

Transforming human life on our home planet, perennially

The development of agriculture is one of the key fault lines in human history, the starting point for the human project of dominating the planet. As the catastrophic consequences of that domination become undeniable, an ecospheric framework that recognizes the problem of agriculture should be at the centre of an analysis and critique of the ecological and social failures of the industrial worldview that shapes today's world. Ecosphere Studies, a new education programme being developed out of the perennial vision of The Land Institute, offers such a framework. By 'driving knowledge out of its categories' and adopting an 'ignorance-based worldview', scholars, teachers and activists can collaborate in experimental and experiential workshops that aim to create a perennial culture, challenging the short-term, unsustainable vision of the dominant culture, especially in affluent societies such as the US.

For those who are willing to face the multiple, cascading crises that humans have created, one task is analysis – how did we get here? In the 200,000 years of *Homo sapiens*, what have been key thresholds of systemic change?

A good case can be made for agriculture, which the polymath scientist Jared Diamond (1987) called "the worst mistake in the history of the human race." Three decades later, historian Yuval Noah Harari (2015: 77) called the Agricultural Revolution "history's biggest fraud." When we started taking control of other animals' lives and breaking the soil to produce energy-rich grain, we intervened in ecosystems in ways we could not predict or control, to the detriment of many organisms – including humans.

With more than 7 billion people on the planet, we are not going to return to hunting and gathering. But around the world, often under the banner of 'agroecology', people are using modern science and traditional knowledge to develop ways of farming that are less ecologically and socially destructive.

Over the past four decades, The Land Institute (<https://landinstitute.org/>) has developed what we hold to be one of the most promising projects in sustainable

agriculture: Natural Systems Agriculture, which is based around perennial grains grown in mixtures, rather than annuals grown in monocultures. A new Ecosphere Studies programme nurtures and explores this perennial thinking through research and education – all based in an ecocentric worldview that challenges the dominant industrial model that currently defines ways of feeding both bodies and minds. This article outlines our approach, including a diagnosis of the human agricultural past and present in a broader ecospheric context which resonates with other ecocentric projects, while building on the lessons learned on the Kansas prairies that are home to The Land Institute.

The history: The 10,000-year problem of agriculture

When humans began to generate surpluses by domesticating plants and animals about 10,000 to 12,000 years ago, a conceptual split between 'culture' and 'nature' emerged, with human culture assumed to be separate from, and privileged over, non-human nature. This domination-subordination relationship, with humans claiming dominion over the world, also came to define relationships within the human family and human society. Social

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Further information

For more information on the Ecosphere Studies programme at The Land Institute, visit: <https://is.gd/ecostudies>.

hierarchies, organized around such statuses as sex or gender, class, race or ethnicity, and national citizenship, structure most societies today and influence the control of surpluses; deep disparities in wealth and power are the norm within and between contemporary human societies.

The depletion of soil and other resources by humans intensified with industrialization. Ongoing imperial and settler-colonial structures, ideologically justified as advancing ‘civilization’, have been particularly dependent upon material scaffolding from the five relatively non-renewable sources of carbon: soil, trees, coal, oil and natural gas. Highly dense fossil-carbon energy, and the advanced technology used to extract and process resources, have destroyed local wisdom by treating whole ecosystems as if they were mere collections of inanimate parts, leading to crises that affect essentially all ecosystems.

The conceptual shift: Earth alive!

Moving from a human-centric to an ecocentric perspective begins with a critique of the living-dead dualism. Stan Rowe (2003) suggested we imagine the perspective from inside a cell: from such a viewpoint it might appear that there are some moving or living parts and other non-moving or non-living parts. But from an outside view, the whole cell is seen as living, with that life being the result of the participation of *all* its components.

Viewing life only as a property of organisms has led some humans to treat the planet as a mine from which to extract resources and a dump into which to discard wastes, rather than as a home to care for. Viewing humans as supreme among creatures has led to the instrumental treatment of fellow organisms. What is considered ‘dead’, ‘inanimate’ or ‘not-human’ is deemed relevant only to the extent it can be exploited for human use.

Earth’s atmosphere, lithosphere and hydrosphere are not separate from the biosphere but essential parts of a living whole – the ecosphere, our foundational unit of analysis. Because of the priority

of the ecosphere over humans (in time, inclusiveness, complexity, evolutionary creativity and diversity), the ecosphere is a proper ‘boundary of causation’ (naming the forces that create our world) within the cosmos. At the next level down in the hierarchy of structure, ecosystems become the primary focus for human investigations, as the ‘boundaries of consideration’ (the scope of what humans reasonably can, and should, pay attention to).

What knowledge and practices are needed to create and maintain stable and just communities that can remain in a sustainable relationship with our ecosphere? The Land Institute’s mission statement emphasizes, “When people, land, and community are as one, all three members prosper” (<https://is.gd/TLImission>). We hold this to be a truth that must become self-evident: Our shared human responsibility is to live on, not dominate, our home planet.

To address the social-ecological trauma of agriculture and the industrial world, we must voluntarily live within biophysical limits to make possible a post-growth, sunshine-powered future. We must evaluate human systems and projects not by their short-term productivity for humans alone, but rather by the long-term flourishing of ecosystems, including humans.

The process: Driving knowledge out of its categories

This requires that we integrate insights from all academic disciplines – core sciences, applied sciences, engineering, social sciences, humanities, the arts – and recognize the value of disparate ways of knowing, from modern to indigenous or traditional perspectives.

We do not reject reductionist science completely, but promote caution and greater awareness of the emergent properties of complex systems. A graceful backing out of our messes – created from the inevitable unintended consequences of our actions – is more likely to be possible if the scale of human activity is kept small enough. The scientific

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method remains our best hope to turn away from unsustainable practices if we think rigorously *and* act with humility. The analytical expression of knowledge produced by science must be both challenged and complemented with artistic and spiritual inquiry, always with history as a guide.

Given the damage humans have done to ecosystems, we cannot assume human knowledge is adequate to control the world and should adopt an “ignorance-based worldview” (Jackson, 2005). Because we are always far more ignorant than knowledgeable (a truth well captured in the saying ‘The more you know, the more you know you don’t know’), we must become better students of exits, looking for the soft landings necessary when knowledge-based plans go awry.

Eco-social knowledge will be attentive to the ecological realities that shape culture, politics and economics. Human creativity, expansive as it has been, cannot transcend biophysical limits for long and is always subordinate to the creativity of the ecosphere. Arrogance in the short term reduces options in the future.

Driving knowledge out of its categories – learning from, but transcending the boundaries of, academic disciplines – happens by bringing together scholars, activists, teachers and students to pursue collaborative research and to learn through experimental and experiential workshops. To address how young people are socialized into an extractive worldview in ideas and resources, we seek a transformation of education and economy – of ways of thinking and making a living.

Natural Systems Agriculture is a model for moving forward deliberately, rather than waiting for collapsing ecosystems and social chaos. Growing plants with deep roots in a diverse community suggests a model for human communities. Instead of rootless modern life with its incessant striving for upward mobility, a perennial culture would encourage communities rooted in a place but capable of dealing with inevitable change – places

where difference will generate tension and conflict but ultimately build strength and resilience.

The practice: The human estate of grief and joy

Minor modifications to the existing trajectory of the human species are inadequate; what is needed is revolutionary change in theory and practice. If there is to be an on-going, large-scale human presence on Earth, the energy and resource consumption that most affluent humans take for granted – and which many non-affluent humans aspire to – cannot continue. We thus reject fantasies of unlimited growth.

Conventional thinking naively asserts that we can solve our problems with increasingly sophisticated technology powered by renewable energy, but such technological fundamentalism is a dead end (Cox, 2017). Rather than pretending to solve the problem of maintaining the current population or affluent consumption patterns, Ecosphere Studies imagines a different world, without guarantees but with foundational ideas for an ecologically tuned future.

Since agriculture began, humans have become a species out of context, with many of us living in arrangements far beyond the scale in which we evolved, requiring us to work far beyond the scope of our competence. We cannot return to the pre-agricultural past, and we can no longer pretend that technological miracles will secure our future. We must reconsider our quest for surplus and the domination–subordination dynamic that arises out of grain agriculture’s generation of such surplus.

People are imagining such satisfying futures, but it is naive to ignore the grief that we will experience. Humans have always lived, as Wendell Berry (1996: 106) puts it, on “the human estate of grief and joy,” but the accumulated harm of the past 10,000 years means we face a grief that will be unprecedented in human history. Our best course embraces the joy and refuses to turn away from the grief. ■

“Growing plants with deep roots in a diverse community suggests a model for human communities.”

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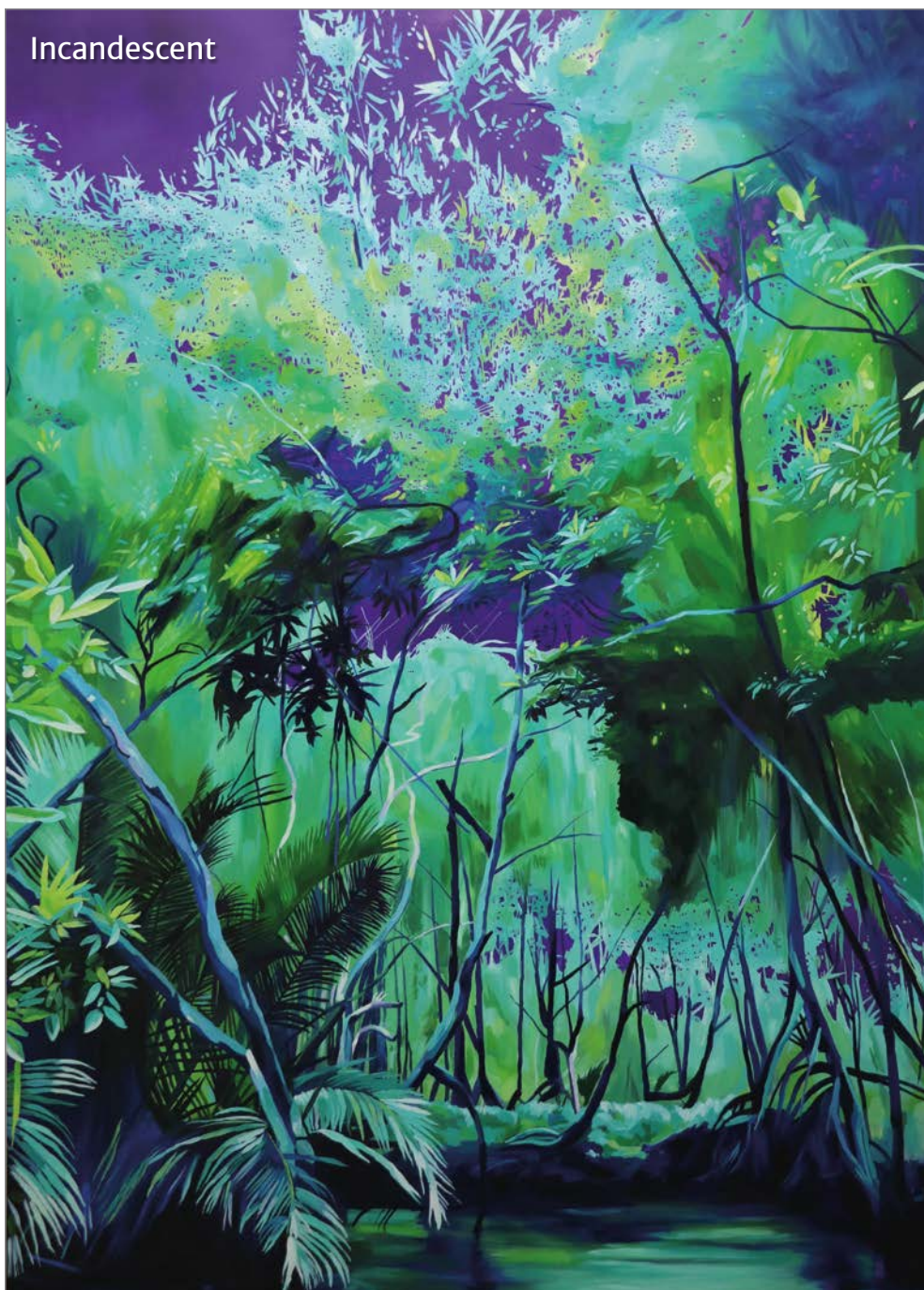
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Painting series

by **Jake Grewal**

About the artist: Jake is a 22-year-old painter based in London, UK. His current body of work arose from love for the landscape. Visiting Borneo last summer he observed the effects of deforestation, especially in the cases of palm oil farms and human-caused fires.

About the artworks: All oil on canvas.

Higher-resolution versions: <https://is.gd/ecoartwork>