **oika** Project

**Extending Ecology:
Making Meaning with the White Mountains**

Fall 2021-present

An ongoing collaboration with:

Hubbard Brook, *forest*
Rich Blundell, *ecologist*
Rita Leduc, *artist*

Museum of the White Mountains
Exhibition October 2023 - January 2024
Curated by Meghan Doherty

Guest essay by David Syring:
"Arts, Humanities, and Sciences: Emergent,
Necessary Unities for Thinking and Dwelling as
Humans-Being-on-Earth"

Exhibition graphic design by Emma Wilbur



virtual exhibition

www.oika.com
www.richblundell.com
www.ritaleduc.com
www.hubbardbrook.org
www.plymouth.edu/mwm/

(c) 2024



EXTENDING

Making Meaning with the White Mountains

ECOLOGY

We are living in a time of profound social, ecological, and technological change. Each day in the modern world, market-driven media, algorithms, and artificial intelligence are rapidly diminishing our evolved capacities to sense, relate to, and make meaning of the world.

“Extending Ecology” is the latest outcome of an ongoing collaboration between an artist, an ecologist, and a forest in the White Mountains to make meaning with nature through long-term contemplative and creative research in the Hubbard Brook watershed. The paired visual and conceptual data in this exhibition reflect the meanings made when humans allow intimate, ecological relationships with the forest. This exhibition attempts to make these meanings palpable so they may find a way back into culture through you.

Welcome to our extended ecology of the forest. By the time you leave, the world will have changed. We hope you will, too.







Oika What?

Oika is the creative intelligence of nature. Since humans are part of nature, Oika's intelligence is intrinsic to all of us. Once we are aware of this intelligence within us, it becomes increasingly familiar and accessible. With practice, we learn how to express Oika through our creativity. We discover that aligning with Oika feels good, because it is good.

Oika intelligence is inherently ecological. It only arises and is sustained through relationship. The quality of the relationship shapes the quality of the intelligence. *Extending Ecology* is an attempt to help others to feel the reality of Oika through visual art, ideas, and language.

Oika Why?

We are living through volatile times. The confluence of new technologies are, for better and worse, amplifying inherited ideologies. Our culture has decoupled from nature to such a degree that some aspects of our civilization have become outmoded, maladaptive, and existentially fragile.

Recent social-scale experiments conducted by media and technology corporations show how vested interests are willing to deploy their inventions only to serve their own short-term incentives. Anyone paying attention can observe the effects of algorithmic interventions on our political divisions, economic disparities, daily lives, and states of mind. These same forces have now given us an accidental preview of the exponential power of their next experimental treatment, the so-called Artificial Intelligence.

How will the unprecedented power of attention manipulation combined with monetary greed play out in our already fragile cultural mindscape?

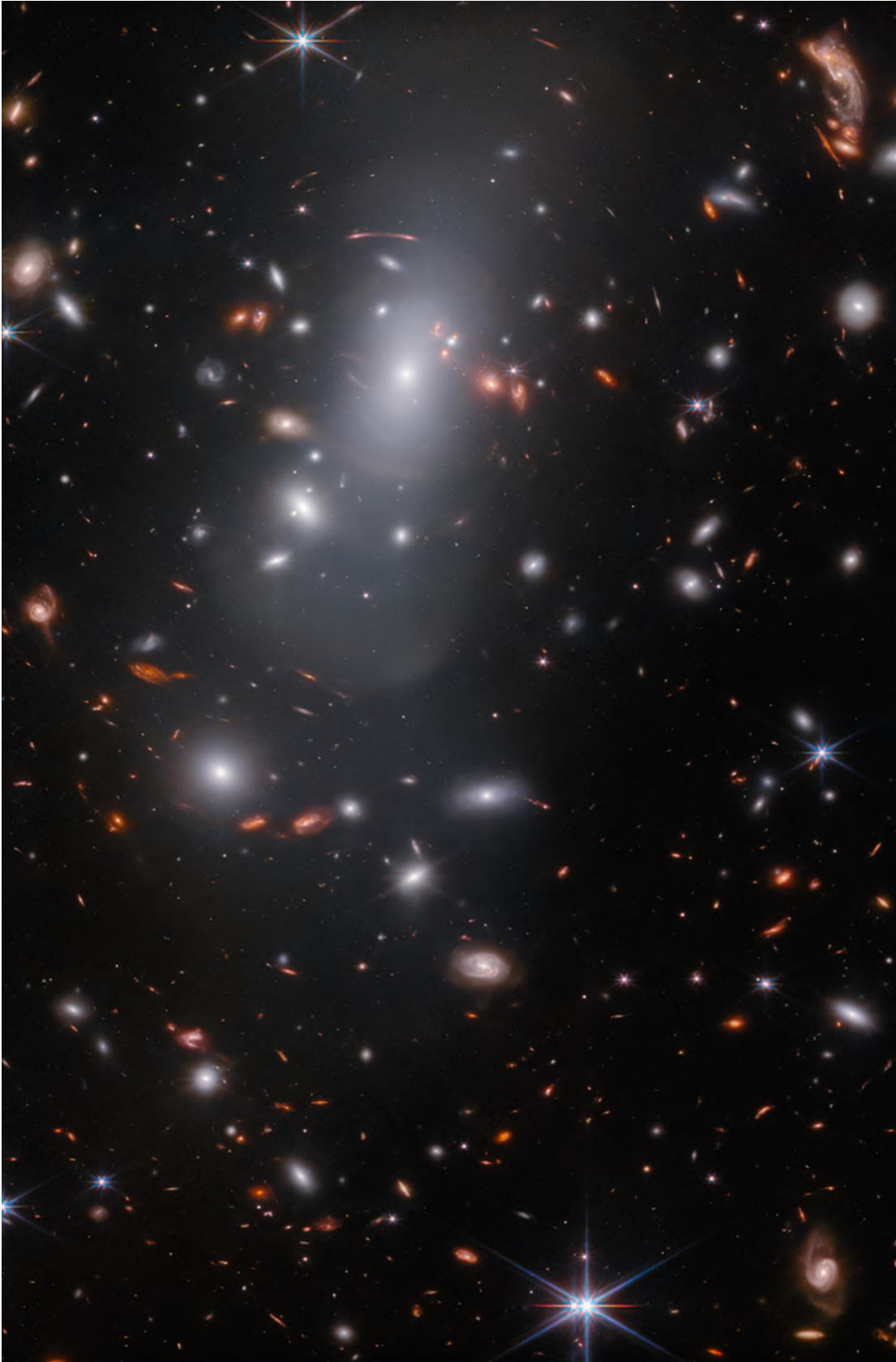
Perhaps paradoxically we need to restore our deep connection to nature's intelligence in order to withstand the coming windstorm that will come with artificial intelligence.

Oika How?

The phrase "making meaning" refers to the act of creating significance, purpose, or understanding in one's life or in a particular situation. It implies the process of finding value, relevance, or a sense of fulfillment in what one experiences.

Extending Ecology is an attempt to reconnect human beings with a grounded source of natural, ecological intelligence we call Oika. Our hope is by simply reminding people of the original source of human intelligence - nature - we might rediscover the creative continuity that has always bound us together. By contemplating and feeling our shared experiences and embodiments, we might also realize our shared origins and fates.

We believe nature holds deep wisdoms and shares them with the organisms that are willing to listen, imbibe, and take co-creative risks with this intelligence. In each of these collaborative pairings, the writings ask you to take these risks in-situ by entering a whole-brain mode. As you walk through the exhibition, we hope this ecological dynamic conveys an intelligence transferable through other humans to culture.





About Rich

I am essentially a wild child grown into an adult in love with nature. Through some fortuitous accidents during the formative phase of early adolescence, I was free to roam the pine forests, cranberry bogs, and bays of Cape Cod. These habitats penetrated my body, my imagination, and my identity. Somehow, I managed to hold onto deep affections for the sensations, textures, and creatures of these landscapes.

My formal education began in the natural sciences (geology and biology) and progressed through the philosophy of science landing with a PhD in cosmic evolution. I interspersed academic training with field-research and teaching around the world with emphasis on East Africa, the Caribbean, and Central and North America.

One day, I realized that my journey through the habitats of the Earth reflected the human journey out of Africa. This cumulative mix of formal and informal educational careers is now the basis of my Earthling Theory of human development and the grounding inspiration for Oika.



About Rita

I was first taught to value creative engagement with the living world while growing up in a small New Jersey farm town on the border of the Pine Barrens. This preoccupation with creativity and nature proved a priceless ally through both ordinary and unexpected moments of my youth. I decided to pursue art professionally because it allowed the opportunity to develop the participation that had gotten me through the world thus far.

Education brought me from my tiny hometown into cities: Philadelphia, Chicago, New York. In these unfamiliar environments, I invented creative processes to find the familiar. Place-based collaborations with shadows and wind, weathered architecture, and disrupted sidewalks reassured me of nature's presence.

This practice developed into an interdisciplinary, ongoing "process of acquaintance" with any and all ecosystems, from physical to societal. It is a sensorial, relational journey of understanding that is as increasingly coherent as it is infinitely wondrous. Practicing with Oika has illuminated this coherence and saturated this wonder.



About Hubbard Brook Experimental Forest

Our third collaborator is integrated relationally throughout the exhibition. Hubbard Brook Experimental Forest is located on unceded Abenaki land in the southwestern part of the White Mountain National Forest. The 7,800-acre forest contains a series of small watersheds, nine of which are equipped with stream gaging stations (weirs) and other instruments to study the movement of water and nutrients through the ecosystem. Woodlands are predominantly Northern hardwood, with spruce-fir forests at higher elevations. Soils are well-drained spodosols developed in glacial till. For more on the history, people, institutions, and science of the Hubbard Brook community, visit hubbardbrook.org.

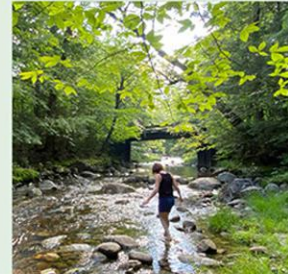
Harmony Held

Hemispheric Brain Theory posits that the right and left hemispheres function in differing but complementary ways. The left hemisphere is typically associated with analytical and logical thinking, mathematics, and sequential processing. It excels at tasks that require breaking down information into smaller parts, organizing details, and executing step-by-step instructions.



In contrast, the right hemisphere is often linked to holistic thinking, creativity, intuition, spatial awareness, and emotional processing. It excels at recognizing patterns, contextualizing information, understanding the "big picture," taking cues, and interpreting nuance.

The superpower of the human mind emerges precisely from the balanced, adversarial-complementarity maintained between the two hemispheres. The wholeness of humane thought is a harmony of both capacities held in creative tension. However, some argue that many of the troubles of modernity are caused by the left-brain's hijacking of the whole hemispheric system.



Words by Rich Blundell

Harmony Held



Constraints and Opportunities (Baseline)
Acrylic on Dura-Bright
15.25x12.25"
2021
Rita Leduc

Harmony Held



When we spend time with Hubbard Brook and its tributaries, we feel a panoply of phenomena in the more-or-less balanced harmony characteristic of living ecosystems (right-brain). When we spend time at one of the experimental weirs, we feel the human intention to more-or-less isolate the same phenomena for science (left-brain).

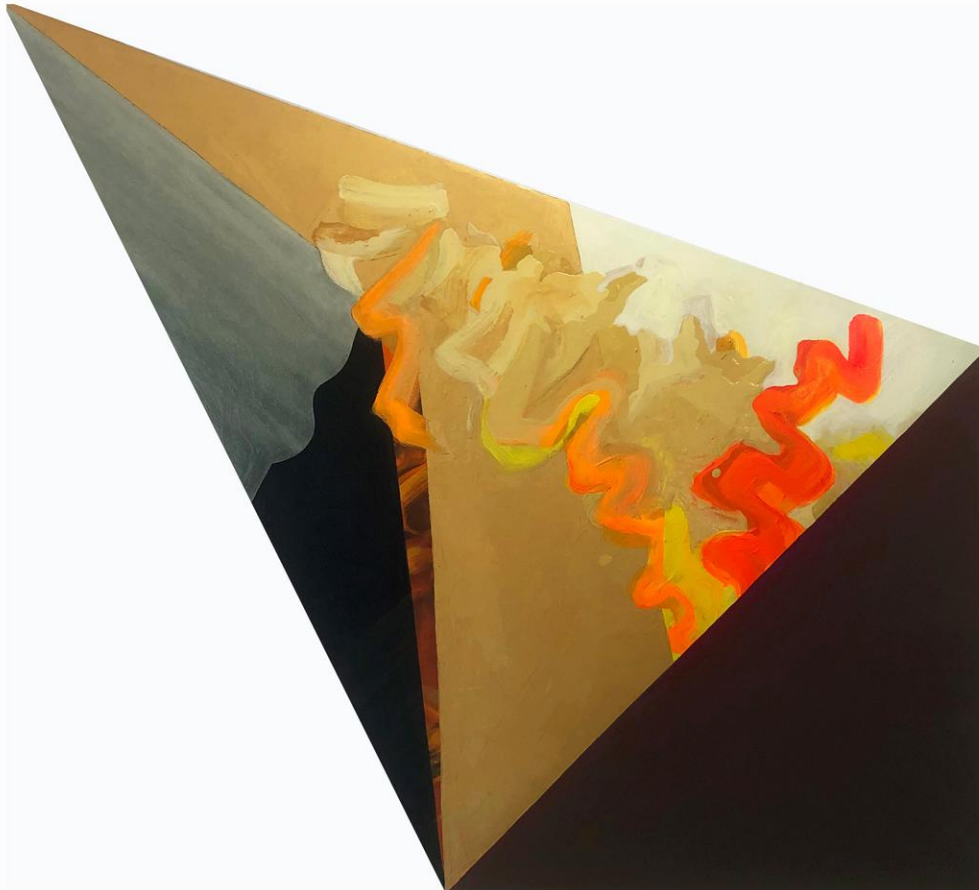


Our goal is not to judge one way as better than the other, but only to say that we can feel the difference between being with the brook and the weir. Being with the brook makes Hemispheric Brain Theory palpable because we can feel all the parts in relation to the whole and the whole in right-relation to the self. Being whole-brained in the forest feels good because it is good. This is what we call Making Meaning with White Mountains.



Words by Rich Blundell

Harmony Held



Constraints and Opportunities (Tipped)
Oil on Canvas
39.5x44.5"
2022
Rita Leduc

Harmony Held



See virtual exhibition for
Constraints and Opportunities (animation)
Digital gif
Dimensions variable
2022
Rita Leduc

Matrix of Intelligence



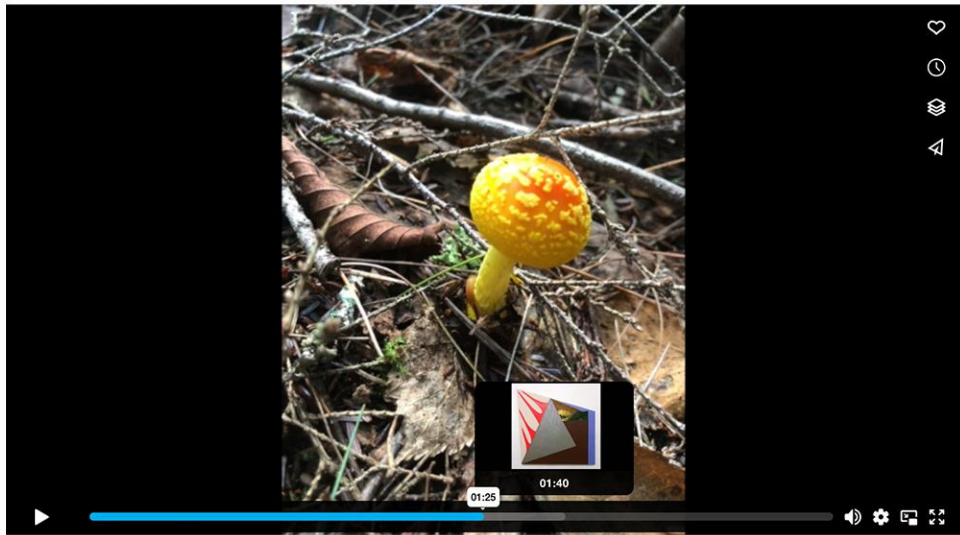
The Life Cycle of a Mushroom (Tipped)
Oil on canvas
37x40"
2022
Rita Leduc

Matrix of Intelligence



The Life Cycle of a Mushroom (Baseline)
Acrylic on Dura-Bright
15.25x12.25"
2021
Rita Leduc

Matrix of Intelligence



Oika Interpretation: Life Cycle of a Mushroom
Video
2m41s
2022
Rich Blundell

Matrix of Intelligence



See virtual exhibition for
Life Cycle of a Mushroom (animation)
Digital gif
Dimensions variable
2022
Rita Leduc



Intimate into Infinite



Time spent among mountains has a way of calling into question the very notion of time spent. The granite at the top of Mount Pemigewasset, and beneath this former church, formed deep in the continental crust through slow fractional crystallization of felsic minerals about 200 million years ago. Where were you 200 million years ago?



One day at the waterfall, while swinging in my hammock, I noticed how flowing water had carved a channel according to invisible fractionalization seams in the granite. Forgotten relationships between molecules and minerals were being remembered at the pace that water wears away stone.

Contemplation on this revealed a paradox of materiality where gratitude outlives granite. For all we know, the mountains we love will still be here long after we're gone (whatever that means). What is more enduring: the granite of these mountains or the gratitude we feel for them?



The capacity to question the asymmetry of time's arrow, or the ephemerality of granite vs the durability of gratitude, and an eternal continuity of a "self" were cultivated through relationships to the forests and the falling waters of Hubbard Brook. Knowing the deep history of a place hooked us into moments that matter because they happen to spill intimate into infinite.



Words by Rich Blundell

Intimate into Infinite



Wall Drawing of 10.4.21 Hubbard Brook
(Mushroom)
Graphite powder on drywall
96"x184"
Rita Leduc

Intimate into Infinite



Drawing of 9.29.21 Hubbard Brook (Weir 9)
Graphite on paper
34"x34"
2023
Rita Leduc

Intimate into Infinite



Drawing of 10.2.21 Hubbard Brook (Weir 6)
Graphite on paper
32.5"x34.5"
2023
Rita Leduc

The Science of Oika



Primordia

A journey back to the first moment anything in the universe makes sense reveals the intelligence behind the creativity of nature.

Celestia

A zoology of celestial phenomena that exhibit precursors to living systems.



Eartheria

As the Earth participates in the creativity of nature and sets the stage for Earthlings.

Animalia

How life begets animals and the essential nature of membranes in communication.



Culturia

Following the continuum of ecological intelligence into a uniquely human dimension of nature.

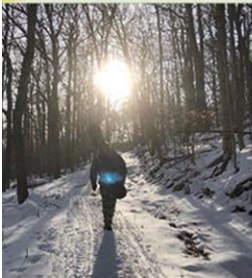


Showing Up for Mountains

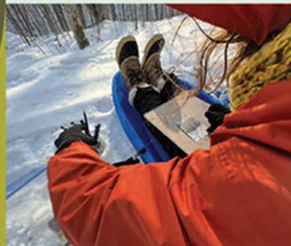


Collaboration isn't always easy. These drawings express what the White Mountains taught us about how to collaborate with them and each other.

Because the mountains are bigger than us, they provide a place to stow our egos. They remind us how we are accountable to something bigger, older, wiser, and more generous than us. We don't disappear in this exchange, but somehow their bigness gets in us by association. When we placed the center of our endeavor in the mountains, it allowed us to borrow their power. The mountains taught us how to value each other in the context of their big-ness.

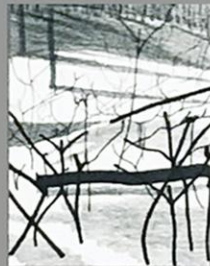


Then there were moments when we discovered that we had showed-up. I felt this most during the winter visits. With a layer of snow insulating the fecundity of the forest, it made space for play in a way that wasn't as available in the vitality of summer. So we did.



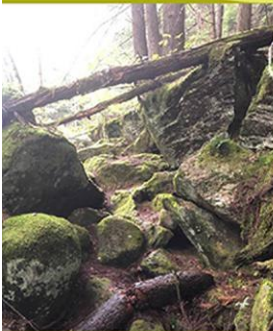
Words by Rich Blundell

Showing Up for Mountains



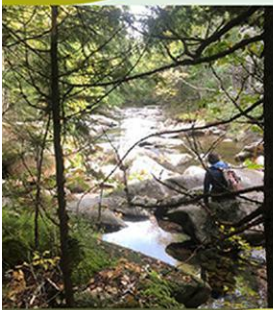
Winter Drawings
Marker and pencil on paper
3x4" each
2021
Rita Leduc

Ethereal Golden Light



The Gorge is a mysterious and highly charismatic stretch of Hubbard Brook. I say mysterious because as much as it pains me to admit, I've never actually been in it. It's a perfectly difficult place to access.

Approaching from downstream you will reach a section that seems designed to discourage. Every surface is slippery and each vertical face is exquisitely, awkwardly placed to say clearly "no." You can manage obscured glimpses into the Gorge from atop the cliffs on either side, but they don't reveal much. I've tried to descend but turned back based on the cues of unstable topsoils perched above hidden sheer faces.



There is a different, equally inescapable, way to experience the Gorge. Late in the afternoon, as you head down the access road after a day of hiking and crawling through the forest, you are met by an ethereal golden light emanating through an otherwise darkened forest. The Gorge becomes a gravity-well of light. It collects the sun's rays directly as they penetrate from low in the southwest sky. Like a laser, the light is amplified, stimulated, and brought into coherence through the geography of the canyon walls. An intense sparkle is also carried in from upstream by the brook.



Words by Rich Blundell

Ethereal Golden Light



Gorge Series
Mixed media on panel
14x17" each
2021-2023
Rita Leduc

Willing to Play



Simple, Elegant, Powerful (Tipped)
Oil on canvas
35x45.4"
2022
Rita Leduc

Text from panel (right):

Mothers sometimes speak of the "old soul" they encounter in their child. They sense a deep ancestral wisdom made especially visible through the innocence of childhood. Science has no way to account for any kind of embodied "long-resonance knowledge" and no theory of individual development takes it seriously. But I believe it is real, partly because neither mothers nor children can lie about such things. Neither do brooks.

Willing to Play



Mothers sometimes speak of the "old soul" they encounter in their child. They sense a deep ancestral wisdom made especially visible through the innocence of childhood. Science has no way to account for any kind of embodied "long-resonance knowledge" and no theory of individual development takes it seriously. But I believe it is real, partly because neither mothers nor children can lie about such things. Neither do brooks.

"Watershed 9" is home to one such honest little tributary. Cascade Brook's old soul bounces its way down a north-facing slope in the Hubbard Brook Valley. There is something enchanting about this bubbly, tannin-stained stream that invites participation. I was charmed into tracing its playful path from ambiguous beginnings along the divide east of Mt Kineo (2,982') down to the mossy platform where it incessantly giggles into the main branch of Hubbard Brook.

At night I like to imagine its charisma spilling into the Pemigewasset River, Merrimack River, Gulf of Maine, Atlantic, and beyond the clouds.

We've learned a lot from this little tributary and it imprints a large presence on the lore and culture of Hubbard Brook. Old souls teach anyone who is paying attention and willing to play along.

Words by Rich Blundell

"Watershed 9" is home to one such honest little tributary. Cascade Brook's old soul bounces its way down a north-facing slope in the Hubbard Brook Valley. There is something enchanting about this bubbly, tannin-stained stream that invites participation. I was charmed into tracing its playful path from ambiguous beginnings along the divide east of Mt Kineo (2,982') down to the mossy platform where it incessantly giggles into the main branch of Hubbard Brook. At night I like to imagine its charisma spilling into the Pemigewasset River, Merrimack River, Gulf of Maine, Atlantic, and beyond the clouds.

We've learned a lot from this little tributary and it imprints a large presence on the lore and culture of Hubbard Brook. Old souls teach anyone who is paying attention and willing to play along.

Willing to Play



Simple, Elegant, Powerful (Baseline)
Acrylic on Dura-Bright
15.25x12.25"
2021
Rita Leduc

Willing to Play



See virtual exhibition for
Simple, Elegant, Powerful (animation)
Digital gif
Dimensions variable
2022
Rita Leduc



Creative Life Force of the Universe



There is a troubling aphorism going around that, for some, describes an intractable dilemma. For us, it exemplifies a failure of imagination.

"It's easier to imagine the end of the world than the end of capitalism."

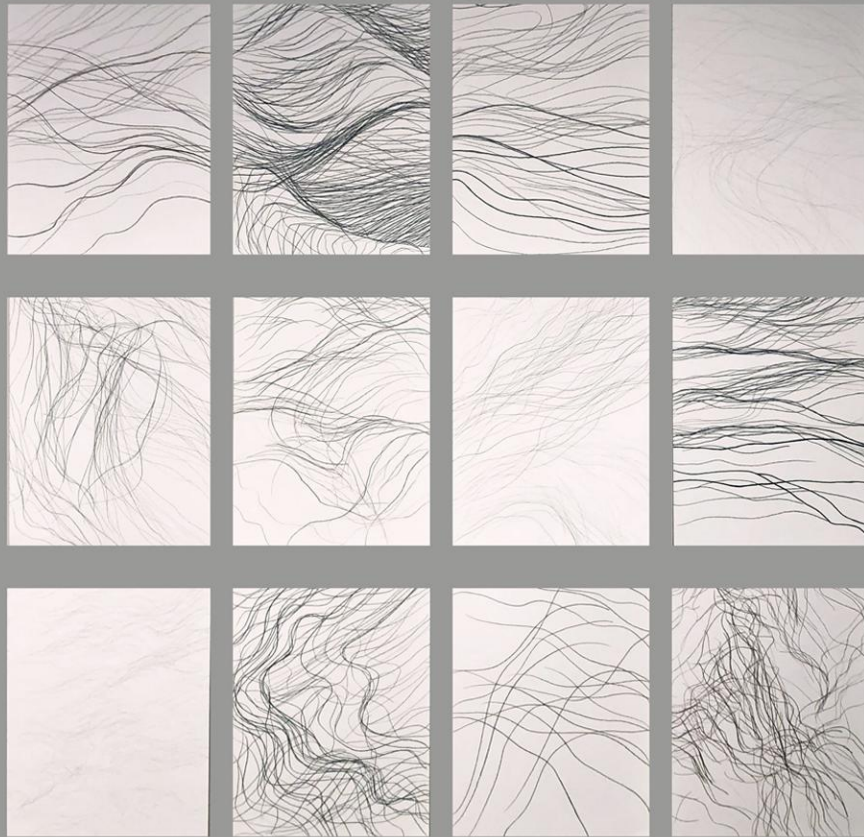
A mind disconnected from nature will only be able to imagine the latter by way of the former. A mind in continuity with nature, by contrast, will have access to the imagination of the creative life force of the universe.

Thus, drawing with water as it makes its way through mountains is a way of channeling animal spirits. Tracing with this invisible hand opens a capacity to see what's possible beyond the intractable dilemma. The whims of water and the songs of black-throated blue warblers reveal a basis for recoupling economic and ecologic forces. When the eggshell between these worldviews cracks, exponential healing begins.



Words by Rich Blundell

Creative Life Force of the Universe



Water Drawings
Graphite and colored pencil on paper
9x12" each
2021
Rita Leduc

The Promise of Nature



Any endeavor that acknowledges mountains, forests, sunlight, and brooks as creative collaborators assumes that there must be some form of creative intelligence in nature to collaborate with. This is a methodology to which we gratefully subscribe. We know the science and also feel the creative intelligence living in the White Mountains. The nature that inhabits us is intimate while the nature we inhabit is infinite. To exist as a reflection of nature's continuity is to live in gratitude. There is nothing supernatural, profane, or controversial about it.



Life on Earth is the cumulative expression of 4.6 billion years of continuous, creative collaboration. We've been granted the privilege to participate in one transformative moment. Our process affirms the belief that an embodied reciprocal relationship with nature affords a most appropriate response to the challenges of our time. Life holds the promise of nature and Earth holds the promise of life.

The future is beautiful.

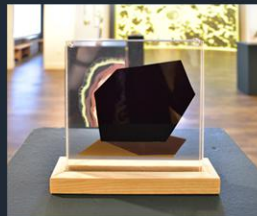


Words by Rich Blundell

The Promise of Nature



Collage Series
Mixed media encased in upcycled acrylic, wood
Dimensions variable (3-14")
2021-2023
Rita Leduc



Oika Earth Stories



Earth Stories are little encounters in nature with big impacts. They are participatory moments that form the relational foundations of the Oika experience and lifelong gratitude, joy, and affections for the world.



Field Marks (Hubbard Brook Experimental Forest)



Installed at three locations in the forest and one on campus at Plymouth State, *Field Marks (Hubbard Brook Experimental Forest)* represent four of the ever-increasing number of sites within the forest for which we have developed a deep reverence. See QR for more info + map.



Arts, Humanities & Sciences: Emergent, Necessary Unities for Thinking and Dwelling as Humans-Being-on-Earth

Lecture by David Syring



The following is an abbreviated transcript of a lecture given by David Syring, formerly Professor of Anthropology at the University of Minnesota Duluth, now Professor and Chair of Anthropology at the University of San Diego, at Museum of the White Mountains in the context of Extending Ecology. The event took place on November 1, 2023, and was supported by a Spotlight on the Humanities and Sustainability Studies Grant from the National Endowment for the Humanities.

I want to start by acknowledging how grateful I am to Meghan and the Museum of the White Mountains for creating a space for this talk and for this larger series of events. And then a big thanks to Rita Leduc and Rich Blundell for creating this exhibit. You're making a space for me actually to engage on the ground in a meaningful way with some of these questions that I've been looking at abstractly so I'm grateful for that. I think that the exhibit you've created is a new way of responding to and thinking about a perilous moment in the evolutionary experiment that is our human consciousness, trying to make sense of its place on this rich, diverse planet that we are fortunate to have. I hope this talk is a small but useful point of wayfinding for people to engage with the spirit of Oika intelligence in nature that Rich, Rita, and the forest and streams and stones and moss of Hubbard Brook are unconcealing in this collaborative exhibit. And I hope to offer a few thoughts that point towards additional context for the work that they're doing based on what I've been working on for the last couple of years.

I also want to speak at the outset here about my intentions as an anthropologist doing research on the ways that Arts, Humanities, Sciences, and Indigenous Knowledge speak to, collaborate with, and challenge one another. My motivation is one of optimism and what I think of as "epistemological plurality." I think we're living at a time when human consciousness has huge opportunities to create powerful art, craft profound and accurate science, engage in truthful accountings with history, and construct more just relations among humans being on Earth in our relationships with one another and with the more-than-human others with whom we share this planet.

I don't subscribe to the idea that multiple ways of inquiring with and knowing the world are necessarily in opposition. Arts, Humanities, and Science as well as Indigenous Knowledge approaches to the world are all real, substantive, and meaningful contributors to humans-being-in-the-world. Rita and Rich talk in their exhibit about the superpower of the human mind deriving from activating the two sides of the brain hemispheres. I also think we access that superpower by embracing all forms of inquiry and thinking about our humans-being-in-the-world. My intent is to see, listen, feel, and think with the forest, with Rich, with Rita, with Meghan, with all of you here in the room, with all of you who are watching online as we undertake the remaking of our

understandings of who we are, what our place is within the larger meshwork of life, and how we can live in rich kinship driven by commitment to relationship instead of competition.

Collaborations between scientists, humanities scholars, social scientists, artists, Indigenous thinkers, and others simultaneously challenge and potentially reinforce conventional boundaries between scientific research and other ways of knowing. In his 2004 book, *Cross Pollinations: The Marriage of Science and Poetry*, ecologist and writer Gary Nabhan argues that blending approaches creates better knowledge. Insights arise when inquiry opens to diverse ways of asking questions and learning answers.

Environmental science has moved in the last few decades towards more holistic engagements with the Arts, Humanities, Social Science, and Indigenous Knowledge. However, much of that work has seemed something like Science accepting other ways of knowing only as far as they help confirm or tell the stories or visualize the findings of Science. In the Oika framework discussions on Rich Blundell's website, he outlines one way to visualize the current state of art-science (or what's sometimes referred to as Art-Sci communications). I would say, based on what I've been experiencing and thinking about for the past few years, the current conventional practice of Art-Sci sits somewhere near the middle of this diagram, with much of Art-Sci work asking disciplines other than Science to popularize or publicize scientific findings. This is certainly a step towards integrating Arts, Humanities, and Indigenous Knowledge with the Sciences. It's a start, but it's only a start. While some work in the Art-Sci world certainly expands out into some of the outer circles here - circles 2, 3, and 4 - what I'm finding with my visits with scientists, artists, ethicists, and others working at long-term ecological research sites is that there's a hunger for reaching towards the outer edges here of Rich's circles. Not just because more is good, but because the world is burning and we need to reach those outer circles to respond to the literally existential questions of who humans are in the larger meshwork of the world.

Christina Eisenberg, one of the people that I've talked to in my research - works in Oregon at the HJ Andrews Experimental Forest and is an Associate Dean for Inclusive Excellence at Oregon State University. She runs a Traditional Ecological Knowledge lab. In a conversation I had with her last Fall when I was there doing some research, she said,

"Our world is burning up. And the basic things that humans need to survive are being greatly challenged. For the last 200 years it's been Western



Science that we turn to, and now we're like, 'Well, Western Science isn't enabling us to get ahead of this, so what do we do now?'

And the Traditional Ecological Knowledge...you can see how profound it is. This deep understanding from a systems approach of how the world works. And how to live rightly in that world. This awareness that the world is always changing.

So, it's not a static model. And most of our management tools that our federal agencies apply are very static."

I'm proposing in this talk that what Rita, Rich, and the forest are up to in their playful work together is something that offers an important pathway beyond that staticness, that lethargy that has us baffled as to what to do now, and has our political, economic, and social systems stuck in loops that are not rising to the challenge of our times on Earth.

But to start, I want to unpack some of the meanings in the title for this talk. I'll assume that we probably all have some ideas about these first three words of the title: Arts, Humanities, and Sciences. We might not absolutely agree whether or where boundaries might lie between them, but any education that we've received thus far has offered some sense of what these disciplinary identifiers signify. Maybe by the end of this talk and in our ensuing conversation, we'll have arrived at a space for questioning what each of these words might mean and how they connect.

I'm not going to do a whole lot with those right now but I'll take up the subtitle that I offer here and unpack some of the meanings and maybe offer gestures towards a couple of sources that have ideas in them that have begun to link up in my thinking as I've been researching this intersection of Arts, Humanity, Sciences in general, and that specifically align with the challenges and provocations offered by Oika and this *Extending Ecology* exhibit. I want to note that my larger project also engages with thinking about Indigenous Knowledge in conversation with these topics, but today's talk is going to limit itself on that topic, both because there's so much that needs to be said that it should really be its own talk and because I'm talking about this specific collaboration upstairs.

"Emergent" is a word that I think is interesting in all kinds of ways. "Emergent" means "to rise up from or out of anything that surrounds, covers, or conceals. To come forth, to appear as if from concealment." It comes to English by way of the French but farther back from the Latin *emergere* which means "to bring forth" or "bring to light" and "to arise out or up, to come forth, come up, come out, rise." I really am interested in that idea of rising. The original notion of this word comes from the sense of something rising from a liquid because of its buoyancy. So, I'm proposing that this Arts-Humanities-Science nexus work is buoyantly lifting something up for our human consciousness in ways that are surprising, perhaps unexpected, but like a piece of wood popping up in a stream inevitably rising up. This Arts-Humanities-Science work emerges at our moment, in our time, as humans seek to renew our engagement with the more-than-human worlds that we must vigorously reimagine and remake kinship with as we remember ourselves as embedded in meshworks of being that make life possible on our planet.

The next word, "Necessary," comes from "needed, required, essential, indispensable, such as must be, that cannot be otherwise, not voluntary or governed by chance or free will." It comes to English again through French and the Latin *neccesse*: "unavoidable or indispensable," with original roots in the idea of something that you cannot back away from. We cannot back away from this emergence and simply say, "It will pass; these thoughts will sink away from consciousness and eventually pass away from our knowing." We must necessarily attend to what is arising as well as why this arising happens at this time and in this particular place of arising. As Christina said, "Our world is burning up and the basic things that humans need to survive are being greatly challenged." It's necessary for us to do the kinds of work and play that the forest, Rita, and Rich are doing together.

The next word: "unities." "Unity" is "the state or property of being one." Through Anglo-French and the old French, *unite*: "uniqueness or oneness," coming again from Latin, *unitatum*: "oneness, sameness agreement." I'm not talking about separate topics when I discuss Arts, Humanities, and the Sciences. These are all aspects of the territory of human consciousness. An attitude that considers these modes of knowing as separate or opposed or in conflict is fundamentally an incomplete attitude that has agendas other than understanding the place of humans-being-in-the-world. Each of these three words - emergent, necessary, and unity - sprout into English around the period of 1300-1400 or so. So we're talking with words that are embedded in the early periods of what became the Renaissance, a time when the Arts, Sciences, and Humanities of Western societies began to accelerate from under the shadows of religious structures and strictures. That acceleration led to nearly simultaneous explosions of creative work in the Arts, Humanities, and Sciences. It also contributed to economic and political experimentation that led to consolidations of wealth and power unseen in the human experience until then. These transformations have all kinds of ramifications. Colonialism and capitalism created injustices and cultures that turned away from senses of fellow feeling in human consciousness. I'm optimistic that in our moment of being, humans such as Rich and Rita, and more-than-human others such as the forest at Hubbard Brook, in re-engaging with one another with the sense of fellow feeling, help to reawaken us all to the realness and thusness of the world in ways that ideologies and unsustainable economies ignore to all our peril.

Our fields of inquiry by human consciousness have undergone multiple major shifts of paradigms in the brief 700 years since these words - emergent, necessary and unity - have sprouted into English. I would suggest that those shiftings are still underway, and in fact that the approach of Oika embedded in the exhibit here is a significant contribution.

As observers and participants in the world, our human consciousness favors paying attention to what is novel in our environments: the emergent. From what I've seen in the past few years thinking about Arts, Humanities, and Science connections, the topic of this talk and the approach offered by this exhibit seem emergent in new and exciting ways.

The juxtaposition of the words necessary and unity deliberately echoes and honors the thoughts of one of my anthropological disciplinary ancestors, Gregory Bateson. Bateson's 1979 book, *Mind and Nature: A Necessary Unity*,

represents another key wayfinder or way marker. Among many insights from this book is the reminder that Science - like Art, religion, commerce, warfare, and even sleep - is based on presuppositions. It differs however from most other branches of human activity in that not only are the pathways of scientific thought determined by the presuppositions of the scientists, but their goals are the testing and revision of old presuppositions and the creation of new ones. I'm going to argue that Arts and Humanities work, when they engage in their core intentions of unconcealing meanings and seeking clarity of knowing what our human place is in the world, also seek to test and revise old presuppositions and create new understandings of what it is that humans-being-in-the-world think we know.

Bateson, as a practicing anthropologist in the mid-20th century, developed his thinking while working in communities in Bali and New Guinea so his ideas are not only his own. Indigenous elders taught him that the ways of thinking of Euro- American societies were only one of many ways of knowing. Significantly, these teachings by Indigenous communities led Bateson to conclude,

"There have been, and still are, in the world many different and even contrasting epistemologies which have been alike in stressing an ultimate unity and, although this is less sure, which have also stressed the notion that the ultimate unity is aesthetic. The uniformity of these views gives hope that perhaps the great authority of quantitative science may be insufficient to deny an ultimate unifying beauty.... I hold to the presupposition that our loss of the sense of aesthetic unity was, quite simply, an epistemological mistake (Bateson 18).

An epistemological mistake that Rich, Rita, and the forest seek at least partially to repair.

Another thought from Bateson's book worth pointing to here relates further to why I think we must get the kinds of thinking and dwelling and being made possible by engaging beyond disciplinary bounds. Bateson wrote, *"Today we have a considerable supply of tools of thought that we do not use partly because we are ignorant of many currently available insights and partly because we are unwilling to accept the necessities that follow from a clear view of the human dilemmas."* I want to emphasize that part of it: Tools of thought that we do not use partly because we are ignorant of many currently available in insights.

Bateson wrote those words more than 40 years ago. Rita, Rich, and the forest, in their work and play together, demonstrate that we can and must be capable of stopping the act of ignore-ance of transdisciplinary insights to get to more clear understandings of who we are and what our places are in the meshwork of life.

A few days ago, Rich took me up to several places at Hubbard Brook that have been significant to their work. At a beaver pond, he spotted a newt in the water and said something like, "When I wake up at night I'll think of that newt, that it's out here doing its thing, knowing what it is doing and what it is about." Rich mentioned that this thinking will reassure him, let him go back to the rest

his body needs. Probably not surprisingly, when I woke myself that night, I thought of that newt, and I went back to sleep with the peace of that thought settling my human nervous system that had been elevated reading all the news of wars and conflicts and harms that we impose on the world.

Two contemporary elders in the field of anthropology, Timothy Ingold and Donna Haraway, also push profoundly beyond the usual double yellow lines of the mind that typically keep us in our narrow lanes of thinking.

I've already been using Ingold's concepts in this talk in my use of the word "meshwork." The idea is that the beings - including humans but also other such beings as newts, plants, the animating forces of ecosystems, water - live in relationship. Meshwork as metaphor characterizes the reality of life as not individual and not simplistically linear. The trails along which life is lived include histories, stories, and trajectories full of loose ends that constantly move, tendrils seeking connection. Life continually seeks an interplay of wrapping together, creating nodes and knots, entangling in meshes of needs, gifts, and meaning. Here I'm drawing on Ingold's work but also an excellent article by Nicole Klenk exploring how the meshwork metaphor works for creating better environmental research. So, when Rich and Rita offer the subtitle for their exhibit, *Meaning Making with the White Mountains*, they remind us of the tendrils of the meshwork and how there are powerful methods in all sorts of the Arts, Humanities, and Sciences to conduct rigorous inquiry into those connections in the mesh.

Another way marker for my thinking, Donna Haraway, has a thoughtful and wide-ranging body of work with much relevance to the work that I've been doing on Arts, Humanities, and Science. For this moment in discussion of the work of Oika I'm going to brush up against her concept of cultivating kinship both with and among all humans as well as with and among more-than-human others. These are necessary actions in the era we live in. Haraway evocatively articulates that humans-being-in-the-world must remember ourselves as kin to all beings. The act of recalling our membership - or re-membering - is a method to stay with the trouble of our times rather than turn away from the burning that Christina Eisenberg mentions. This brief mention of Haraway's work merely marks a wayfinding tool that resonates with the work of Oika. I think there's much more there for engaging with Haraway's work and I encourage you to look her up, there's a lot to find out.

Going on with my title a little bit: "thinking and dwelling." Those are huge, right? They are so huge that I'm actually going to brush right past them largely for this talk, but as a placeholder I'll offer this: thinking is to imagine. Thinking is an imaginative act to conceive in the mind. To consider, to meditate, to remember, to intend or wish or desire. It comes from an Old English word, *þencan*: "to imagine or conceive in the mind." For a whole lot of significant, thick discussion of the complexities related to thinking and dwelling I'm going to recommend that you check out an essay that's in the book, *Poetry, Language, Thought*, by Martin Heidegger. That essay within its seemingly circular if evocative language evokes what might well be a fairly precise philosophical statement of the approach of Oika.

One last piece of the title, this hyphenated monster that I have given you, then we can get on with looking at the artwork which is much more important.

"Humans-being-on-earth" is a composite that represents my effort to decenter how we consider ourselves as organisms. We are that part of Earth that manifests as a human body and a human consciousness. We are not some solitary creatures separate from that newt that Rich saw and I recalled in the night. Not unconnected to the stones and water and moss of the place in Hubbard Brook Forest that Rita calls "The Giggle." Oika, as an approach, remembers that without the streams, the trees, the mountains, and the other beings on Earth, there are no humans-being-on-Earth. This hyphenated word mess signals that my approach tries to disengage what I am saying from a destructive dichotomy of environment/human or nature/culture that has clearly run its exhausted course in Euro-American traditions of thought. We humans-being-on-Earth can and must - and I would say that in many times and places other than the dominant globalized era that we are living in already have - think more clearly, act more ethically, live more within the natural intelligence that Rich, Rita, and the Hubbard Brook Forest exhibit in their collaboration.

I'm going to offer one final insight from Bateson as a transition or a hinge to talk about the work of the *Extending Ecology* exhibit. I want to move towards drawing us closer to the thought and dwelling and action of this remarkable exhibit's effort to honor the emergent, necessary unity to harness all the sled dogs - Arts, the Humanities, the Sciences, our minds our hearts, our hands, our spirits of contemporary human consciousness. In *Mind and Nature*, Bateson's thought presages the current intense focus on seeking patterns and connections in contemporary Science, Arts, and Humanities. He says something crucial, something still relevant in our current moment in time and why this work matters: "What now must be said is difficult, appears to be quite empty, and is of very great and deep importance to you and me at this historic juncture. I believe it to be important to the survival of the whole biosphere which you know is threatened: *What is the pattern that connects all living creatures?*"

This hinges our way to engaging directly with some of the playful work in this *Extending Ecology* exhibit. I think of these two pictures which I lifted from one of the panels in the exhibit upstairs as Rich and Rita in their natural habitats: Rita as an artist who works in the studio - not to say that she doesn't go out, but she has a studio space - and Rich does much of his work in the forest. I want to look and listen more deeply and directly to a few examples from the exhibit to further the proposition that any pathway forward for our species requires the emergent insights that flow from embracing the necessary unity of Arts, Humanities, and Sciences at this current juncture of humans-being-on-Earth.

There are lots of pieces upstairs and I'm hoping that those of you who are in the room have had a chance to look at it and you'll go back many times. I feel lucky that I've been able to visit for the last few days and engage deeply with this work both in the gallery and then also spending a little bit of time at Hubbard Brook. I could talk about all of them but I'm going to just stick with these few.

"Matrix of Intelligence." I'm starting with a big bite here because this is a complex installation. It has multiple elements including a baseline geometry study or color study and a fully realized painting to the left called "Life Cycle of

a Mushroom” and an animation of that painting and then this is the only piece upstairs that has Rich's “Oika Interpretation” of the painting, an audio recorded narration. So, there's a lot going on here and I just want to brush up against some of it. When I encountered this piece - I saw parts of this actually in Rita's studio when I visited her last Spring as it was in process - I thought then about a term I learned from Potawatomi botanist and writer, Robin Kimmerer. Maybe some of you know her work, *Braiding Sweetgrass*. In that book, she talks about learning a term in her community's language which she had been learning not the usual way that we all learn our native languages but as an adult seeking that which colonialism had stripped from many Indigenous communities: their own Indigenous languages. The word that she talks about in *Braiding Sweetgrass* is *puhpowee* and here she says,

“My first taste of the missing language was the word Puhpowee on my tongue. I stumbled upon it in a book by the Anishinaabe ethnobotanist Keewaydinoquay, in a treatise on the traditional uses of fungi by our people. ‘Puhpowee,’ she explained, translates as ‘the force which causes mushrooms to push up from the earth overnight.’ As a biologist, I was stunned that such a word existed. In all its technical vocabulary, Western science has no such term, no words to hold this mystery. You’d think that biologists, of all people, would have words for life. But in scientific language our terminology is used to define the boundaries of our knowing. What lies beyond our grasp remains unnamed.”

The complex installation of “Matrix of Intelligence” reflects visually and viscerally on the very force of *puhpowee* that drives the mushroom fruiting body into the air at night. It seeks a way around the lack of terminology and scientific work that Kimmerer highlights.

While I was here looking at this exhibit on Tuesday, I spent several hours looking at it and there were several other people in the gallery. There was a young man who was in high school who spent almost as much time looking at these as I did. So, I asked, “You spent a lot of time here; what's so compelling here?” The young man said he was interested in mushrooms, so that was part of it. But the thing that he was really interested in was the way that Rich and Rita's work has so many layers to it. That it pulled him in and there was always a little more for him to think about. So, we talked about this for a while, and he went back to that installation before he left. He spent probably 20 minutes at that particular installation. So, this piece really has a compelling richness and energy that merits reflection and gives some illumination on how humans perceive. *Puhpowee*, right? That word's not used in this particular piece; Rich's word that he talks about in the in the video is talking about “fecundity,” which interestingly this young man didn't know the meaning of that word, so he had to look it up, so it gave him a point of growth there. But it's really about that life process and the energy that emerges.

So that's the first piece I want to share with you a little bit. I'm sharing this at some length; this is an exhibition that exceeds the boundaries of this gallery and so I'm hoping that you can get some sense of it from the little bit that I'm able to share here.

The next piece that I want to talk about is a piece called "Willing to Play" which again is a multi-part installation. It has text by Rich on the panel to the right, there's a fully realized painting, there's a smaller study, and there's a brilliant animation that has the painting move from within the frame of what was the original idea and exceeds that and flows out: willing to play. The text that Rich offers here is interesting, emphasizing how parents sometimes think about their children as old souls and we use that language to talk about how the innocence of childhood often reveals things that seem very profound and deep. He has some meditation on this particular watershed that goes through many different ecosystems and has many different moods and then comes down to a place that Rita and Rich refer to as "The Giggle," where the water flows and bounces in a sunny sort of space, with a voice created by the bouncing of the water on rocks. Rich showed me this place. As we walked, he stopped before we got there and he said, "Listen," and there's just this gurgly laughter like a throaty chuckle that you can hear before you even see this place.

Rich and Rita talk about this stream feeling like it has an old soul and learning from that. I think that's interesting because that positions us as the younger siblings of that old soul. Humans-being-on-Earth are part of the kinship meshwork, but we're not in it the ways that we conventionally think of. We're not the dominant power in any sense other than our ability to try to grab things from the rest of the world without thinking that we have to suffer from the consequences of that grabbing.

This brought me to another student of Keewaydinoquay. I teach an ethnobotany class and in that class one of the main books that we're using is a book called, *Plants Have So Much to Give Us We Only Need to Ask*. It's a marvelous book by Mary Siisip Geniusz (who is also Indigenous, Anishinaabe) that opens with a story that Kee always told her students about when humans were created - and unlike many of our stories, humans were created last. We were weak and our older siblings were the rocks, the plants, the mountains, the streams. They have a lot to teach us, and we need to pay attention to them. I think that this piece, "Willing to Play," and the several pieces within it called "Simple, Elegant, Powerful" are invitations to us to remember our role as younger siblings in the world, to learn from the world rather than to think that we are in control of things.

I also want to point out not to miss the subtle play and challenge to conventional gallery production that I see in this assembly on the wall. Meghan explained to me that student graphic designers got to do the work of creating these panels. It is brilliant the way that the text panel mimics the exceeding of the normal squareness of the frame of Rita's image and the aesthetic decisions that Rita made based on her deep fieldwork. It makes an interesting visual poem out of Rich's words; the triangular structure makes you read that differently than if it were just a square block of text. Creative collaboration unfolds on multiple levels in this piece, conspiring to overturn hierarchies in the way that a compost pile or the forest duff layer refuses to let anything claim permanent top position. Leaves become worm food become worm poop become molecules transported to the top of a maple to become the apical growth point that stretches to the sunlight only to fall to the ground again as

leaves...and the cycle continues. Willing to play.

So much great work here; "Intimate to Infinite." The gallery is in an old church so when you enter, this is where the altar was, so it's really a focal point of energy in the room. I'm a Sci-Fi geek, I watch a lot of Star Trek; that looks, to me, like the transporter alcove. When I walked in there I was transported – mind, spirit – to think about other things than what was in front of me in the room.

This installation embodies an idea that was proposed by the human geographer Yi-Fu Tuan about the creative tensions between two scales that anchor what it means to be fully humans-being-in-the-world. It explores the interplay between what Yi-Fu Tuan calls "hearth and cosmos," the fire that we gather around and the stars that we look up to. Rich's text helps us here to think about these things and also the images that are around it. From lying in a hammock to contemplating elemental relationships of stone making that unfold over 200 million years, we move from the intimate of our own feet in the hammock to the infinite of 200 million years – that's not a time scale that we as humans really understand in our bodies. We can understand it a little bit in our consciousness, but it takes this act of contemplation for us to get there.

And then, what's this big yellow thing on the curved wall? Ripples of disturbance in a stream? The map of a LeGuinian Earthsea archipelago? The chart of the light and darkness of celestial space? A diagram of cellular structures? A wall-sized drawing of a mushroom? It's a teleportation alcove for the mind and heart and spirit.

There's also an interesting reversal of "hearth and cosmos" in the image and text that is the conversational partner that stands across from the altar space, the space where the yellow wall is. If you look directly back the other way, you see this double image here that offers an interesting reversal of the cosmos and the hearth. To the left, there is an intimate shot of the forest floor. At the same time, the text that's on that wall is the cosmos; it's the big ideas of Oika. It's all sorts of big picture ideas about what Oika and Rich and Rita and the forest and nature and the intelligence of nature is all about. So, you've got this intimate image, with the cosmos ideas, and on the other wall you've got the intimate biographies of the three creators – Rich, Rita, and some piece of the forest description, on top of a big image of celestial galaxies. It's a brilliant conversation between these two spaces – hearth and cosmos.

Lots more to talk about in that juxtaposition, but that's where I'll leave it for now. I want to talk a little bit about the collage pieces that are in the middle of the gallery. On pedestals are pieces – layered collages. The young man that I was talking to about the mushroom piece really spent a lot of time looking at how these things were assembled and the layers that were put together.

I want to talk a little bit about Rita's process as an artist as she gathers her inquiry data. But I want to say something before I show you her words. In talking with some of the scientists who have seen and tried to engage with abstract art (Rita sees herself as doing some abstraction in her work), I note that these scientists sometimes seem to think abstraction is arbitrary. They have a hard time finding their way into what's being done with abstraction. I resist the claim that abstraction is arbitrary precisely because Rita and other artists that

I've been talking to that engage in ecological art-based inquiry create methods that are every bit as rigorous as any other research protocol. So here is an Instagram post that Rita shared with me that she posted when she was in the thick of this project, talking about what her process is:

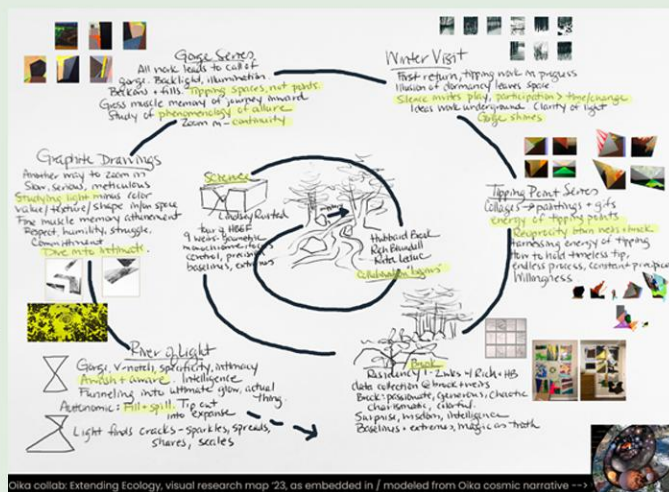
"The whole idea behind #extendingecology is to take what we absorbed and – by merging my own visual practice with the verbal/written one of Rich Blundell –figure out how to extend it outward.

"This is no small task. We can provide things to look at, sure, and we can talk all day. But how to transfer the FEELING of understanding and passion and energy and reciprocity and gratitude and trust and knowing and kinship? And in this particular place, there are big things happening! Scientists are looking at extreme weather conditions, collecting baseline data and searching for signals among the norms. The forest is similarly plugging away, growing, accumulating, giving. How do we use what both parties have to give? How do we engage in a way that we, too, can plug away and prosper and give?"

It's not a metaphor that she's using when she says data. This is data. This is the empirically grounded, observed material that leads her to her conclusions which are represented – rather than being in text, they're represented visually. Make no mistake, the practice of abstraction that Rita employs in her work with the forest and Rich is rigorous, grounded in a method she articulates clearly in a sketch that she sent to me today that maps out the process through which she and Rich and the forest collaborated with each other on scientific concepts, on visual concepts, on all kinds of work.

The geometries and forms in these collages that she creates are precise maps of light and perception grounded in empirical observations as surely as any graph created from a data logger stream of mathematical information that requires a scientist to draw meaning from. Human consciousness is a sensor that can be calibrated and can be accurate. These pieces and this exhibit are evidence of that.

I want to talk about the site installations that take this exhibit beyond the boundaries of the white cube of the gallery. The meshwork of kinship for humans- being-in-the-world clearly does not stop at the door to the museum or to the art studio. Rich took me in the dark to visit that piece that Rita calls "The Giggle." This is another dweller in the forest, like that newt, who knows what



Oika collab. Extending Ecology, visual research map 23, as embedded in / modeled from Oika cosmic narrative -->

it's doing out there in the dark and thinks of being in the world at night. I think of this at night when my human consciousness needs a focal point to think about what we are about as humans.

Rita's given to the forest her own playful work as a gesture to affirm kinship and reciprocity. When you scan the QR code that's there, the art exceeds the white cube and brings us back into conversation with larger questions and larger communications. This is a great piece, and it was so wonderful to go and walk up to it. Rich knew where we were going. I didn't. I was tripping over sticks and it was raining and it was worth the walk; it was a reward to put that energy into visiting that site.

I went back out a few days later to Hubbard Brook to visit the installations. There are a couple of installations that are much easier to get to; they're quite close to the headquarters. "The Mossy Catwalk" is one of them, it's located near the stream where a data logger is there on the tree. Rita's piece serves as another kind of sensor beyond the scientific equipment that's strapped to that tree and the camera that's nearby monitoring the flow of the stream.

Many kinds of sensors in the woods.



Hubbard Brook Forest, Rich Blundell, and Rita Leduc, 2022

Extending Ecology: Extensions



Extending Ecology panel discussion



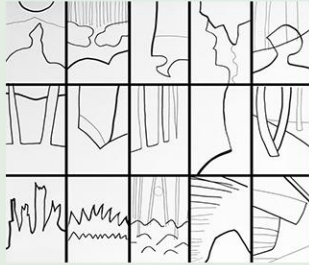
Oika Leadership Workshops



"Walking Backwards" performances



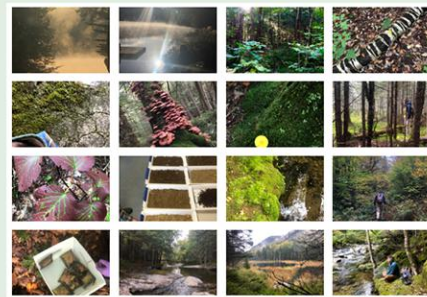
Extending Ecology: Extensions



Take home drawings of the forest



HBEF Site Tour



Anecdotes of Continuity

Acknowledgements

A very special thanks to the scientific community of the Hubbard Brook Experimental Forest for trusting us to conduct our research on our terms. It took courage to allow us the freedom to pursue our goals and use Oika methodologies that place us well outside the bounds of conventional Art-Sci collaboration. We believe this afforded us the creative autonomy and cultural leadership that could honor and expand Hubbard Brook's long legacy of scientific innovation in the face of global challenges.

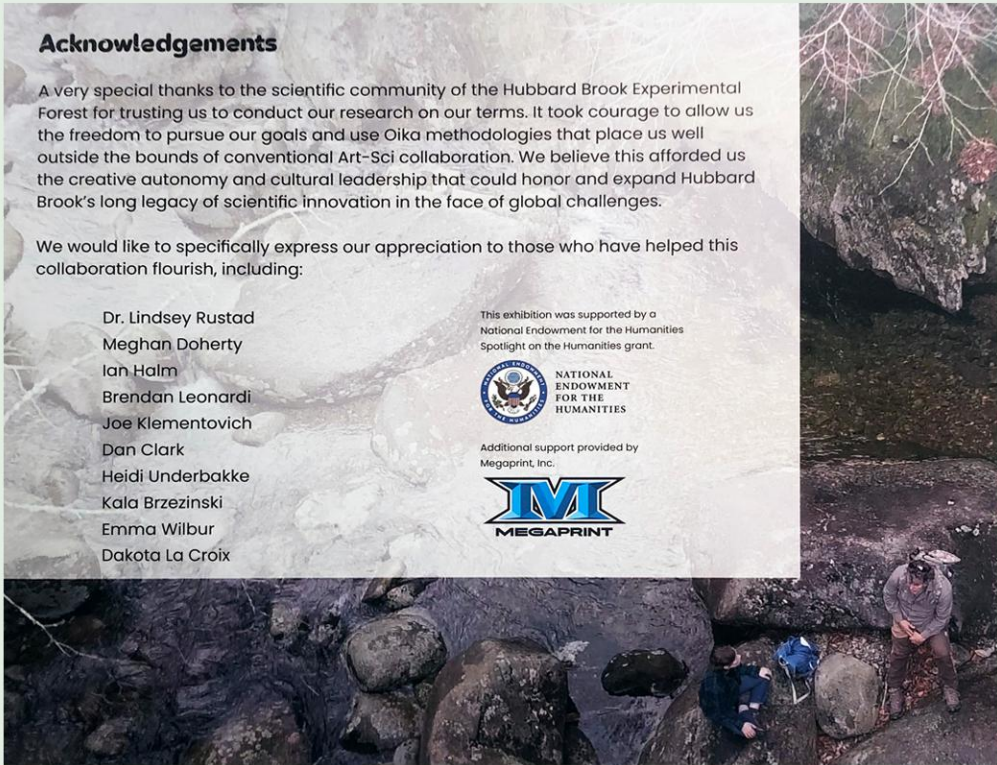
We would like to specifically express our appreciation to those who have helped this collaboration flourish, including:

Dr. Lindsey Rustad
Meghan Doherty
Ian Halm
Brendan Leonardi
Joe Klementovich
Dan Clark
Heidi Underbakke
Kala Brzezinski
Emma Wilbur
Dakota La Croix

This exhibition was supported by a
National Endowment for the Humanities
Spotlight on the Humanities grant.



Additional support provided by
Megaprint, Inc.





Extending Ecology

An **oika** Project

2024