

From Forces to Forms

Curated by
Ellen K. Levy

Pratt
Manhattan
Gallery

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in part by Pratt Institute's
STEAMplant Initiative.

Author Amitav Ghosh relayed an uncanny experience in *The Great Derangement: Climate Change and the Unthinkable*. He was suddenly caught up in a tornado and felt its force as a living entity with its own grip and volition. What had been relegated to the periphery of his awareness became immediately and unnervingly tangible. This experience led Ghosh to the realization that many of us have not adequately considered the strength of “nonhuman forces and systems.”¹ Such knowledge might prove essential, given the current climate crisis, the release of pathogens, and the depletion of common resources.

Ghosh’s recognitions align with perspectives offered by *From Forces to Forms*. Nonhuman forces and systems generally relegated to the edge of consciousness are given center stage in Pratt Manhattan Gallery’s exhibition. In the exhibition, little explored dimensions of form generation are brought into the foreground, including the roles of agency, contingency, and physico-chemical forces. Many of the artworks resonate with Scottish morphologist D’Arcy Thompson’s *On Growth and Form* (1917), which has inspired artists, designers, architects, and scientists for over 100 years.² The Pratt Manhattan Gallery exhibition continues research initiated in a coedited anthology by Ellen K. Levy and Charissa N. Terranova, *D’Arcy Wentworth Thompson’s Generative Influences in Art, Design, and Architecture: From Forces to Forms* (Bloomsbury Publishing, 2021).³ In Pratt’s similarly-named exhibition, *From Forces to Forms*, the artists explore the nature of form by engaging with potent forces and processes of nature. The exhibition considers the implications of form generation and fosters “ecological awareness” through a variety of media (from analog to digital), at different scales (from subatomic to macroscopic), and in varied contexts (from prebiotic to ecosystems). Applying knowledge about living forms, a subset of artists exhibits the potential of art to help restore our dysfunctional ecosystems.

Laws of Nature

The first section of the exhibition is composed of works by artists who explore basic forces of nature and the behavior of entities that are often placed, unattended, in the background. The artists emphasize the activation of life, often constructing their own methods. Like Thompson, they look at the intersection of physics and chemistry, probing the boundaries between the animate and inanimate, and they consider the available sources of energy to initiate the transition. The late chemist Robert

Shapiro, who embarked on a lifelong search for life’s origins, pointed to the necessary conditions: “You need a compartment, you need a source of energy, you need to couple the energy to the chemistry involved, and you need a sufficiently rich chemistry to allow for this network of pathways to establish itself. Having been given this, you can then start to get evolution.”⁴

Adam Brown and Robert Root-Bernstein

explore the prebiotic world in their collaborative artwork, *ReBioGeneSys 2.0* (2021), which is modeled on Stanley Miller’s and Harold Urey’s pivotal 1953 origin of life experiment. The experiment suggested that several of the key molecules of life could have been synthesized on the primitive earth.⁵ In addition to initiating a dialogue about scientific experimentation⁶, Root-Bernstein views their recreation as an occasion to identify some of the differences between living and non-living systems, including homochirality of molecules within cells; maintenance of living systems away from thermodynamic equilibrium; self-replication of key molecular components; and interactivity.⁷

Paul Thomas invents ways he might visualize probabilities of position and speed that characterize uncertainty in the quantum world. In *Quantum Chaos Series No 14* (2020), he builds up acrylic brush marks in multiple layers with striated squeegees. The squeegees consist of different laser cut lengths of plywood with teeth set apart at different intervals positioned on the edge. He then disrupts the paint surface to expose spaces that, according to Thomas, suggest “an unseen liminal space between classical and quantum microworlds.” Another group involves digital photographs of felt fibers. Thomas correlates speculative quantum chaos distribution data with the colors in the photographs (given as RGB numbers). He then uses a sorting algorithm that repositions the pixels in his photographic images, creating animations with new patterns.

Todd Siler gives form to forces of energy in his drawing, *Mapping Magnetic Domains of the Fractal Reactor* (2006). His artistic component of the abstract to the proceedings of the 13th International Conference on Emerging Nuclear Energy Systems challenged “the fusion industry to consider more realistic and naturalistic ways of representing the designs and dynamics of controlled fusion energy systems.”⁸ Specifically, he sees that group of works as a way to apply principles of fractal geometry to plasma physics. The painting, *The Neuropsychology of Envisioning the NanoWorld (1 to 100nm)* (2013), is representative of his painterly, metaphorical

approach and was inspired by research in nanoscience.⁹

Tauba Auerbach often engages nature's principles of pattern formation, making them a focus of her art. The four works titled *Heat Current I, II, III, and VI* (2020) suggest patterns formed by abrupt temperature differences that are captured by infrared photographs as currents of hot and cold water or air move against each other. Infrared radiation is made up of electromagnetic waves just beyond what we can see on the red end of the visual spectrum.¹⁰ The lyrical patterns created serve as mysterious tracers of movements created by temperature differences.

Meredith Tromble interprets the force of photosynthesis, the process by which the energy of the sun is changed into living forms. Her interpretive video, *Eating Light* (2021), combines dance and drawing in an imaginative encounter with this force. Tromble describes the work as: "Plants capture photons of light from the sun and channel them into a transformative pattern of movement, a precise dance in which form guides the energy of light as it becomes the energy of matter."¹¹

Morphogenesis and Self-Organization

The artworks in the second section have strong affinities with processes analyzed in Thompson's *On Growth and Form*. Several artists in this group appropriate the generative potential of nature. They set the conditions for shaping and self-organization to occur, exploiting a program of behavior built into the materials that creates flows, rhythms, and movements. Other artists in this section approach morphogenesis metaphorically. The foundation of complexity science is revealed in both groups: simple manipulations can cause complex results.

William Lamson establishes conditions for crystals to form in his installation *Untitled (After Badwater)* (2021), which revisits the ideas and materials of his 2018 installation. Lamson describes *Badwater* as an abiotic, complex network of "non-living things that, while inanimate, continue to exert their material agency. In a time when extreme weather conditions have become a reality around the world, *Badwater* uses a climate-controlling infrastructure to create an accelerated cycle of flood and drought." Lamson is inspired by the resilient ecosystem in Death Valley's Badwater Basin that has evolved to withstand such harsh conditions. The artist brings geologic forces into the gallery, allowing them to develop over the duration of the show.

Haresh Lalvani, a professor of architecture at Pratt Institute, collaborates with metal fabricator Milgo/Bufkin. Two of five works from the *GR FLORA* series (2012) are in the Pratt Manhattan Gallery exhibition; each undergoes continuous but distinct transformations from a circle that started with slit patterns scored into flat sheets of mirrored stainless steel. They exemplify Lalvani's experimental approach of activating physical emergence (e.g., self-folding and self-stiffening) within matter, which begins by perforating sheets of metal with a shape code. He then applies forces (unspecified because proprietary) to create elegant seamless topological surfaces from a single sheet of metal.¹²

The origins of **Janet Echelman's** sculptures are distorted fishermen's nets. They intimate an unforced relationship with D'Arcy Wentworth Thompson's pivotal images of deformed grids that cause a variety of forms (fishes, skulls) to undergo topological transformations that point to morphological changes within species. In Echelman's hands, the netting initiates changes of form as she adds or subtracts new nodes and links and as she distorts the grids.¹³ The lyrical foldings of the netting in *She Changes* (2005) are suggestive of organismic development.¹⁴

Gemma Anderson designates her approach "isomorphology." She has devised a playful way to relate species that would otherwise be considered unconnected. Her series, *Isomorphology* (2012) highlights the discovery by Lynn Margulis that early life forms developed by ingesting cellular material from neighboring biota in a process called horizontal gene transfer. Anderson navigates morphological diversity, creating aesthetically arresting work that is both logical yet with surreal overtones.

Oliver Laric's animation, *Betweenness* (2018) features the unpredictable morphing of a black line drawn on a white ground that evokes processes of cell mitosis. The film presents a never-ending, hypnotic transformation of imaginary animals. In Laric's *Hundemensch* (2018), the silhouettes of two or more creatures can be seen, suggesting that either genetic or epigenetic modification has occurred. His work calls attention to human/nonhuman borders.

Expanded sensitivity to the nonhuman has helped renew the organic impulse in art. We see exquisite adjustments of scale and fine tuning in **Ricci Albenda's** organic forms. His sculpture *Ha Yoon*, a variant of *Open Universe* (2007) examines morphing space. Its construction of bulging and distorted segments suggests topological

investigations that then materialize optical and perspectival phenomena. Perhaps this is the ghost (body) in the formalist machine.

Repairing Nature

In this third section, several artists lay bare the dysfunction of our relationship with nature on a system-level scale. Several of the artists devise interactive projects that might reshape human behavior regarding the ecosystem. Many of the artists address borders—between the natural and unnatural, the analog and digital, and between the living and nonliving. Thompson, an avid environmentalist, often emphasized the shared atomic, cellular, and molecular structures between animate and inanimate entities. The artists in this section emphasize the commonalities, empathy, and sentience felt among a variety of species. In this way, they promote our awareness of environmental policies on communities of organisms.¹⁵

In *Origin of Species-Post Evolution-Maiz* (2018), **Marta de Menezes** collaborated with philosopher **María Antonia González Valerio**. Their research documented in taxonomic charts involved identifying corn mutations with bioinformatic tools that compared the genome of corn and the wild counterpart from which it was developed. CRISPR, a gene-editing tool, enables researchers to add, delete, or alter pieces of genetic material. Such manipulations enable de Menezes and Valerio to theoretically re-create an organism closer to its early historical state. De Menezes points out in a brochure that she selected corn because it has undergone domestication for thousands of years by Mesoamerican cultures, concluding “Its spread is linked to its cultural meaning.”

Ursula Endlicher’s Net artwork, *Input Field reversal (and Custom HTML Plant Tags)* (2021), unexpectedly rethinks reciprocity between the real and virtual, creating “hybrid creatures between code, data, and plant characteristics.”¹⁶ She bases her work on the morphology and specifications of six vegetables that were planted in “real” fields. The plants correspond to six digital plants on a website that mediates their shape and color based on local weather and environmental data from the actual field. Her plant “tags” comprise “taxonomic/botanical” drawings showing the HTML Java-Script CSS source code. The artist explores borders between analog and digital realms such as those between formal gardens and hypertext.

Christy Rupp analyzes intertwined systems of food, politics, and ecology. She visualizes

the downsides of mercantile capitalism and industrialization, which are connected intimately to our use of natural resources. Rupp draws a critical link between late capitalism and the food web. Food-web theory has become recognized as a guide to the care of complex ecosystems and the protection of species. *Moby Debris* (2019) is a collection of discarded plastic made into micro-planktonic organisms. On her website, she states she wanted to evoke the contents of a whale’s stomach thereby invoking the food chain.

María Elena González creates indexical images of birch bark, documenting the characteristic markings on the bark that develop over time. Her sensitivity to the patterns of bark markings shows an affinity to some seen in ancient textiles. The implication is that the sources of patterning may derive from similar forces.¹⁷ In her work *Bark Framed #1* (2015) from her *Tree Talk* series, she forms an analogy between physically scoring the birch tree and mentally scoring “musical sounds.”¹⁸ The works of González point to the putative communicative agency of trees. Relatively recently, it was verified that trees communicate, further validating her intuitive, poetic approach.¹⁹

Lillian Ball creates a model of cooperative interaction in the form of a game. Based on the ancient game of Go, participants act out the conflict between social incentives to cooperate and private incentives to defect. The game shown in this exhibition, *Go Sweetings Pond*, (2021), features the endangered ecology of the proposed Seahorse National Park in Eleuthera, Bahamas. Nearby is *Envisioning Seahorse National Park*, (2021), a triptych of floating layered glass panels with hand-painted and etched images from scientists’ photos of threatened creatures living in Sweetings Pond. Her goal is to introduce the public to the complex issues and possible resolution of differences raised by fragile ecosystems.

Victoria Vesna’s interactive project, *Noise Aquarium* (2021) aims to heighten our awareness of human-caused environmental dysfunction, in particular the disastrous effects of microplastics and underwater noise upon plankton species that live in the depths of the ocean.²⁰ In response to physiological imbalance from noise, organisms must restore their internal balance (homeostasis).²¹ Vesna’s goal is to motivate us to eliminate the disruption of their ecosystem.²² Both Ball and Vesna aim to reorient human behavior through art to attempt to regain a healthy ecosystem.

Conclusions

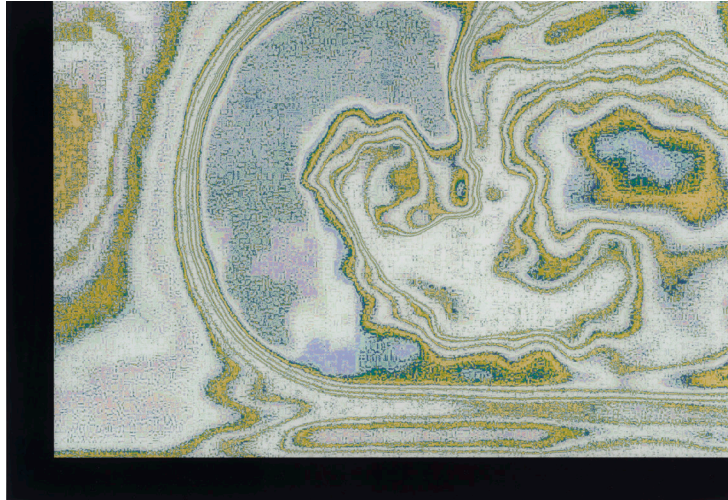
In affinity with D'Arcy Thompson, the works in *From Forces to Forms* call attention to the matter and processes found in nature. All the artworks embody a recognition that our understanding of nature has changed. The changes are made evident by the art foregrounding aspects of development and agency that have previously been little noticed. Our conception of nature has shifted from an existence of timelessness to one of contingency. Our conception of inheritance now has horizontal dimensions (bacterial ingestion of neighboring organisms) along with vertical descent. Through figure-ground reversals which reposition powerful forces to the foreground, the exhibition aims to show the varied manifestations of form. Nature's living systems provide evocative models of form generation and point to sustainable practices.

I thank the artists in this exhibition and their galleries who made this exhibition a reality. I am grateful to Nick Battis, director of the Pratt Manhattan Gallery and to Kirsten Nelson, assistant director of exhibitions. Thanks also to Charissa N. Terranova, with whom I coedited our anthology, *D'Arcy Wentworth Thompson's Generative Influences in Art, Design, and Architecture: From Forces to Forms*; and to Bloomsbury Press for their enthusiastic support.

ELLEN K. LEVY, a multi-media artist and writer, is a past president of the College Art Association who explores interrelationships among art, evolution, and complex systems. Levy highlights them through her exhibitions, educational programs, publications, and curatorial opportunities. Levy has exhibited and published widely and was recipient of an AICA award and an arts commission from NASA following a solo exhibition at the National Academy of Sciences (1985). Before earning her doctorate on art and neuroscience (University of Plymouth, UK, 2012), she was a Distinguished Visiting Fellow in Arts and Sciences (Skidmore College, 1999). Afterwards, she was special advisor on art, science, and technology to the Institute for Doctoral Studies in the Visual Arts. Levy and Charissa N. Terranova are coeditors of *D'Arcy Wentworth Thompson's Generative Influences in Art, Design: From Forces to Forms* (Bloomsbury Publications, 2021). Levy and Barbara Larson are coeditors of the "Science and the Arts since 1750" book series of Routledge Press. Levy curated *Sleuthing the Mind* at Pratt Manhattan Gallery (2014).

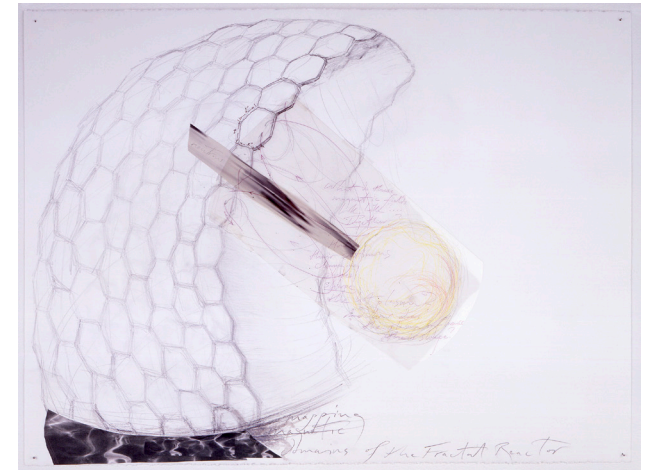
- 1 Ghosh, Amitav. *The Great Derangement: Climate Change and the Unthinkable* (Chicago: U. of Chicago Press, 2016), 120.
- 2 Thompson, D'Arcy Wentworth. *On Growth and Form*, abridged edition, edited by John Tyler Bonner (Cambridge: Cambridge University Press, 1961/2014).
- 3 Levy, Ellen K., and Terranova, Charissa N., (Eds.), *D'Arcy Wentworth Thompson's Generative Influences in Art, Design, and Architecture: From Forces to Forms* (London, UK and New York: Bloomsbury Publishing), March 2021, ISBN 9781350191136.
- 4 Shapiro, Robert. "An Edge Special Event at Eastover Farm, Robert Shapiro [5.9.07]"; https://www.edge.org/conversation/robert_shapiro-robert-shapiro%E2%80%94a-concept, (accessed July 2021).
- 5 Shapiro, Robert "A Simpler Origin for Life," *Scientific American*, 2007 Feb 12; <https://www.scientificamerican.com/article/a-simpler-origin-for-life/>, (accessed July 2021).
- 6 <http://adamwbrown.net/projects-2/origins-of-life-experiment-1/>, (accessed July 2021).
- 7 <https://www.thethirdwayofevolution.com/people/view/robert-root-bernstein>, (accessed July 2021).
- 8 Siler, Todd, *Proceedings of the 13th International Conference on Emerging Nuclear Energy Systems* June 03-08, 2007, Istanbul, Turkey, 244, https://inis.iaea.org/collection/NCLCollectionStore/_Public/38/117/38117010.pdf (accessed July 2021).
- 9 Levy, Ellen K., and Terranova, Charissa N., (Eds.), *D'Arcy Wentworth Thompson's Generative Influences in Art, Design and Architecture*.
- 10 In 1800 William Herschel demonstrated that heat and light are the same kind of energy although they produce different sensations.
- 11 Tromble email to Levy July 25, 2021.
- 12 Lalvani, Haresh. "X-Structures, Milgo Experiment 3 (2008-2014)," *Proceedings of the IASS Annual Symposium 2020/21 and the 7th International Conference on Spatial Structures* (in print).
- 13 Levy, Ellen K., and Terranova, Charissa N., (Eds.), *D'Arcy Wentworth Thompson's Generative Influences in Art, Design and Architecture*.
- 14 Frank, R. "Sculpting Urban Airspace," *Sculpture* 30, No. 7 (Sept. 2011): 23.
- 15 Siri Hustvedt review *The Strange Order of Things*, <https://lareviewofbooks.org/article/antonio-damasio-feeling-and-the-evolution-of-consciousness-siri-hustvedt-on-the-strange-order-of-things/> (accessed May 30 2020).
- 16 Email correspondence with author October 24, 2018.
- 17 In a TED talk Lalvani compares their development to Palm Tree Bark; <https://www.youtube.com/watch?v=nir9fXCJX08> (accessed July 2021).
- 18 Levy, Ellen K. "Nature: New Contexts, New Art by Women," *Woman's Art Journal*, fall/winter 2020, 41:2, 3-16.
- 19 Jaber, Ferris. "The Social Life of Forests," *New York Times*, Dec 2, 2020. Scientist Suzanne Simard's research about Forest ecosystems provided evidence that trees and fungi form partnerships known as mycorrhizas. They fuse with tree roots, helping them extract water and nutrients like phosphorus and nitrogen in exchange for some of the carbon-rich sugars the trees make through photosynthesis. Chemical alarm signals generated by one tree prepare nearby trees for danger.
- 20 Vesna, Victoria and team, *Noise Aquarium* (exh. cat, 2016-present), used in multiple venues. Contributors include Dr. Alfred Vendl; Martina R. Froeschel, Stephan Handschuh, Glenn Bristol, Ruth Schnell, Paul Geluso, Thomas Schwaha.

Laws of Nature



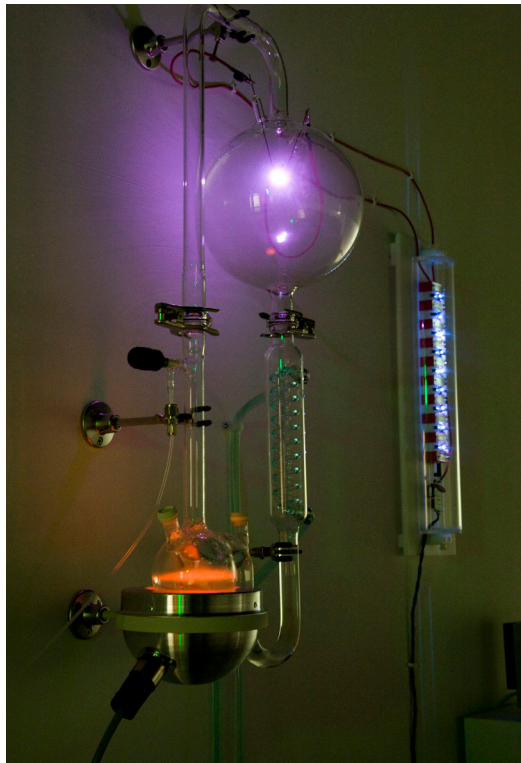
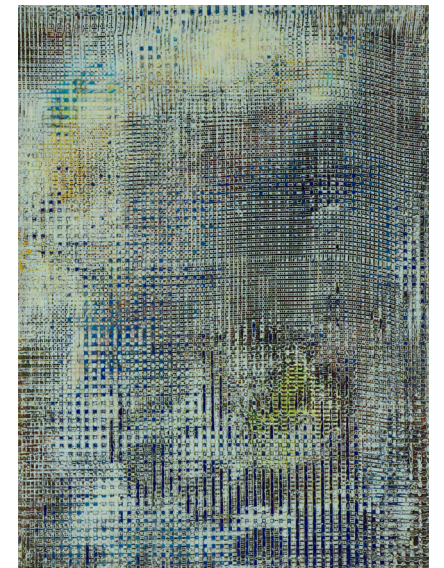
Tauba Auerbach
Heat Current I, 2020
C-print, face-mounted to plexiglass and back-mounted to aluminum, 25 ½ x 36 inches
© Tauba Auerbach
Courtesy STANDARD (OSLO) and Paula Cooper Gallery, New York
Photo by Lance Brewer

Todd Siler
Mapping Magnetic Domains in the Fractal Reactor, 2006
Mixed media on natural paper
22 ¼ x 30 inches
Courtesy of the artist and Ronald Feldman Gallery, New York



Adam Brown and Robert Root-Bernstein
ReBioGeneSys 2.0, 2021
Glassware, recirculator, pump, and Marx (spark) generator, tubing, mounting brackets, heating element with UV light
Dimensions variable
Special thanks to Scott Bankroff for providing glassware, Barry Tignor for providing Marx generator, and to Michigan State University for technical support
Courtesy of the artists

Paul Thomas
Quantum Chaos Series No. 8, 2020
Acrylic, wax varnish on plywood
23 ¾ x 15 ¾ inches
Courtesy of the artist



Meredith Tromble
Eating Light, 2021
Video, 5 minutes

Credits:
Donna Sternbergh, choreography; Ani Darcey and Alaya Turnbough, dancers; Rick English, cinematography and editing; Dawn Sumner, science consultant

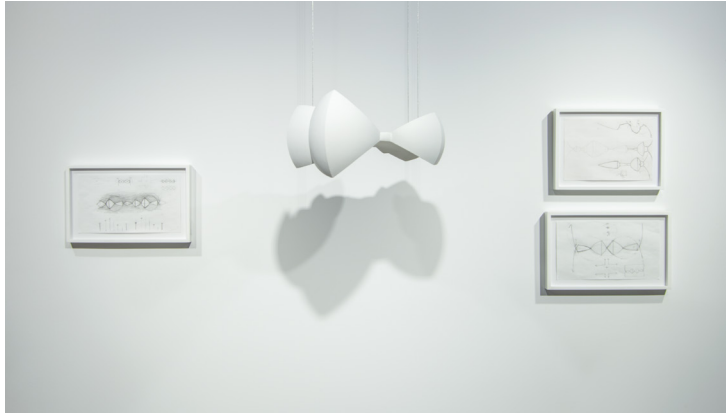
Detail of chloroplast with well-developed grana, TEM by Dr. Eldon Newcomb © Board of Regents of the University of Wisconsin System

Excerpts from "A Decade of Sun," © NASA's Goddard Space Flight Center/SDO

Hero Town written by Jack Stratton, performed by Vulpeck featuring Michael Bland, courtesy of Vulf Records. *Lenox* and *Stabbings* by Moby, courtesy mobygratis.com. All rights reserved



Morphogenesis and Self-Organization



Ricci Albenda
Open Universe (Ha-Yoon), 2012
Plaster, latex paint
19 x 16 x 10 inches

Study for Panoramic Portal to Another Dimension (Deanna)
#3, #8, #7, 2007
Works on paper
Various dimensions

Courtesy of the artist and
Andrew Kreps Gallery,
New York
Photo by Jason
Mandella Photography

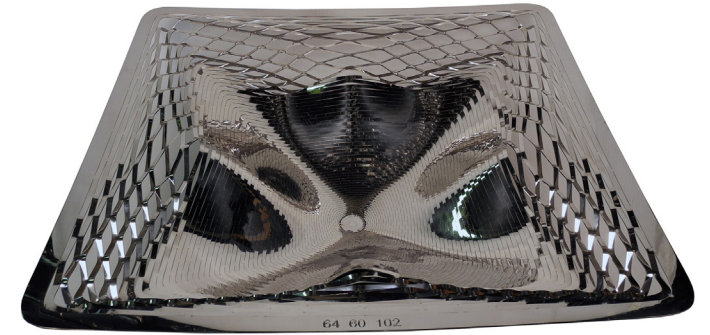


Gemma Anderson
Hexagonal Form,
Isomorphology series,
2012-2014
Copper etching and
watercolour on paper,
18 1/2 x 16 1/2 inches
Courtesy of the artist

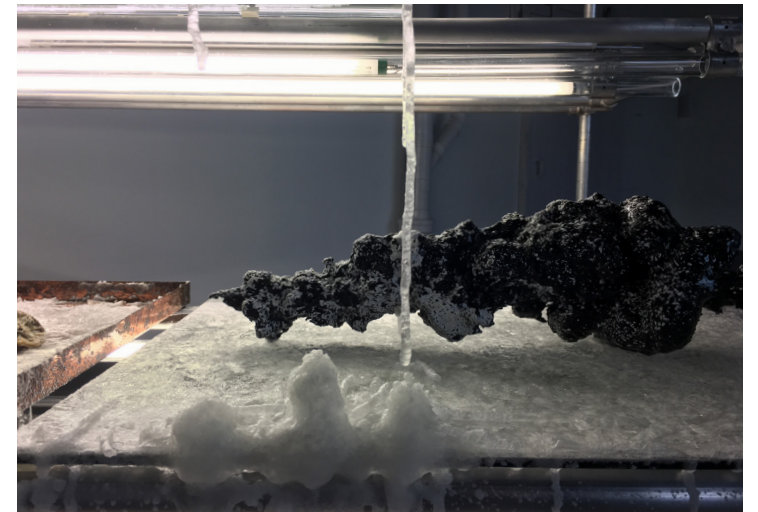


Janet Echelman
She Changes,
Porto Portugal, 2005
Four photographic views of
painted galvanized steel and
knotted, braided fiber
300 ft x 240 ft x 160 ft
Location: Waterfront, Cidade
Salvador Plaza, Porto and
Matosinhos, Portugal
Photographers: Joao Ferrand,
David Feldman, Daniel Coulon,
Enrique Diaz, Tiago Nogueira
Courtesy of the artist

Haresh Lalvani
64 60 102, 2012
Mirrored stainless steel
25 x 54 x 54 inches
Fabricated by Milgo-Bufkin
Courtesy of the artist



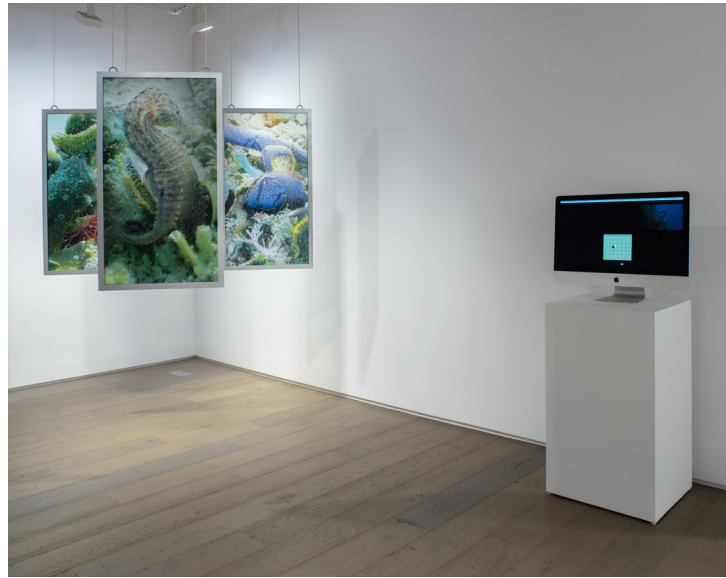
William Lamson
Untitled (After Badwater), 2021
Detail. Peristaltic pumps,
timers, hose, aluminum
piping, aluminum trays, glass,
foam, resin, magnesium
sulphate, dehumidifier, water
Dimensions variable
Courtesy of the artist



Oliver Laric
Hundemensch, 2018
Polyurethane and pigment
20 7/8 x 20 1/2 x 22 1/16
Courtesy of the artist and
Metro Pictures, New York



Repairing Nature



Lillian Ball
Go Sweetings Pond, 2021
 Interactive video game
 Variable dimensions

Envisioning Seahorse
National Park, 2021
 Triptych of hand-painted,
 etched glass panels
 42 x 21 x 1 3/16 inches (each)

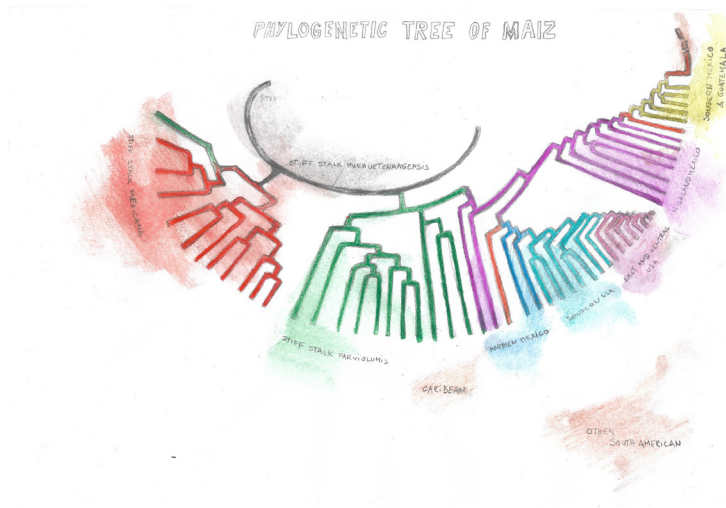
Special thanks to: Dr. Heather Mason, marine ecologist, University of Tampa; Dr. Ethan Fried, botanist, Eleuthera Botanical Garden, Bahamas National Trust; Mayers of Munich for glass production, with painters Jörg Bindewald and Cindy Wloka

Courtesy of the artist
 Photo by Jason Mandella Photography

María Elena González
Bark Framed #1, #2, 2015
 Birchbark, permanent ink,
 ink on cardboard
 48 3/4 x 40 1/2 and 51 x 41 inches
 Courtesy of the artist and
 Hirschl & Adler Modern,
 New York



Marta de Menezes and María Antonia González Valerio
The Origin of Species – Post Evolution-Maiz, 2018
 Hand-drawn chart
 Variable dimensions
 Courtesy of the artists



Christy Rupp
Moby Debris, 2019
 Found, discarded plastic
 20 objects (variable)
 each approximately
 6 x 14 x 5 inches
 Courtesy of the artist



Ursula Endlicher
Input Field reversal (and Custom HTML Plant Tags)
 detail, 2021
 Installation with Net art
 (HTML, CSS, Javascript,
 real-time weather data API);
 framed digital prints on
 archival paper; vinyl decals;
 topsoil, and plexiglass
 72 x 168 inches
 Courtesy of the artist



Victoria Vesna
Noise Aquarium, 2017–2021
 2 channel Interactive Projection, hand
 drawn AR prints, documentary video,
 variable dimensions

Visuals: in collaboration with the
 Angewandte Visualization Lab, Vienna,
 Alfred Vendl, director, Martina Fröschl,
 animator, Thomas Schwaha, Stephan
 Handschuh, biologists
 Audio: Paul Geluso, composer, NYU,
 Ivana Dama, sound artist
 Programming: John Brumley,
 media artist
 Technical assistance: Holly Adams,
 BFA 2020, Digital Arts

Courtesy of the artist and
 Angewandte Visualization Lab, Vienna
 Photo by Jason Mandella Photography



The exhibition comprises all the works illustrated in this catalog, as well as the following:

Gemma Anderson

Radial Form, Isomorphology series, 2012–2014
Copper etching on lithograph
18 ½ x 16 ½ inches

Spherical Form, Isomorphology series,
2012–2014
Copper etching
18 ½ x 16 ½ inches

Hyperbolic Form, Isomorphology series,
2012–2014
Copper etching on lithograph
18 ½ x 16 ½ inches

Nematode knot, 2011
Copper etching a la poupee, colour pencil
and watercolour on paper
20 x 18 inches

Courtesy of the artist

Tauba Auerbach

Heat Current II, III, and VI, 2020
C-print, face-mounted to plexiglass and
back-mounted to aluminum
25 ½ x 36 inches (each)
© Tauba Auerbach
Courtesy STANDARD (OSLO) and
Paula Cooper Gallery, New York

**Adam Brown and
Robert Root-Bernstein**

ReBioGeneSys - Origins of Life, 2021
Video, 4:59 minutes
Courtesy of the artists

Marta de Menezes and Luis Graça

Anti-Marta, 2018
Video, 14:15 minutes
Courtesy of the artists

Janet Echelman

She Changes (maquette), 2005
Nylon fiber
9 x 15 feet

Echelman Projects
Video, 9:36 minutes
Compiled by Kate Scott

Courtesy of the artist

María Elena González

Skowhegan Birch #3, 2016–2018
Single-channel video with sound, 11:32 mins
Courtesy of the artist and Hirschl & Adler
Modern, New York

Haresh Lalvani

GR FLORA 24 100 2, 2012
Mirrored stainless steel
21 x 54 x 54 inches
Fabricated by Milgo-Bufkin
Courtesy of the artist

GR FLORA, The Romance of Fabrication, 2012
Grand Rapids Art Museum Michigan
Video, 3:27 minutes
Artprize 2012, Grand Rapids
Art Museum, Michigan

Gravitational Rotational Forming, 2007
Video, 0:54 minutes

X TOWER 88.2 (56 second excerpt), 2014
Video, 1:19 minutes
Presented at OMI International Arts Center,
Ghent, NY

Courtesy of the artist and Milgo-Bufkin

Oliver Laric

Betweenness, 2018
Video, 4:48 mins
Courtesy of the artist and Metro Pictures,
New York

Todd Siler

*The Neuropsychology of Envisioning the
NanoWorld (1 to 100 nm)*, 2013
Mixed media on synthetic canvas,
127 x 58 inches
Courtesy of the artist and Ronald Feldman
Gallery, New York

Paul Thomas

*Quantum Chaos Series No. 7, 9, 10
and 14*, 2020
Acrylic on wood
All 23 ⅝ x 15 ¾ inches
except No. 14 at 47 ½ x 35 ½ inches

Quantum Chaos Sets 1–5, 2020
Video, 31:25 mins
Code by Jan Audruszkiewicz
Courtesy of the artist

Acknowledgments

This exhibition and its programming would not have been possible without the dedication of the Department of Exhibitions staff: Kirsten Nelson, assistant director; Travis Molkenbur, installation manager; Paul Matvienko-Sikar, installation technician; and our student assistants. Thank you also to Julia Buntaine Hoel, STEAMplant coordinator; Daniel Wright, STEAMplant director and associate professor, Math and Science; and Mark Rosin, associate professor, Math and Science for their support of our events programming.

I wish to express appreciation to all the artists for making their work available, and to Ellen K. Levy for her continuing efforts to engage the Pratt community with the exciting intersection of art and science.

Ricci Albenda
Gemma Anderson
Tauba Auerbach
Lillian Ball
Adam Brown and
Robert Root-Bernstein
Marta de Menezes and
María Antonia González Valerio
Janet Echelman
Ursula Endlicher
María Elena González
Haresh Lalvani
William Lamson
Oliver Laric
Christy Rupp
Todd Siler
Paul Thomas
Meredith Tromble
Victoria Vesna