

EXTRACTION

ART ON THE EDGE OF THE ABYSS

EDITED BY SAMUEL PELTS

Editor: Samuel Pelts

Publishing Editor: Peter Rutledge Koch

Editing, Layout Design, and Production by Samuel Pelts,
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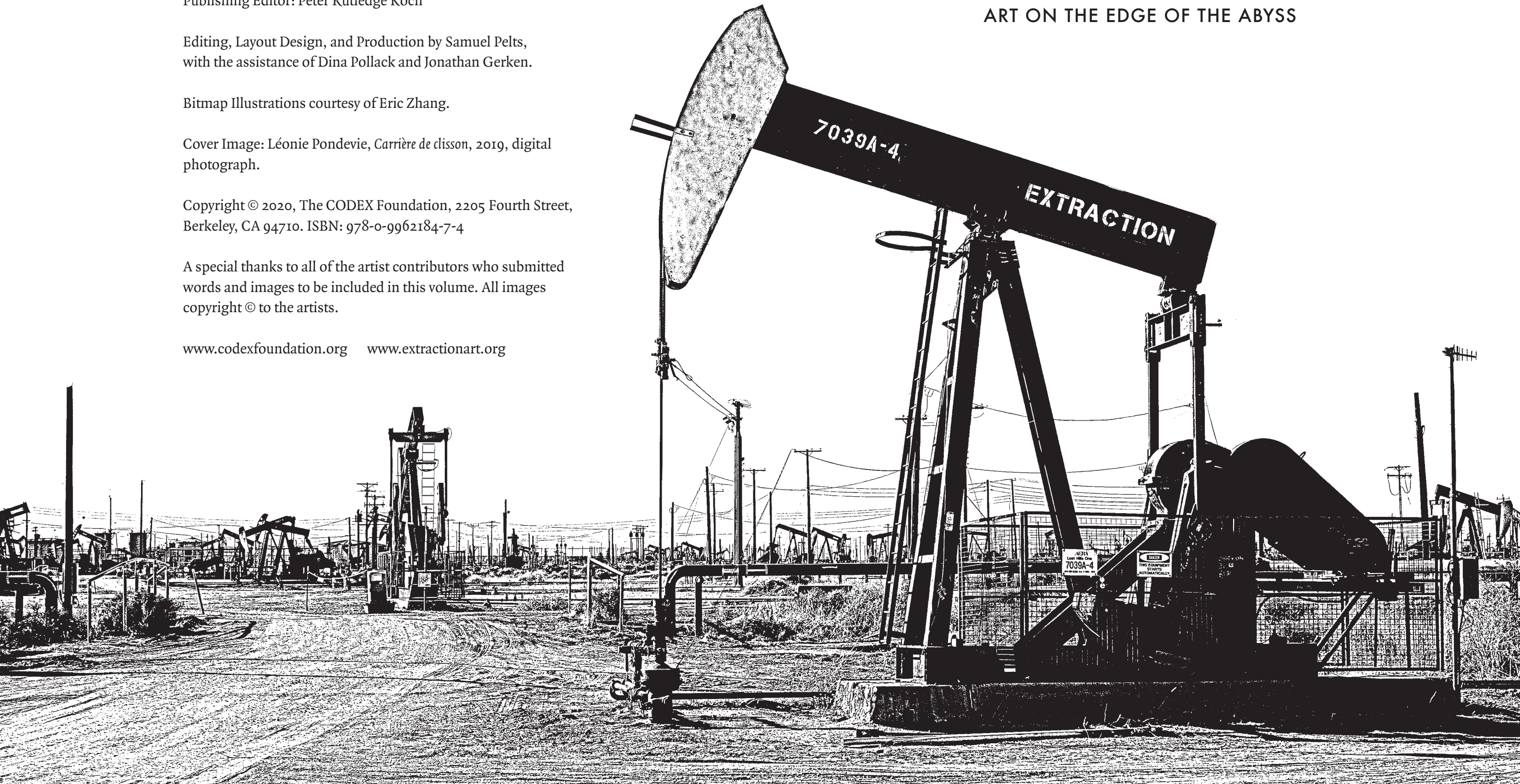
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ICE RECEDING/ BOOKS RESEEDING

AN EPHEMERAL SERIES OF HAND-CARVED ICE BOOKS RESEEDING RIPARIAN ZONES.

Basia Irland

WWW.BASIAIRLAND.COM

I am enthralled by the way the ice books give physical form to dialogue and scientific understanding of climate change's impact on our rivers, and the way the melting of these books represents both a kind of renewal as they disperse their seeds and a reminder of the ice being lost daily in the arctic.

—Emma Komlos-Hrobsky,
Poets & Writers Magazine

Ice Receding / Books Reseeding emphasizes the necessity of communal effort and scientific knowledge to deal with the complex issues of climate disruption, poisonous discharge from mines, and watershed restoration by releasing seed-laden ephemeral ice sculptures into rivers. I work with stream ecologists, biologists, and botanists to ascertain the best seeds for each specific riparian zone. When an ecosystem is restored and the plants grow along the riverbanks they give back to us by helping sequester carbon, mitigating floods and drought, pollinating other plants, dispersing seeds, holding the banks in place (slowing erosion), creating soil regeneration and preservation, acting as filters for pollutants and debris, supplying leaf-litter (for food and habitat), promoting aesthetic pleasure, and providing shelter/shade for riverside organisms including humans.

This project presents a lyrical way to promote positive actions that will have constructive results in helping restore streams around the world and provides a model that can be easily replicated. River water is frozen, carved into the form of an open or

closed book, embedded with a global cross-cultural ecological language consisting of local native seeds, and placed back into the stream.

The title of this series of projects, “Ice Receding/Books Reseeding,” was originally conceived for Weather Report, a groundbreaking exhibition and catalogue about the climate crisis curated by author and cultural critic, Lucy Lippard for the Museum of Contemporary Art, Boulder, Colorado. In order to call attention to melting glaciers, poisonous radioactive drainage from the milling of radium, and embed an action within the sculpture, I carved a 250-pound tome from ice and engraved it with a seed composition. Arapaho Glacier, which provides a large percentage of Boulder’s drinking water, is receding rapidly due to climate disruption. When it is gone, from where will Boulder residents, both human and non, obtain water? These sculptures depict problems, including receding glaciers and dangerous outflow from mines, and a suggestion for action—reseed riparian zones to reduce some of the effects of climate disruption through plants and to bring attention to the overwhelming number of streams that are adversely affected by toxic mine drainage.

I am honored to be invited globally to create ice book projects where I work closely with local communities. For me, an important aspect of a community-based ethic is gifting. The participants have donated their time, energy, ideas, and enthusiasm to each ice book project, so it is with great joy that I give back by presenting each person with a handmade gift related specifically to the river where we have all worked together. Reciprocity.

Ice books have been created around the world and I personally witness the high number of rivers that are contaminated with toxic mine drainage. The seven rivers, with accompanying ice books, I have chosen to discuss here are Boulder Creek, Colorado; Ottawa River, Canada; Headwaters of the Río Grande, Colorado; Oconee River, Georgia; Great Miami River, Ohio; Big Wood River, Idaho; and Deckers Creek, West Virginia. I will not go into the chemical details but will



Basia Irland, *Tome I: Mountain Maple, Columbine Flower, Blue Spruce*

list the types of mine and the results that detrimentally effect the quality of streamflow.

BOULDER CREEK, COLORADO

According to the Colorado Geological Survey, Colorado is home to about 23,000 abandoned mines, with more than 550,000 located within the United States. Minerals and precious metals such as gold, silver and tungsten comprised the primary activities within Boulder’s mining industry. Some of the mills that processed ore near the mouth of Boulder Canyon and into the town of Boulder still have concentrations of poisonous radioactive materials from the milling of radium. Even though the mines have been closed for a long time, present day concerns include acid drainage, mine pilings left behind, heavy metal accumulation, and radon. The Environmental Protection Agency has rated the Rocky Mountain

Region as having the highest possible occurrence of radon, a carcinogen, and also estimates that over forty percent of Western watersheds are contaminated from mine leakage.

OTTAWA RIVER, CANADA

There are currently no solutions for permanently safeguarding the radioactive waste that has been generated for ninety years along the banks of the Ottawa River at the Canadian Nuclear Laboratories. So far, the river is safe, but the probability of radionuclides contaminating the aquatic ecosystem is very real. Ottawa Riverkeeper is working to protect the drinking water source of over two million people by trying to find ways of containing the nuclear waste securely for hundreds of years and how to prevent any leakage into the river.



Basia Irland, Tome II: Fremont Cottonwood (*Populus Fremontii*), at dusk, Rio Grande

RÍO GRANDE HEADWATERS, COLORADO
Draining into Willow Creek, a tributary of the Río Grande, three million gallons a week of acid mine drainage carrying lead, cadmium and zinc leach from the collapsing Nelson Tunnel, which led to a Superfund designation. Zinc levels are particularly high and disrupt fish reproduction for four miles down to the confluence with the main stem of the Río Grande, where the dilution begins to ease the impact somewhat. From its beginning in the mountains of southern Colorado, the Río flows 1,875 miles through New Mexico, and becomes the border between Texas and Mexico. It is the main artery that glides through my hometown of Albuquerque, New Mexico and so I have a deep attachment to this

river and have created community-based projects along its entire length.

OCONEE RIVER, GEORGIA
Kaolin quarries release effluents containing cadmium, sulfide mineral contamination, and zinc, which is poisonous to fish populations.

GREAT MIAMI RIVER, OHIO
The second largest mining operation in Ohio is sand and gravel (which are the only mineral resources to be produced in every state in the U.S.). Backhoes and bulldozers dig deep into the Great Miami River, shoveling up tons of gravel from the water and dumping it on the banks, thereby disturbing the



Basia Irland, Ottawa River Book One: Red Maple (*Acer Rubrum*), American Elm (*Ulmus Americana*), Canada

flow and changing the shape of the river. This process releases contaminated sediment downstream, and lowers the streambed, causing the water to move faster.

BIG WOOD RIVER, IDAHO
Arsenic and other poisons from abandoned mine sites continue to leak into nearby wetlands and the East Fork of the Big Wood River threatening native trout populations and other species.

DECKERS CREEK, WEST VIRGINIA
Since the pH level (the measure of acidity of a solution) in Deckers Creek drops from 7.7 at the source all the way down to 4.2 at the old Richard's Coal

Mine site that continues to leach poisonous acid mine drainage into the stream, we used a limestone "text" on the ice books instead of seeds. Limestone is an alkaline agent with the ability to neutralize strong acids.



Basia Irland, *Molybdenum Mine, Vol. I*

Molybdenum Mine, Volume I and II commemorate a huge scar that gapes across acres of abused wilderness in northern New Mexico caused by the Chevron Questa Molybdenum Mine (formerly, the Molycorp Mine). Wandering illegally among the heaps of discarded mining equipment, Basia Irland found the text for these hand-carved wooden books – fool’s gold and rust – poetic justice for this site, the tailings of which historically killed aquatic habitat for over ten miles downstream in the Red River and contaminated the soil. The mine began operations in 1920 and was officially closed in 2014.



Basia Irland, *Molybdenum Mine, Vol. II*