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Art for environmental remediation

By

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Growing up in Petrolia, Ontario, the birthplace of the modern oil industry has had a profound impact on my work as an environmental artist. Oil derricks once dotted this landscape, making its inhabitants the wealthiest in the world. But like many boomtowns, with unchecked speculation and the continual extraction of resources, the wells eventually ran dry, condemning Petrolia to obscurity. Fast-forward to today, Chemical Valley has emerged in the vicinity of this boom.

A sprawling landscape of towering smokestacks and petroleum refineries, Chemical Valley hosts 40% of Canada's chemical production, which has left a myriad of health and environmental crisis in its wake. Being surrounded by these landscapes since childhood provided a lens of fragility and impermanence - casting the shadow of destruction and obsolescence. Over the past decade, my practice has brought me to other sacrificial landscapes, such as mine tailings, decommissioned landfills, historic flood infrastructure, urban brownfields, and remote islands, to develop theoretical interventions which reflect on our collective response to catastrophe, and form contingency plans for the land we leave behind.

We will find salvation in strategic chemical spills is an exhibition of my artwork in Jyväskylä, Finland. The exhibition showcases speculative climate prototypes that borrow from practical alchemy and contemporary

climate-engineering models. This exhibition weaves together prototypes that desalinate and refreeze sea ice, phyto-remediate contaminated soils using invasive plant species, and fertilize coastal ecosystems using dissolved industrial artifacts. However, instead of practical geoengineering prototypes, these techno-solutions offer little more than time capsules, laying bare the folly of our desire to find salvation in the fine balance of strategic chemical spills, and proposing rituals which blend the sacred and scientific to question what kind of nature we hope to approximate within a techno-solutionist future.

The works currently at Galleria Ratamo, Jyväskylä, fuse printmaking, sculpture, and site-specific installation, employing the chemistry and rituals of printmaking to consider preservation in an age of planned obsolescence and resource depletion. Through these experiments, I strive to bring to the forefront the behind the scenes, labor intensive and chemical roots of printmaking, while exploring the possibilities for transmutation beyond the natural life cycle of the printmaking matrix.



We will find salvation in strategic chemical spills: Planetary Sunshade, Art by Colin Lyons

These prints borrow cloudscapes from 16th Century engraver/chemist Hendrick Goltzius' *Metamorphoses*, which depict atmosphere as solid and material, rather than a non-space; a vital concept in an age of rapidly rising atmospheric carbon levels. But here, the gods are replaced by geoengineering schemes - proposals to wash away the sins of the Anthropocene. The technologies illustrated in these prints include speculative proposals such as a massive planetary sunshade, and the injection of reflective sulfur particles into the stratosphere, alongside more immediate concerns, such as an unsanctioned 2012 experiment near the coast of British Columbia, where 100 tons of iron sulfate were dumped into the Pacific Ocean.

At its core, the science of geoengineering attempts to mimic, accelerate, or amplify natural processes of carbon reduction using highly invasive means. These strategies form contingency plans which, employed alongside mitigation efforts, strive to preserve a close approximation of our present ecosystem. Silkscreened over these etchings are materials such as crude oil, sulfuric acid, iron sulfate, olivine, sea salt, silica, and pyrite, which might play a role in future geoengineering technologies. Over the coming years, these images depicting congressional documents and volcanic eruptions will become increasingly visible, as the urgency to deploy these radical climate "solutions" intensifies.

Alongside these etchings, I've been developing a series of etched "float copper" fragments, excavated from the tailing piles of North America's oldest copper mines in the Keweenaw Peninsula, where copper has been extracted for nearly 7000 years. Etched into their surface are engravings from Athanasius Kircher's 1665 scientific textbook *Mundus Subterraneus*. Through these rituals, I situate the printmaking matrix as akin to a fossilized record and seek to use the etching process to compress historical and geological time, connecting the threads of our legacy of extraction to the dystopian but perhaps inevitable climate-engineering solutions on our horizon.

The centerpiece of this exhibition, *Operation Habbakuk* was developed this December on Örö Island, a former tsarist military fortress in the Finnish archipelago. This project takes its departure from a failed 1942 proposal to construct a massive, ice-based aircraft carrier code-named Operation Habbakuk, which utilized a material called Pykrete - a combination of wood pulp and ice, which was believed to be easily repairable and nearly unsinkable. 80 years later, on Örö Island, pykrete was again used to create a frozen, one-man life raft that integrates three speculative geo-engineering proposals which aim to thicken the rapidly vanishing sea ice; 1) 10-million wind-powered floating water pumps bring

warmer water up to the cooler surface 2) artificial icebergs formed by desalinating and casting sea water to remain frozen at higher temperatures 3) increasing the reflectivity of ice by scattering a thin layer of silica particles. In theory, this engineered ice should remain frozen at temperatures at least 1.5°C warmer than the surrounding sea water. Its intricately etched copper floatation system depicts premodern Arctic navigation maps, in which sea monsters offer fierce resistance against large-scale geoengineering technologies; perhaps a final defense against the cascade effects of unintended consequences which might be unleashed by these schemes. Thus, art and environment are inseparable however bleak the shape of things to come might be.



A map of operation Habbakuk by Colin Lyons

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