A Quick and Tragic Thaw

Ruffin Gallery
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A Quick and Tragic Thaw

Yvonne Love and Gabrielle Russomagno

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Penn State Abington College, Abington, Pennsylvania for both a Faculty Development and Chancellor’s Grant to support this work.

The map elements contained in the artworks were created expressly for this project using arcticDEM and ArcGIS modeling software. Additional research and imagery were culled from Shipmap, NOAA, DEM Explorer and Polar Geospatial Center, MPAS (Land and Ice), Arctic Biodiversity Data Service, NASA Earth Data and Project Ice Bridge, The Nature Conservancy Migrations in Motion, and Esri (Environmental Systems Research Institute).

We would like to thank Nancy Campbell, author of Library of Ice: Readings from a Cold Climate, and Howard Epstein, PhD., author of Biocomplexity of Arctic Tundra Ecosystems for their insightful and illuminating contributions to this catalog and the way their prose and scientific findings inspired many of the artworks.

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Questions and Answers

What is science if not the asking of questions? In the Anthropocene, science can answer questions about the past, can dial Earth's history back millennia. The individual may see this year's thaw as quick, but it is only in relation to a wider knowledge of patterns in nature that it is evident as tragic.

The works in A Quick and Tragic Thaw feel like answers to amomentous question. This question might have been spoken in another room, the viewer may not hear it—but reverberations hang in the air. Thus a conversation ensues between past and future. Yvonne Love and Gabrielle Russomagno have been collaborating for over a decade—that particular call and response of artists driven to challenge each other and the times in which they live. Like science, art can be a group pursuit, a shared look-out. And these works do look outward, invoking other international voices: Inuit terms for ice and human interactions with it; the names of hurricanes; a personal record of birds observed in the artist's back garden ("Collections").

Words are not everything. Humans have many other means of communication, one of the most redolent of which is the map—a way of documenting past voyages and finding a way forward. But now landscapes are changing dramatically due to human-made climate crisis, for example as sea levels rise and coastlines shift. Love and Russomagno investigate the many ways of reading maps, and honouring the different research traditions that created them. Arctic landmass elements ("Elements") are 'drawn' in the copper mined there, then nestled within a narrow fault of graphite. The outline of Greenland recurs in black sand and in topobathic charts. The former uses 'natural' materials, the latter sophisticated digital technology ("Repeat Units").

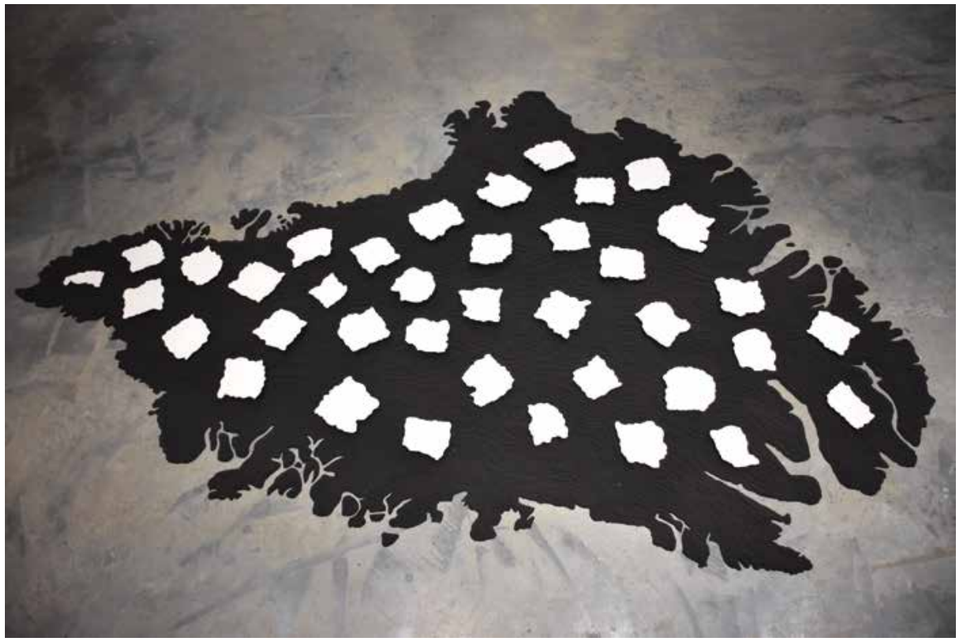
A diverse use of materials—copper, carbon, graphite and rag paper among them—characterises these works. In "Plastic Projections" data from a range of conservation organisations and companies with less benevolent intentions for the Arctic region is printed onto plastic discs, the surface of which morphs and distorts like shrink-plastic childhood toys, a reminder that humans are playing dangerous games with the world. In "Transfer and Pierce (SOS)", some drawings made with a pin through paper record temporal states of being—movements of wind, the loss of glacial ice—in a language of absence. Other drawings are made through oil-black/blue carbon paper (formerly used to duplicate typed documents), but there's just one document—the duplicate is the original. The implication is that there is only one chance. In "Collections" the transparent bell jar (a former protector of natural history specimens) has melted away and in its place, the forms it has moulded in plaster take on shapes reminiscent of ice cores or ice shelters. Can this proxy snow be preserved? The messages embedded in it suggest otherwise.

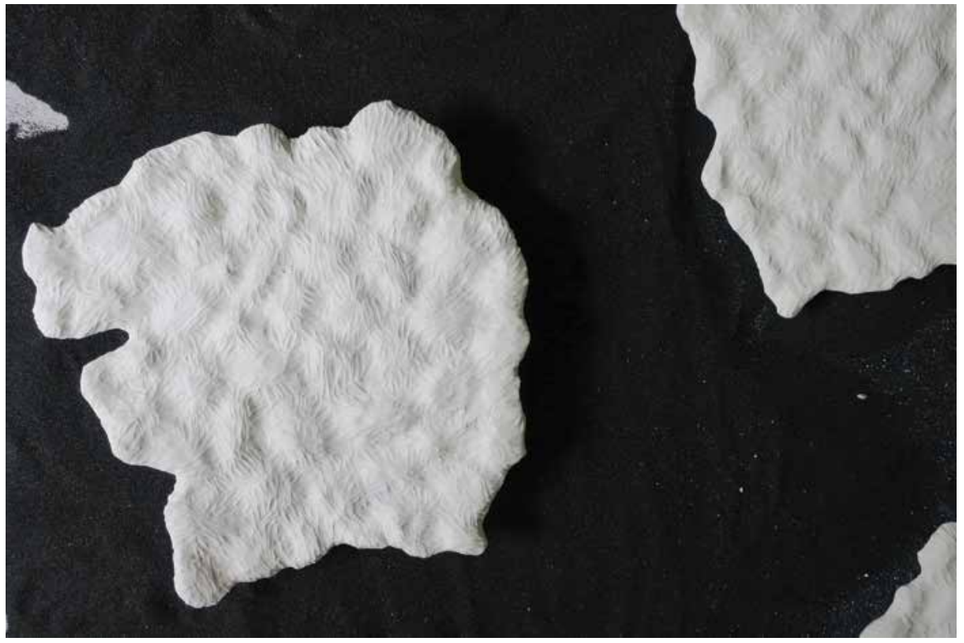
A rich reading of science and literature runs through this work and is transmuted by it. Art is a space for what Love and Russomagno describe as "an emotional meditation on loss" that is necessarily absent from science, but at the same time is essential before humans can transform science into onward action. Humans often seem unable to act on knowledge—their tragic 'flaw' perhaps? To address climate crisis with the urgency that is necessary scientists and policymakers and artists all have a role to play. This is work which not only questions, but inspires the viewer to ask question in turn. Which of our most precious words will be preserved beneath the bell jars' glass? What maps will guide us into the future?

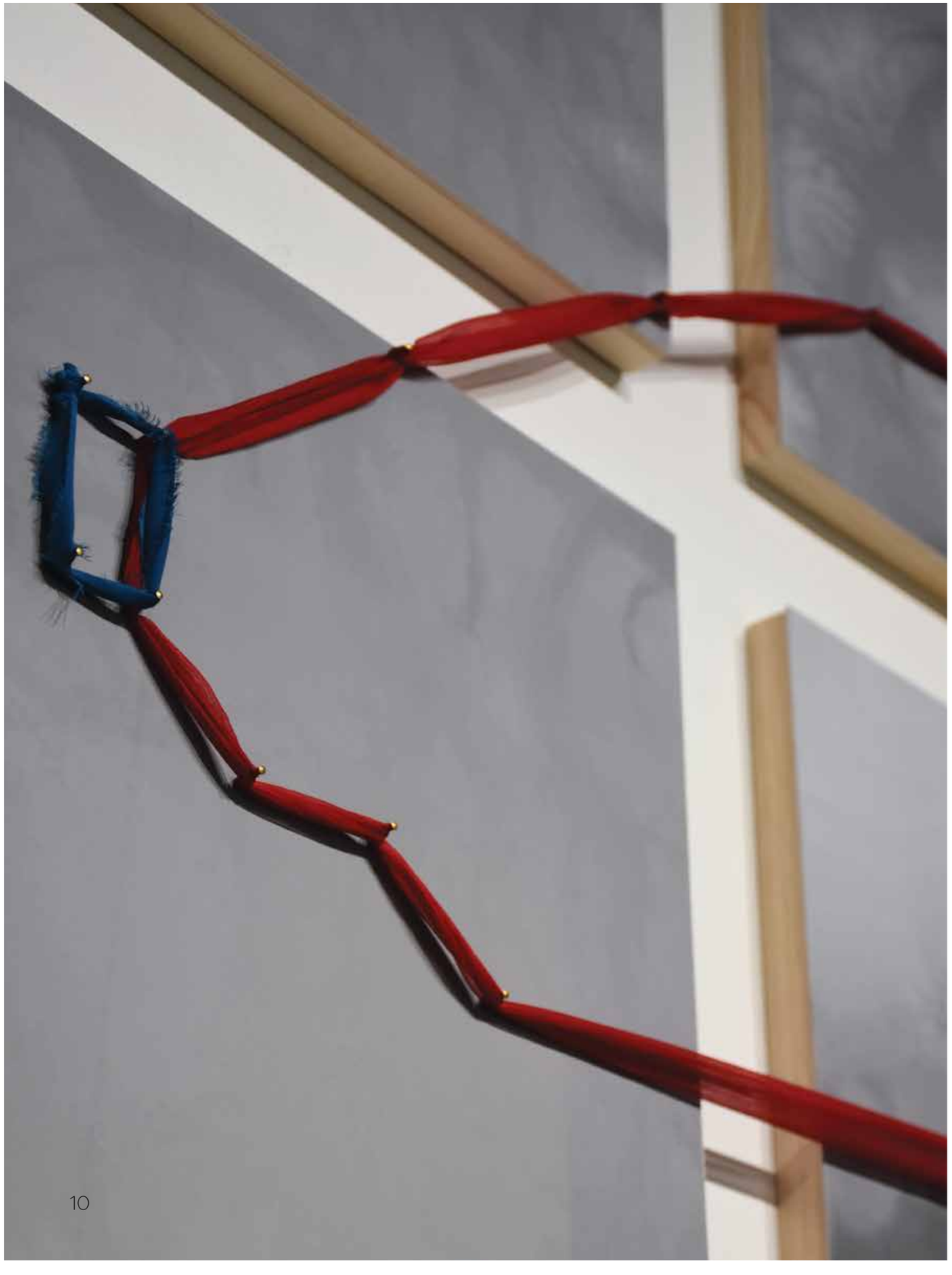
Nancy Campbell

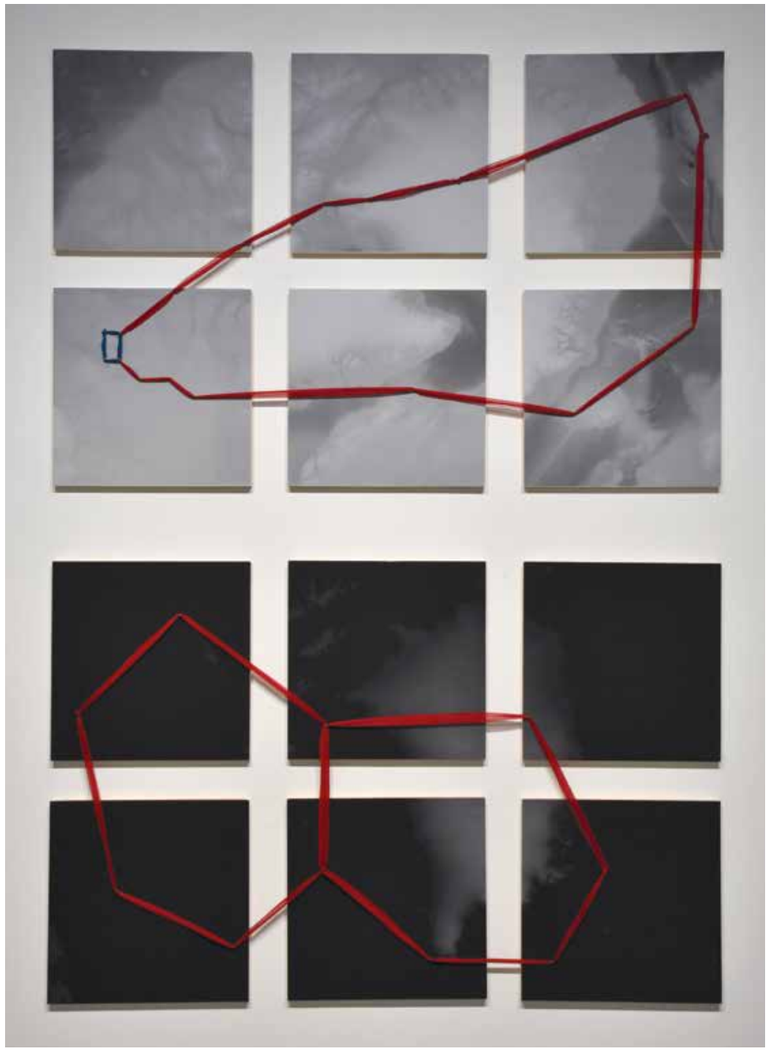
“Patterned Ground”

Porcelain polygon ice wedges and black sand
16 x 10 feet









“Repeat Units”

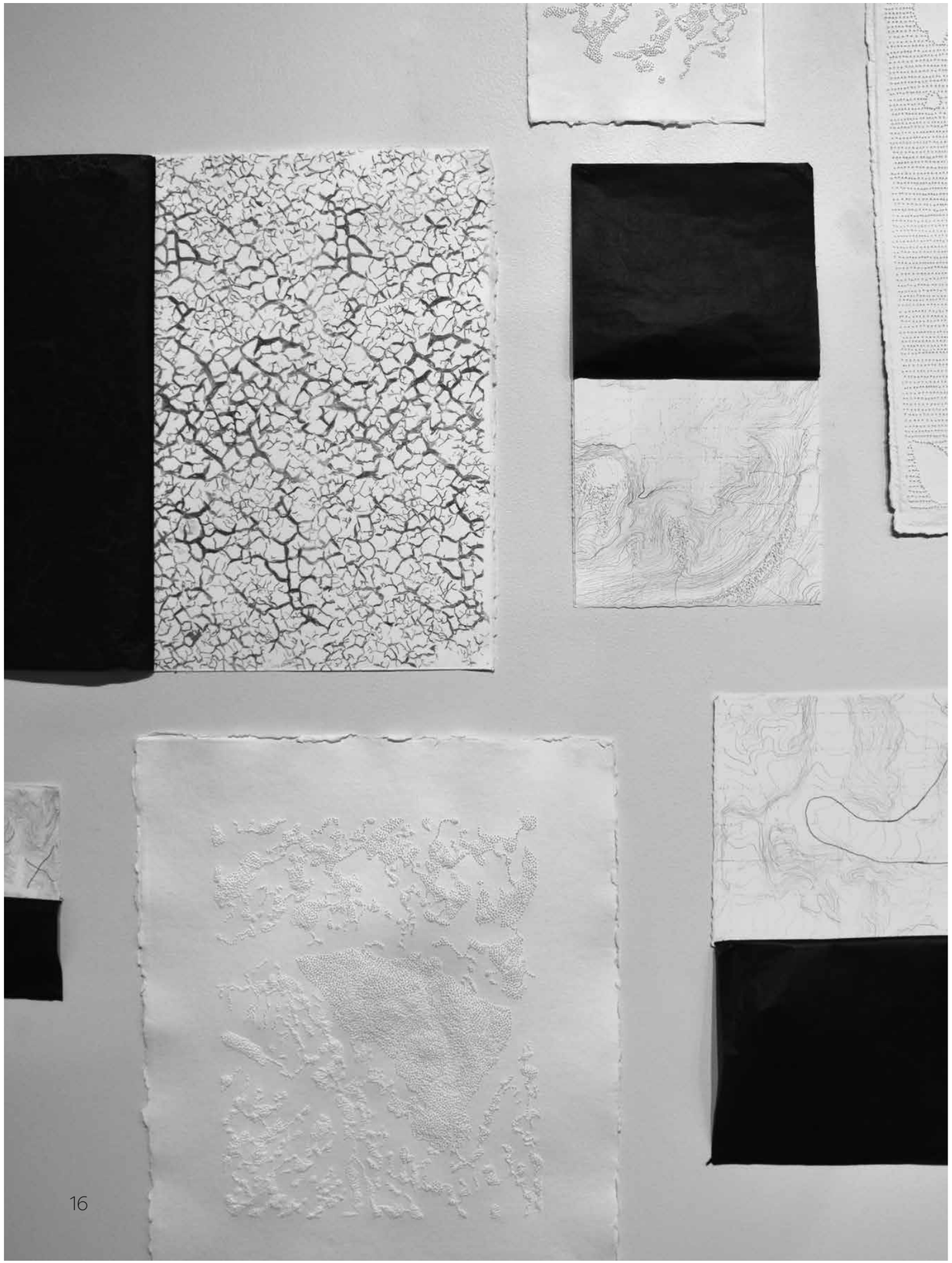
Archival digital inkjet print of contrast gray topobathy maps, wood, silk, and copper nails

5 feet x 6.6 feet x 2 inches

“Plastic Projections”

Archival digital print of maps created in arcGIS and arcticDEM on recycled plastic, heat melted and shaped

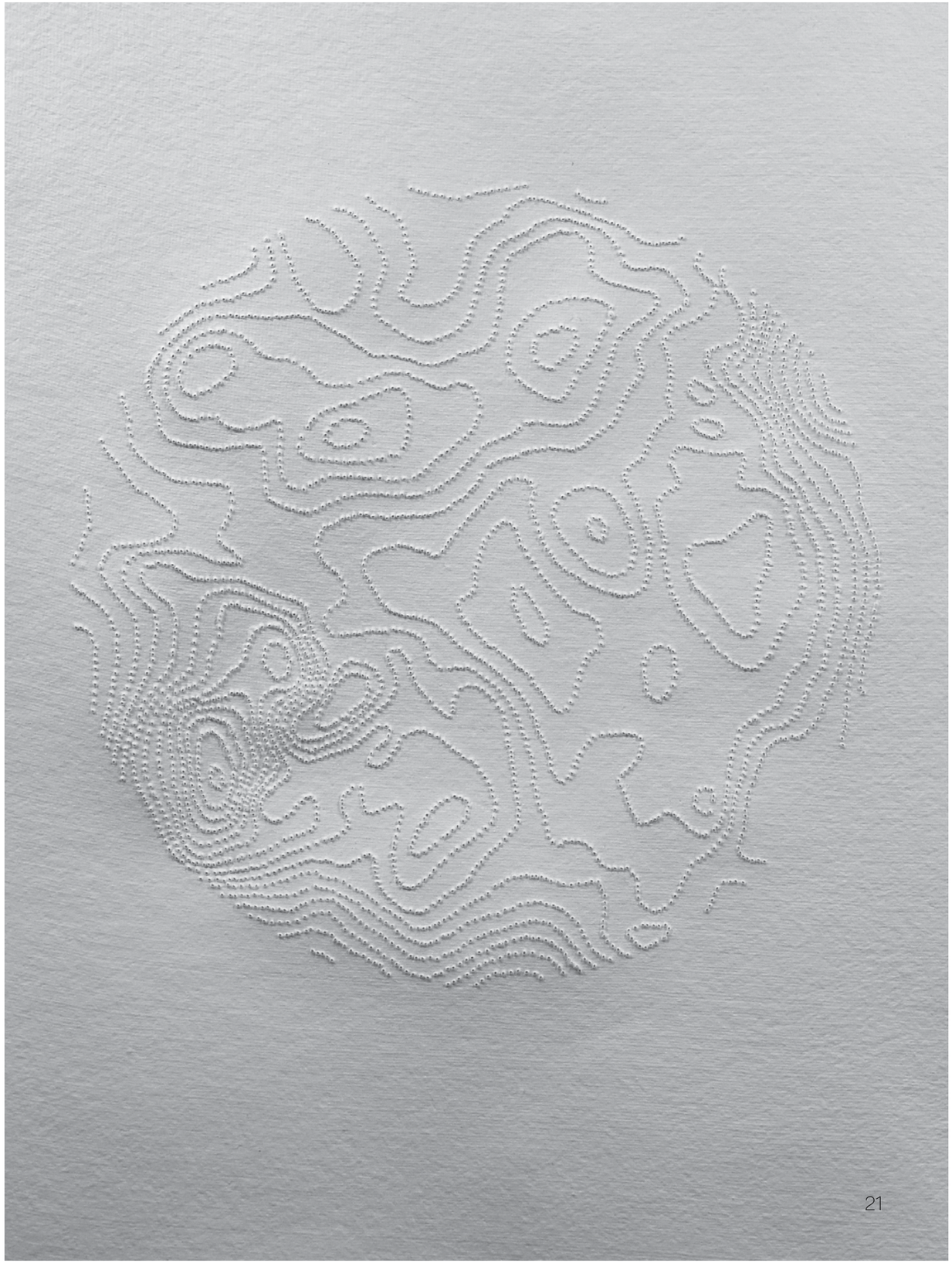
13 x 4 feet x 2 inches



“Transfer and Pierce”

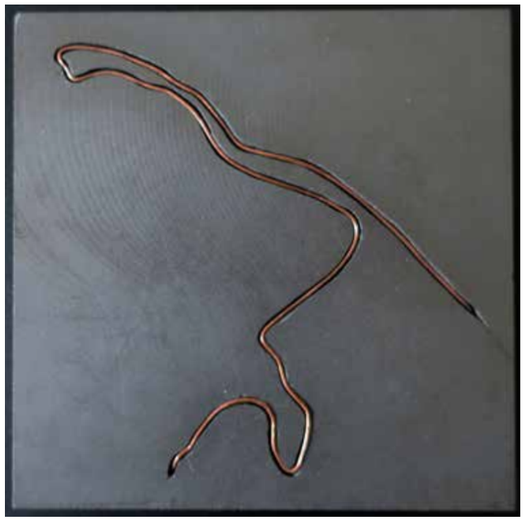
Rag paper and carbon paper
24 x 4 feet

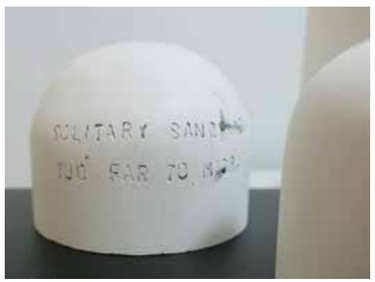

POISON

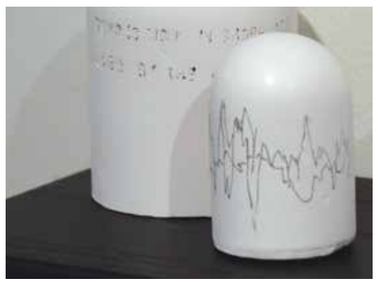


“Elements and Collections (SOS)”

Graphite ingot, copper, plaster, carbon
16 feet x 10 inches x 6 inches







The New Arctic

The Arctic encompasses a vast area of land and ocean that includes eight nations (north of the Arctic Circle), and is home to expanses of tundra and taiga vegetation, large mammal populations, major fisheries, numerous communities of indigenous peoples, industrial cities, and some of the most extensive resource extraction operations on the planet. Characterized by extremes of environment and isolation that have led to the development of a wide range of unique ecosystems, the Arctic is changing dramatically, and in many respects becoming more "open." Northern high-latitude ecosystems are presently some of the most dynamic systems on Earth, due to a variety of human-induced factors related to climate, and use of the land and sea.

Changes in the Arctic are overtly apparent. Over the past several decades, the Arctic has warmed at a rate at least twice that of the global average; Arctic air temperatures for the past five years (2014-2018) have exceeded all previous records (since 1900). Sea-ice is disappearing rapidly, with the prior twelve years (2007-2018) having the twelve lowest summer sea-ice extents on record, with concomitant effects on marine mammals (e.g polar bears, walruses), northern fisheries, subsistence harvesting by marine-based indigenous populations, and feedbacks to climate. Beginning only in the summer of 2016, cruise ships have been able to completely navigate the Northwest Passage, a once-icy route that claimed numerous ships and the lives of many explorers. The absence of sea-ice and changes in weather are causing serious coastal erosion in the Arctic, and native communities are being forced to relocate. The Greenland ice sheet is shrinking, contributing to rising sea levels, and the extent of spring snow cover in the Northern Hemisphere is decreasing dramatically. Tundra and boreal forest vegetation is changing in complex and unpredictable ways, and populations of birds and mammals are being affected. Permafrost is warming and thawing, putting cities and infrastructure at peril, and threatening the release of carbon dioxide and methane into the atmosphere, which will exacerbate climate warming.

With these environmental changes come new socio-economic developments. Increasing geopolitical tensions over the opening up of resources are leading to potential legal disputes over ownership. Increases in shipping and tourism in the Arctic will require new ways to manage ship traffic and plan for inevitable accidents. Resource extraction is becoming increasingly viable in previously inaccessible areas, leading to new boomtowns and migration of workers to the North. New cities are expanding while simultaneously coping with a dynamic land surface, e.g. destabilization of the frozen ground on which most Arctic structures are built. Traditional ways in which native communities have lived for millennia need to be adapted to a reshaping of the historical landscape.

The complexities of these dynamics that are currently occurring in the Arctic have not been sufficiently addressed in academic, economic, and political realms, yet our understanding of these dynamics and our ability to deal with them (either through mitigation or adaptation) are crucial for the long-term resilience of the region and the innumerable benefits that it imparts on the global Earth. One absolute necessity for successful efforts regarding the sustainability of the Arctic is the conveyance of information beyond the scientific community and local stakeholders, so that there is a more global understanding of the issues. Traditional forms of media are only reaching a small subset of the population, and therefore other approaches are needed. The Arts is emerging as a key conduit between environmental data and general awareness, providing visual and auditory experiences that interpret and present scientific information in unique, accessible, and digestible ways for a broad audience. To that end, we are excited about partnering with artists Yvonne Love and Gabrielle Russomagno in hosting their exhibition A Quick and Tragic Thaw at The Ruffin Gallery at the University of Virginia as part of the conference Bridging Science, Art, and Community in the New Arctic. We are grateful for the National Science Foundation and its Navigating the New Arctic program for supporting highly interdisciplinary initiatives such as this.

Howard Epstein, PhD, Environmental Sciences
Leena Cho, MLA, Landscape Architecture
Matthew Jull, MArch, PhD, Architecture

Further Notes

Patterned Ground
Ice wedge polygons, a common ground pattern in the arctic, are interpreted in porcelain and hover over a scaled rendering of the landmass of Greenland.

Repeat Units
Topobathy map renderings combine land elevation and water depths in a single digital model. The shapes hovering above these maps of the arctic are; in red, the hexagonal pattern of repeat units of ice wedge polygons, and in red and blue, a model of the Jakobshavn Outlet Glacier in Greenland.

Plastic Projections
The map content reflects the arctic region today, along with projections and change over time to weather, ice melt, biodiversity, areas of ecological and biological significance, migration, resource extraction, development, marine traffic, potential shipping routes, military bases, and population distribution.

Transfer and Pierce
The content of pin pierced drawings includes renderings of landmass on the northern coast of Alaska and the Canadian Arctic Archipelago, projections of glacial loss over time, temperature changes in the Arctic wind patterns, and Arctic climate impact assessment. Transfer drawings use carbon to transfer information and include information on water flow on ice, ice content distribution, common patterned ground features, the effects of climate change on birds, changing ranges, ice thickness and contours on Greenland, illustrations from Arctic survival guides, and the topography of a bird.

Elements and Collections
Inlayed ingot content includes renderings of landmass on the northern coast of Alaska and the Canadian Arctic Archipelago. Stamped plaster bell jars include the effects of climate change on birds, Inuit words for ice, names of hurricanes, backyard bird lists, maps, climate change data, water flow on and definitions of types of ice.

Reference Books

Rasmussen, Knud. *Eskimo Folk-Tales*

Maslin, Mark. *Climate Change*

Mann, Michael E. *Madhouse Effect*

Campbell, Nancy. *Disko Bay*

Campbell, Nancy. *The Library of Ice*

Rush, Elizabeth. *Rising: Dispatches from the New American Shore*

Banerjee, Subhankar. *Arctic Voices: resistance at the tipping point*

Rich, Nathanial. *Losing Earth: The Decade We Almost Stopped Climate Change*

Alfano, Andrea. *Changing Ranges: Why Bigger Isn't Always Better*

Epstein, Howard, et al, *Biocomplexity of Arctic Tundra Ecosystems*

Esri, *The Map Book*

Fox Gearheard, Shari, et al. *The Meaning of Ice*

The Arctic Science Portal (website)

Energy Exascale Earth Model System (website)

Footnotes

Walker, D. A., Epstein, H. E. and Welker, J. M., *Introduction to special section on Biocomplexity of Arctic Tundra Ecosystems*. 2008.

Alfano, Andrea. *Changing Ranges: Why Bigger isn't Always Better*. 2014

Walker, D. A. *Arctic patterned-ground ecosystems: A synthesis of field studies and models along a North American Arctic Transect*. 2008

Rush, Elizabeth, *Rising, Dispatches from the New American Shore*

Yvonne Love and **Gabrielle Russomagno** have been collaborating on and exhibiting sculptural installations since the mid '00s. The LR Collaborative marks a shift in their long history of art making that materializes the complexity of personal and societal narratives.

Their current work is a return to their inaugural 2007 collaboration, *Hot Topic: Meditations on Global Warming*, designed as a call to action and focused on the science of shrinking polar ice caps, the catastrophic loss of perma-frost, monster storms, and drought. In 2017 they pivoted the focus of their art work, returning to that subject matter, as the confluence of the political environment, hastening climate change, extreme weather, and the decimation of wildlife demanded urgent attention.

Yvonne Love is a sculptor and installation artist who has worked collaboratively with poets, artists, scientists and musicians exploring the intersection of memory, loss, and the natural world. She received her BDAE from the University of Florida and her MFA from the University of Pennsylvania. She has exhibited internationally since 1988 with recent exhibitions at the List Gallery at Brown University, The Hopper Magazine, LG Tripp Gallery in Philadelphia, Taller Graphica Experimental in Havana, Cuba and the Woodmere Art Museum in Philadelphia. Yvonne Love is Program Chair and an Associate Professor of Art at Penn State Abington College, and is represented by Brenda Taylor Gallery in Boston.

Gabrielle Russomagno is a photographer and installation artist who has explored a range of subjects from the signposts and artifacts of American culture to the emotional landscape of coming of age. Exhibiting internationally since 1985, she is included in the permanent collections of the University of New Mexico Museum of Art, the Bibliotheque Nationale in Paris, Smith College Museum of Art, Haverford College TriAtre, Yale University Beinecke Rare Book and Manuscript Library, Zea Mayes Print Archives, and the Museum of Modern Art in New York City. She received her BA in Studio Art and American Studies from Smith College and her MFA in Photography from Yale School of Art. She is currently on the BFA faculty at The School of Visual Arts in New York City.

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Ruffin Gallery, Ruffin Hall, University of Virginia
179 Culbreth Rd, Charlottesville, VA 22903 434.924.6123

Staff who help with gallery are: Eric Schmidt. Tom Hartsell, Liza Pittard, Dan Hoogenboom, Dan Weiss, Bill Wylie

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