

# Phytophiliac

Questions of participation, sustainability, and cultural change animate Frances Whitehead's work as she considers the surrounding community, the landscape, and the interdependency of multiple ecologies. Whitehead's practice integrates art and sustainability, traversing disciplines to engage citizens, municipalities, and other communities of practice, in order to hybridize art, design, science, conservation, and civic engagement, for public and planet.

in conversation: Frances Whitehead and Giovanni Aloï

Frances Whitehead  
Miguel Gonzalez Virgen, Jorge Corcega, Artist researching at Ruta de la Milpa Nopalera, Milpa Alta, CDMX,  
Field of Nopal, edible *Opuntia ficus-indica* cactus, 2022 © Miguel Gonzalez Virgen.

**F**rances Whitehead is internationally known for her cutting edge work integrating art and sustainability, making her a leader in this emerging field. She has pioneered new practices for including artists on multi-disciplinary teams, demonstrating that the vision and cultural literacy of artists can contribute to these collective efforts. is a civic practice artist bringing the methods, mindsets, and strategies of contemporary art practice to the process of shaping the future. Connecting emerging art practices and the discourses of climate change, post-humanism, counter-extinction, and culturally informed sustainability, she develops strategies to deploy the knowledge of artists as change agents, asking “What do Artists Know?”

Questions of participation, sustainability, and culture change animate her work as she considers the surrounding community, the landscape, and the interdependency of multiple ecologies. Whitehead’s cutting-edge work integrates art and sustainability, as she traverses disciplines to engage citizens, municipalities, and other communities of practice, in order to hybridize art, design, science, conservation, and civic engagement, for public and planet.

Whitehead has worked professionally as an artist since the early 1980’s and has worked collaboratively as ARTetal Studio since 2001. Part critical practice, part zone of investigation, ARTetal—art and everything else—augments Whitehead’s individual art practice, broadening the intellectual and operational possibilities for engagement and experimentation, modeling future practices. Whitehead is Professor Emerita of Sculpture at the School of the Art Institute of Chicago where she founded the SAIC Knowledge Lab. She has also published essays and interviews exploring placemaking, civic practice, experimental geography, and other trans-disciplinary topics that engage the aesthetic, technological, and geo-political dimensions of contemporary practice.

A long-term resident of the Great Lakes region, she has recently relocated to Santa Fe, New Mexico, to focus on xeric landscapes for the future. Undertaking the *Casa de Agua*, a home/studio demonstrating water conservation strategies, she is establishing a xeric laboratory garden, *The Future Garden*, and in 2022 earned a Master Gardener certification for New Mexico.

**Giovanni Aloï:** Frances, before we get deeper into a conversation about your career as an eco-artist, I would like to share with our readers a passage from an interview you gave in 2014 to the *Public Art Review*. In it you say:

The post-industrial just was knocking the stuffing out of any pretense I made at meaningfulness. I knew the gallery was a bankrupt metaphysic for me. [...] my studio practice kind of went black. I walked away from a very vigorous gallery career. One day I woke up and I had stopped believing.

Can you tell us more about this realization and how it changed your practice?

**Frances Whitehead:** The realization came because I had begun to garden. As a young artist, I was drawn to the relationships between art and science, undertaking epistemological investigations into the status of things: their origins and

spheres of operation. My interest in artifacts developed alongside investigations into biological and chemical entities and processes. This dichotomy of the natural and the artificial was set in play in the mid-1980s when I moved to a post-industrial Chicago to teach in a museum-school, The School of the Art Institute of Chicago, and simultaneously began developing my first garden.

From 1987 to 2007, I transformed a derelict city lot into an urban laboratory—but it also transformed me. It pulled me from studio practice into public practice. It pulled me into site design and land reclamation. It enlarged the scale at which I worked. It forced me into collaborations with living cooperators. It brought me into dialogue with neighbors and partners. But perhaps most importantly, it turned me towards the future, towards climate change, and the challenges ahead.

The laboratory garden was enclosed, walled, a classic paradise garden. All walled gardens reflect the parable of Adam and Eve: inside one inhabits a paradise, the illusion of control. Real knowledge of the world is outside. So eventually, the garden, like the studio before it, became too circumscribed, “knowledge” won out—expulsion was inevitable.

You see there was “trouble in paradise.” Like most urban sites, this garden was actually an un-intentional reclamation project—I was gardening inside a building foundation. Every spring, the freeze-thaw cycle pushed detritus up out of the soil. This underlying contradiction worked on me and eventually I abandoned the private enterprise of the paradise garden, jumping the fence into the public realm.

**GA:** How did you become involved in eco-art?

**FW:** This first lab garden (I have now made six) afforded a wide variety of investigations. For a decade, my work consisted of installations, gardens, and drawings using living plants. I unpacked the Linnaean naming conventions and there discovered ethnopharmacology and the bio-chemistry of plants, critical for subsequent projects. One focus was the *Solanaceae*, the so-called “deadly nightshades” which contain important food plants such as potato, but also the notorious hallucinogenic “witching herbs” including *Atropa belladonna*. From these “bad” plants, their chemistries, and cultural histories, emerged important themes, such as “good and evil” which gave me a critical understanding of how culture inflects our understanding of the nature of nature, land, and place.

Linking culture and the biochemistry of plants turned me into a systems thinker, seeking a more integrative paradigm. I grew more politicized and also impatient with what could be achieved through existing art practices. The scale of environmental impacts is largely beyond the scope of art—even most public art. Sensing these limitations, I began to ask myself, *what do artists know* that can possibly make a difference?

A breakthrough came in 2001, when I was invited by the U.S. Office of Surface Mining and the National Endowment for the Arts to lead a team that developed a major scientific and social proposal for Acid Mine Drainage remediation for the village of Murray City, Ohio. This project was catalytic in focusing my attention on water, and also on working with real science, *at the scale of the impacts*. Working in true trans-disciplinary collaboration, I was challenged to contend with the complexity of the site, not a manufactured complexity of my own making. *There was no going back.*



**Frances Whitehead**

*Platonic Solids*, Lagenaria siceraria gourds grown in moulds on trellis at Huron Street Lab Garden, 1991

© Frances Whitehead

Based on this model, I became subversively “embedded” into a planning process for a greenway in the industrial core of Cleveland, Ohio. I began a dialogue with two high-level regional planners about the potential for artists to contribute to civic processes. By 2006 we had produced the “knowledge claim” document *What do Artists know?* (WDAK) which articulates the tacit and methodological knowledge deployed by contemporary artists. Referencing the Murray City and Cleveland projects as case studies, WDAK became the foundation for the *Embedded Artist Project*,<sup>1</sup> a platform for placing artists in city workgroups alongside other worldmaking agents.

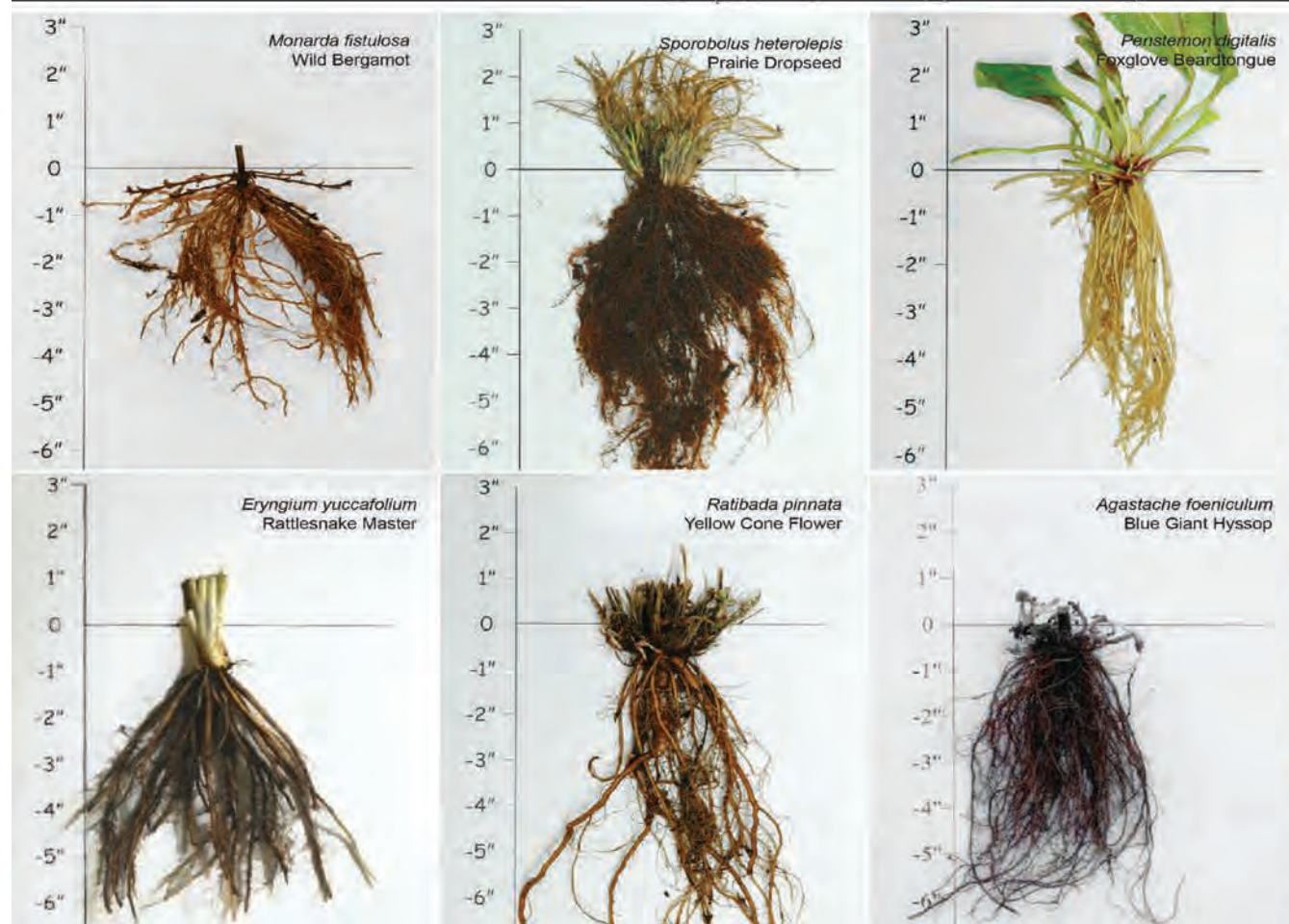
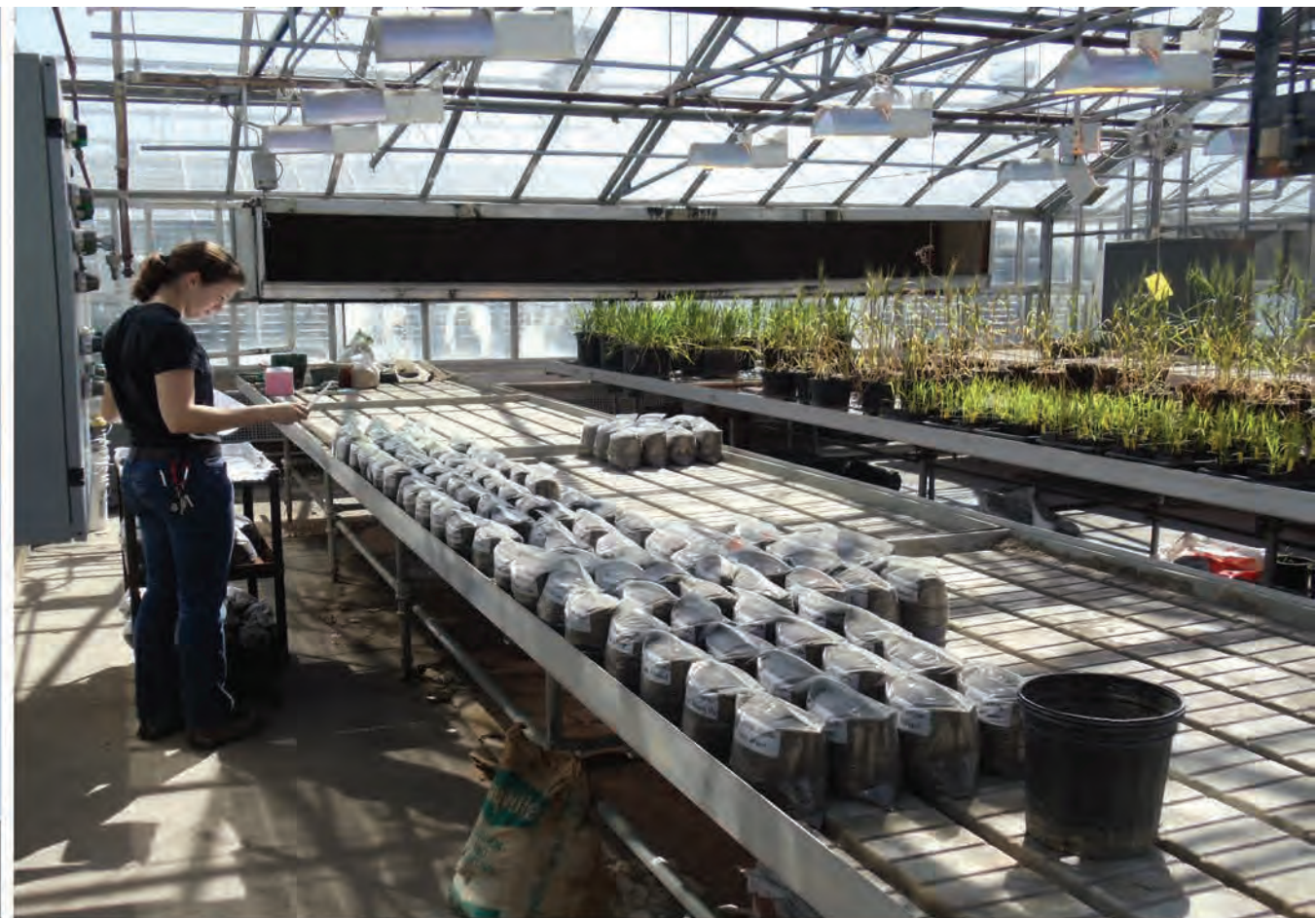
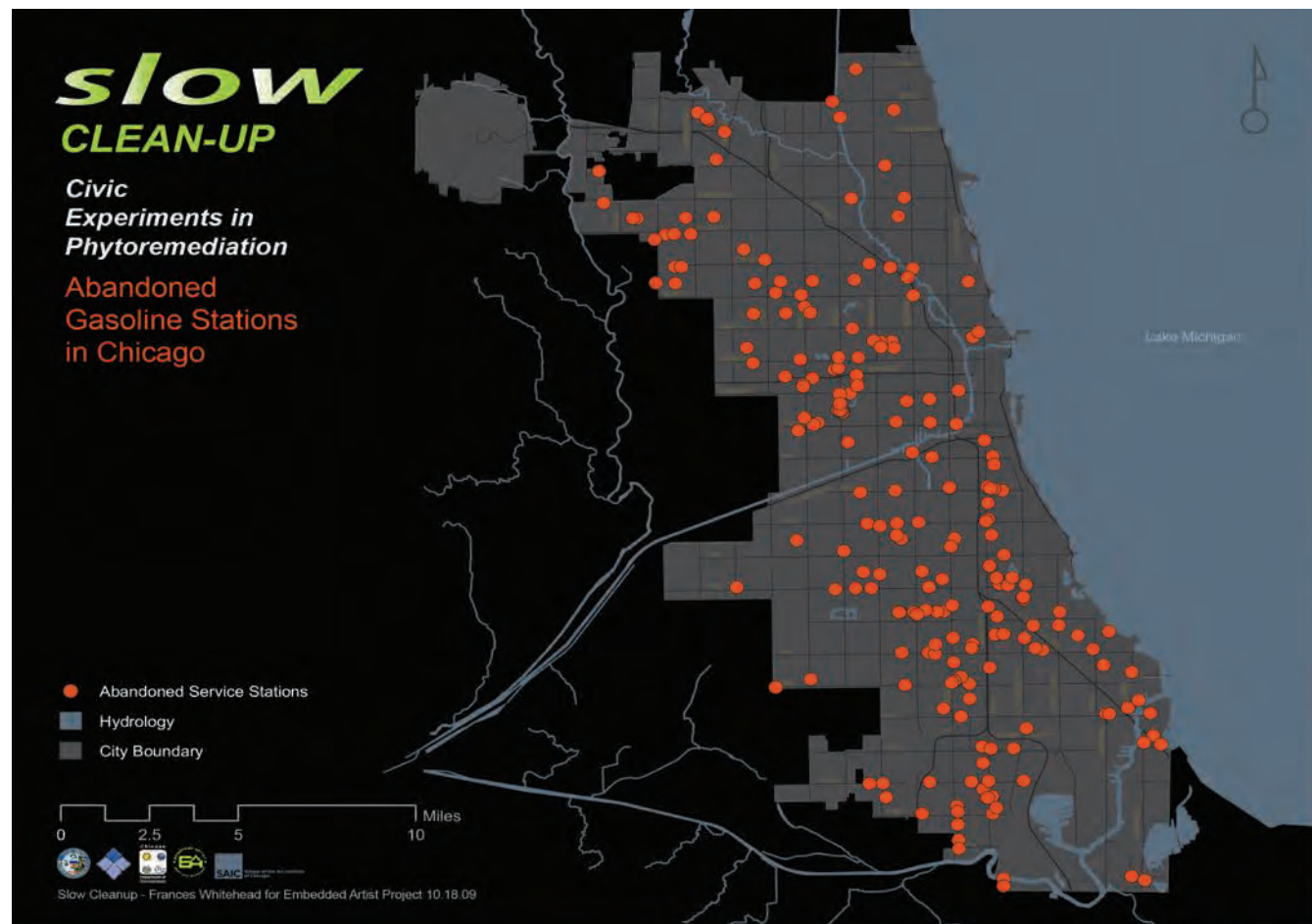
**GA:** *SLOW Clean-up*, a Chicago-based project that ran between 2008 and 2012 focussed onsite remediation and it was designed to harness plant-based remediation processes to regenerate the contaminated land left behind by abandoned gas stations. You referred to this project as “designed civic experiments”. In some instances, you have referred to yourself as a “civic practice artist”. Can you tell us more about this project; how it came about and how in your opinion it helped reconfigure the boundaries of contemporary art?



**FW:** Reconfiguring contemporary art is actually where we started. In order to make space for emergent paradigms we shifted the focus from “art” as outcome to “artist” as agent. This opens space for the proposition that a project, an instantiation, might be BOTH art AND<sup>2</sup> something else at the same time. *SLOW Clean-up* models both of these propositions.

The Department of Cultural Affairs was confounded, but the new Director of Innovation embraced *Embedded Artist*, and a formal program launched in 2008. I was embedded in the Department of Environment, teamed up with the senior brownfields engineer. We reviewed the geotechnical characteristics of Chicago’s 400+ abandoned gasoline stations to identify good candidates for a new approach.

After a review of the technical literature, one key fact stood out. Technically, petroleum remediation is performed by existing soil microbes attracted to phenols, sugars, exuded by some plant roots but not others. The microbes eat the petroleum. Since this technology has been developed by soil scientists who are part of agriculture in the modern university, most testing has been performed on agronomic plants such as corn, alfalfa, and switchgrass, which have



**Frances Whitehead,  
Dave Graham, A.P.  
Schwab**

Next page:  
*SLOW Cleanup Pro-  
gram – Civic Experi-  
ments in Phytoremedi-  
ation*, (Clockwise from  
upper left) Digital map  
of gas station sites,  
Purdue University soil  
testing, Rootmasses  
of native species, Field  
trials site, 2008-2012  
© Frances Whitehead  
+ City of Chicago, Prai-  
rie Moon Nursery.



**Frances Whitehead, Dave Graham, A.P. Schwab**

*SLOW Cleanup Program – Civic Experiments in Phytoremediation, Road tool tilling field trials soil insitu, 2012*

© Frances Whitehead

limited landscape value. Surprisingly, very few other kinds of plants had been tested including the native prairie forbs, famous for their extensive root systems. Also, it was well known that adding compost and aerating soils revs up the microbes, but no one knew how to till at the depth of the leaky petroleum tanks. By ignoring “best practices” I found a road-building machine that could serve as a giant rototiller, and we prepared the soils *in situ*.

Working with Purdue University soil scientist Dr. A.P. Schwab we established a field trials site, designed for both beauty and function, and also for maximum legibility as a form of environmental education. Schwab lab tested 80 species and found 12 new native, ornamental, petroleum remediators. Ten phytoscapes were planned based on these new remediators. Schwab noted that our radical approach “wiped the whiteboard clean and started over”.<sup>3</sup> Even so, the program was prematurely ended in 2012 when newly elected Mayor Rahm Emmanuel closed Daley’s flagship Department of the Environment.

**GA:** What challenges have you encountered along the way?

**FW:** Two challenges consistently arise with these projects and both stem from incommensurability—things that are assessed with differing frameworks and metrics. The first challenge is *legibility*, which directly affects the reception of multivalent projects, and the second is *heteotemporality*, operating in multiple timeframes.

BOTH/AND projects like *SLOW Clean-up* or later the *Fruit Futures Initiative Gary* (FFIG) lose legibility the more “entangled”<sup>4</sup> they become. Constituent

groups, the art world, the scientific community, urbanists/land use planners, and the general public are often missing key understandings needed to fully comprehend the work.

There is also a disciplinary dimension of this illegibility. Sacha Kagan, sociologist of art+ sustainability, has theorized about creating change through “Entrepreneurship in Conventions”<sup>5</sup> ...to play “on the rules” not “in the rules”.<sup>6</sup> *Embedded Artist* is a clear example of this change strategy. Kagan proposes that artists must also perform “Double Entrepreneurship in Conventions”<sup>7</sup> if they hope to succeed. He describes how art practices lose legibility (as art) the farther they move away from the mainstream. This loss (of power) is a kind of undertow, pulling artists back towards convention, away from the experimental. Kagan promotes a reflexive or “double” process where the artist moves outward toward the experimental edgework and then doubles back to change the art world itself. We have often doubled back with language. For example, one critic asked me if my work was art or urbanism and I immediately coined the moniker “artist urbanist” legitimizing the work. Similarly, I coined “civic art practice”, and “public artist” modelled on the idea of the “public intellectual”. I have called *Embedded Artist* a “double agent”<sup>8</sup> operating both inside and outside art, both inside and outside civic structures, a kind of *double change agent*.

The problem with timeframes is similar. We frequently utilize “time” as an active element, working in “long time” *durationally*, which is not the same as “slow” or “deep” time. Biologic and remediative processes can take months or decades, fruit trees take years to produce fruit, phenomena like temperature sensitivity are seasonal, and climate change is (arguably) in geological time. The art world on the other hand is driven by institutional time and media time. Cities are on civic time, where cyclically-elected officials often abandon a prior administration’s signature projects and begin their own. The resulting heterotemporality contributes to the complexity of these projects and creates a time lag between when the projects are done and their comprehension.

**GA:** Can you describe your relationship with plants?

**FW:** Plants have become the center of my life. I am interested in plants botanically, metaphysically, historically and culturally.

I suppose I was genetically coded for these passions. While I grew up in a family of modern artists, my mother’s extended family were all professional botanists and agronomists: seed analysts, hybridizers of jonquils and sweet potatoes—and discussions about plants were always happening around the edges of the heady intellectual milieu of mid-century art discourse, including Beat poetry, Zen Buddhism, expressionism, and pop/op art.

I was also part of the generation known as “Sputnik kids”,<sup>9</sup> and was schooled in the “New Math”,<sup>10</sup> a very abstract approach to teaching math, what today we would call STEM/STEAM learning. The result was that I completely accepted a worldview where art, science, math, plants, poetry, mysticism, and philosophy were one.

While I work with many other topics such as water, soil, insects, and microbes, plants have evolved into a wonder-filled nexus, linking all of the human



**Frances Whitehead + Jim Elniski**

*Modest Modernism - Plant Mansion + Inventory*, Hacked hoop house, inventory of conserved food produced 2015-2018, stainless steel, glass shelves, digital print, 2019 © Frances Whitehead + Jim Elniski

activity to the natural world. Plant communities reflect the specifics of a geo-location, deeply linked to “place”.<sup>11</sup> Through plants, I have been able to connect to many aspects of contemporary discourse including multi-species consciousness, representation, classification and taxonomy, beauty, biotechnology, cultural identity, environmental justice, placemaking and food security.

Plants satisfy my scientific curiosity and have provided me with the only glimpse I have ever had into the divine. They also serve a very practical purpose. When you finally get a seat at the collective table you better have some new ideas, and all of mine come from plants.

**GA:** In 2014, you became a Lead Artist on the Design Team of the 606 linear park redevelopment project in Chicago. This was a massive undertaking with a \$90 million budget aiming to turn a nearly three-mile-long abandoned, elevated rail spur into a mixed-use walking trail that today connects five parks in four neighborhoods. Today the 606 is the longest greenway redeveloped from a former el-



evated rail line in the Western Hemisphere, and the second longest in the world, after the *Promenade plantée* linear park in Paris. How did you become involved in the project and what insights, challenges and opportunities did you encounter along the way?

**FW:** I was invited to be Lead Artist for The 606 as my extensive work with the City of Chicago was well known. The complexity, politics, and speed of The 606 matched its scale, and I could not have withstood the demands of this project without that prior experience.

The complexity of The 606 was breathtaking and exhilarating. As Lead Artist I was the principal interpreter of a community vision that the project should become a “living work of art”.<sup>12</sup> I operationalized this vision and linked it to well-established sustainability rubrics<sup>13</sup> creating a cultural plan for the project. There were many art “rule books” at play, however, the vision of “living” evolved



**Frances Whitehead/ARTetal Studio, Collins Engineers, Van Valkenburg Landscape**

*Opening day bike parade at The 606 Observatory, Chicago, Seasonal solar observatory created from trail construction soils, 2015 © The Trust for Public Land.*

into a focus on temporary, performative, and participatory approaches which, in turn, suggested ideas for park amenities and material re-use strategies. The engineers and I advocated for a “zero net spoils”<sup>14</sup> approach—re-use everything—an idea I recently took with me to Santa Fe.

The multiple art worlds reflected the politics in general, a daily collision of top-down vs. bottom-up forces. Started as a neighborhood initiative by *Friends of the Bloomingdale*,<sup>15</sup> developers envisioned The 606 as the new Millennium park, a tourist destination. We feared it would produce gentrification, (a reality that eventually drew me to Gary, Indiana.) Fortunately, the directors of the project were experimental, and not sympathetic to conservative thinking. They stopped calling me *Lead Artist* and started calling me *Embedded Artist*, there to make *Embedded Artworks*, large-scale features that were BOTH park elements AND artworks at the full scale of the trail. Three participatory works supported community engagement of different kinds: a 3-mile planted floral line became a



**Frances Whitehead/ARTetal Studio, Collins Engineers, Van Valkenburg Landscape**

*Environmental Sentinel, Citizen Science phenological observation planting of 453 Amelanchier grandiflora x autumn brilliance trees along 3 miles of The 606, Chicago, 2016  
© Frances Whitehead + The Trust for Public Land*

citizen science laboratory for phenology/climate change observation; a convex solar observatory was made from construction rubble on the west end; and a concave, glow-in-the-dark skatepark + jazz club was designed for the east end.

I was very excited about the skatepark as an example of “radical multi-functionality” but it fell victim to the speed of the project. The design, the ideas, the fundraising, and the public engagement were all happening simultaneously at the speed of light. At some point Mayor Emmanuel announced unilaterally that The 606 would be finished by the end of his first term, pushing the project into fast forward. On the one hand, it ensured The 606 was built, but projects like the skatepark were never funded, and the concrete re-use program was too time-consuming to execute.

**GA:** What is your opinion about eco-art today? Ecology has finally become central to contemporary discourses. What are the main challenges and opportunities at stake?



**Frances Whitehead/ARTetal Studio + Gary Commons Orchard Collective**

*Fruit Futures Initiative Gary- Planting Day at the Emerson Community Lab Orchard, Experimental land use and re-development program linking capacity development and food futures for Gary, Indiana using fruit, 2018*

© Frances Whitehead

**FW:** I try not to think too much about art world *isms* but the label “eco-art” is tricky. It places ecology at the service of art and not the other way around. I bring this up now, just to point out that the art world really needs to do its homework and realize that other disciplines have evolved highly advanced lexicons to explore the nature of the problem and the pitfalls of superficial solutions. Escobar’s *Pluriverse*,<sup>16</sup> and Mignolo’s *Epistemic Disobedience*,<sup>17</sup> calling for a wholesale abandonment of the entire western episteme (why would Art be left standing?) come to mind, and of course sustainability theorist Tony Fry, Maori scholar Linda Tuhiwai Smith, and sociologist Sacha Kagan.

Artists need to stay vigilant—these are not merely new topics to represent, and there can be an over-reliance on “raising awareness”.<sup>18</sup> That being said, I believe in artists’ ability to contribute—artists everywhere are sending up trial balloons, demonstrating possibilities. In my experience the art world is especially slow to address its role in the problem, and is very behind on change theory, clouded by economics and western individualism. I seem to be running a decade or so ahead of the art discourse (a terrible way to advance a career) but it’s finally catching up.<sup>19</sup>

Funny, Kaprow’s famous admonition concerning the experimental comes immediately to mind.

Today, we may say that experimental art is that act or thought whose identity as art must always remain in doubt. As soon-and it is usually very soon-as such acts and thoughts are associated with art and its discourses, it is time to move on to other possibilities of experimentation.

-Allan Kaprow (1997)<sup>20</sup>

In this case, the question is whether “art” as currently constituted is in any position to make a difference. Do we need to re-invent “art” altogether?

**GA:** What irritates you the most about the contemporary artworld?

**FW:** The selective amnesia.

**GA:** Until recently, you taught at the School of the Art Institute of Chicago. What advice would you give to today’s art students who want to engage with ecological themes?

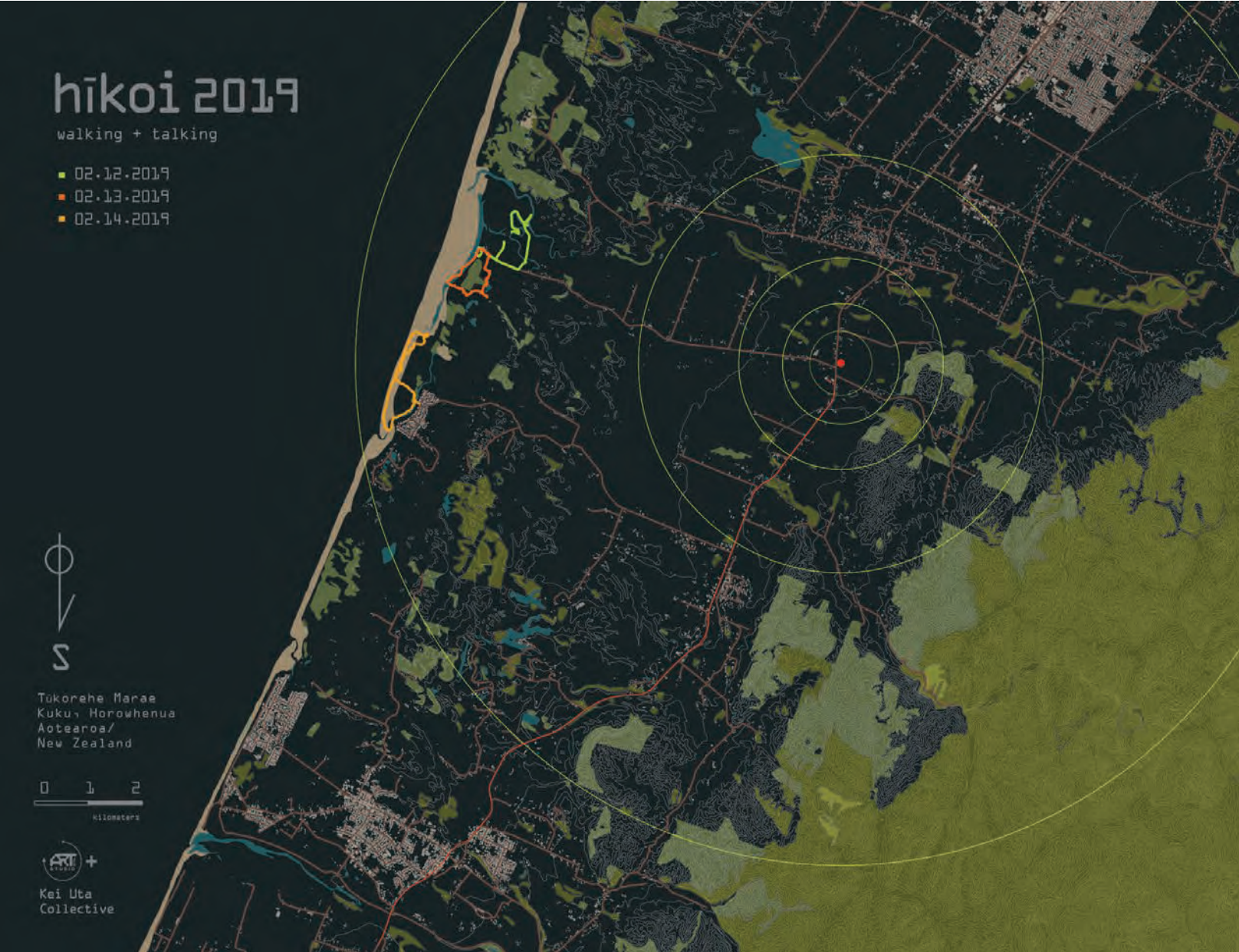
**FW:** Back in 2012, I wrote a piece *51 Declarations for the Future: A Manifesto for Artists*.<sup>21</sup> This piece was meant as both a challenge to other artists and also my best advice about how to get started. One of the most important declarations is: “*Get comfortable being uncomfortable*” a result of the uncertainty that is a constant condition in this work. The other is a bit of practical advice “*Start where you are*”. This means: do your homework, work at any scale, tune into place, join an existing effort, and learn from those around you. I still think this writing has all my best advice.

**GA:** You have relocated to Santa Fe, New Mexico, and have been working on a xeric garden. Can you tell us more about this project? What took you there?

**FW:** Moving to Santa Fe was a way to beam into the arid future. Living in Chicago is anachronistic because one does not “feel” the present reality that one “knows”, that the Great Lakes are 20% of the world’s freshwater, a fragile global resource, not available elsewhere. I wanted to step outside that ecology and its idea shed. When people ask me why move to Santa Fe, I respond “new plant palette”! Of course, that’s both true and a provocation, the real reason is water.

Over the last twenty years my partner, artist Jim Elniski and I have been collaboratively creating a series of “Dwelling Projects”, demonstration live/work spaces exploring aspects of sustainable living, BOTH architecture AND art. This includes the energy-generating *Greenhouse Chicago*<sup>22</sup> and the edible landscape of *Modest Modernism* in ex-urb Gary, Indiana. Each has had a lab garden. In Santa Fe, we are creating *Casa de Agua* to explore and demonstrate water conservation strategies along with a xeric laboratory garden.

With *Casa de Agua* we continue our focus on the adaptive reuse of existing structures, following our guiding principle: “reuse everything”. Choosing a common type of post-war ranch house known locally as a Stamm,<sup>23</sup> we began by flipping up the garage roofs into a “butterfly”, creating a studio, and capturing rainwater into a galvi cistern visible on the street. The residence was re-plumbed to send our greywater to the adjacent landscape.



# **Frances Whitehead + Kei Uta Collective**

*Drawing With/ Walking With – Eco-Hikoi Context Map1*, GIS map with GPS tracking of collective hikoi marches, 2019 © Frances Whitehead

Remembering the “zero net spoils” approach, the site soils and hardscape became a giant *cut-and-fill* operation, moving soil and masonry around for reuse. Most ambitiously we cut up the concrete driveways, reducing the parking spaces and producing thick rustic concrete blocks for terracing. All water capture and distribution is passive, including cisterns, swales, and retention basins, and the planting design is driven by water availability and site grade.

Rules for plant selection are simple. They must be native, edible, or existing. All are low water (xeric) natives except the fruit placed near the greywater. Planting zones include a micro-orchard, a Pinion/Juniper savannah (*the Present Garden*), and the xeric demonstration garden attached to the studio, (*the Future Garden*.)

Santa Fe straddles the border between the *montane* forest above 7000 ft elevation and the shrubland below, affording a striking aesthetic contrast between evergreens and succulents including the extremophile bristlecone pine and the sculptural tree yucca. These larger native species form the backbone of our



# **Frances Whitehead + Kei Uta Collective**

*Drawing With/ Walking With – Plant Pigment Project*, Studio view of botanical drawings of NZ native plants made with their own pigment, 2019 © Frances Whitehead

xeric garden, which also hosts smaller native shrubs, cacti, and agave. This dramatic planting is public-facing, rhetorical, and accessible for small events and discussions. Another galvanized tank retrofitted with a door sits near the garden gate, and a project and event space, *The Tank*, is a strategy to invite others into the conversation.

**GA:** What are you currently working on?

**FW:** I am currently working on several initiatives linked to the nexus of water, xeric plants, pigments, walking, and food futures.

Partnering with Monterrey Tec University, and the owners of *Ruta de La Milpa* in Milpa Alta outside Mexico City, we are researching the future of Nopal, the edible prickly pear cactus. This magnificent plant is central to the identity, cuisine, and food security of Mexico and may also be useful for climate adaptation in New

Mexico, where elevations are similar to Mexico City and warming is predicted.

This line of inquiry is directly linked through the cochineal insect which lives on Nopal, and is a source of carmine red pigment, to “*Drawing With/Walking With*”, an investigation began in Aotearoa/ New Zealand, where the direct experience of a site through walking, is translated to other forms of multi-species solidarity, creating maps and botanical drawings with pigment from the plants themselves.

Working with the “*We Are Ocean*”<sup>24</sup> project in Pézènes-les-Mines, France, we will continue the Aotearoa strategies by “*Walking the Ocean*” here in Santa Fe, traversing current waterways that overlay the vast ancient seabed lying underneath the xeric landscape of New Mexico.

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**Frances Whitehead** is a civic practice artist bringing the methods, mindsets, and strategies of contemporary art practice to the process of shaping the future. Connecting emerging art practices, to discourses of sustainability, heritage, just-transition, and remediation, she works as a Public Artist, expanding the role of artists in society and within multiple ecologies, asking, *What do Artists Know?* Whitehead has worked professionally as an artist since the early 1980's and has worked collaboratively as ARTetal Studio since 2001. She is Professor Emerit of Sculpture at the School of the Art Institute of Chicago