





BOOKS of ICE

SCULPTURES BY BASIA IRLAND

TEXT BY

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I. ICE IS A SEED.

Balls of ice sowed seeds of life on Earth. That's what comets are, just clumps of ice holding interstellar rocks and dust. But in that dust are amino acids and nucleotides that build living things. Many scientists think that this might be one way life began on Earth, 4 billion years ago, when the spinning arms of the galaxy cast comets over the planet, comets and comets and comets, protolife smacking onto the broken lava plains, until basins gathered the meltwater into oceans, and the oceans nurtured on-rushing life.

Ice sows ice, too. The first grains gleamed in white sunshine, throwing back the sun's heat and cooling their own small shadows. More ice formed in the cool places, and the shine of it cooled a larger shadow, until the reflectivity of the growing ice sheets cooled the whole planet, finally draped in dazzling layers of ice. Now the glaciers that remain in mountain valleys give life to rivers—the Ganges, the Fraser, the Colorado—as meltwater slides down blue rills and finally cuts a channel through gravel and till.



II. A SEED IS A BOOK.

In hot winds at the end of summer, mountain mahogany seeds unfurl. Each pod sprouts a few white feathers, loosely coiled. A feather-seed lofts over the ridge and drifts onto dirt. After a hard rain, the seed swells and uncoils, augering its hard head into the soil. There it plants all the instructions for making a mountain mahogany sapling, laid out in the language of DNA.

LEFT: Fremont cottonwood (*Populus fremontii*). Rio Grande, New Mexico.
ABOVE: Red maple (*Acer rubrum*), American elm (*Ulmus americana*).

A seed is a conveyance system for information. It is words taken wing—words written in the language of adenine, cytosine, guanine, thymine, ancient instructions clasped between hard covers, everything needed to carry a story to a new place where it can take root. Long before writers figured it out, seed-bearing plants had found a way to convey to the next generation wisdom accumulated over millions of years. A samara is wisdom with ailerons. A dryas seed is a set of instructions with hair as wild as Einstein's. A dandelion seed is an epic on a parachute. A sandbur seed is a poem stuck to a sock. An elm seed is a prayer book: This way is life. This way is rootedness.

III. A BOOK IS A RIVER.

Again and again—in roots, in books, in rivers—this pattern repeats in nature: small things gather into larger things, which gather into larger things, which merge into one big thing. It's as if the cosmos *wanted* everything ultimately to come together. In a book, stories, characters, all the consequences of betrayal and the possibilities of love converge—on a street corner, maybe, or an island—and something new is revealed. This is the art of

the book. What had been many things becomes one thing, the layered geology of the human imagination, cut to bedrock truth.

Just so, a river gathers small evidence from high in mountain streams and carries it along, always along. A salmon egg, a hemlock branch, and the smell of dying fish join with silt from the uplands and roots of sage, and here is a new story unrolling. Along goes the river, gathering stories until they all converge in the sea. And what story does the sea tell? The history of all those uplands, the stories of lives won and lost, and the blue mystery of the unity of all lives, the unity of all stories, which is the saga of onrushing life.

IV. A RIVER IS ONRUSHING LIFE.

So what is one to do when a beloved river that once rushed past mighty cities now trickles from one diesel irrigation pump to another? Or when the glacier at the head of a river slowly retreats into its mountain cirque and sinks away, and a riverbank that once was a cottonwood swale sweet with birdsong is now only a cliff of broken concrete along a darkly muttering river? Last spring, I was lying on my back under a riverside tree, watching elm seeds tack downwind to make landfall on my face, and I thought, *this is*

French lavender (*Lavandula dentata*). Ditch, Arles, France.

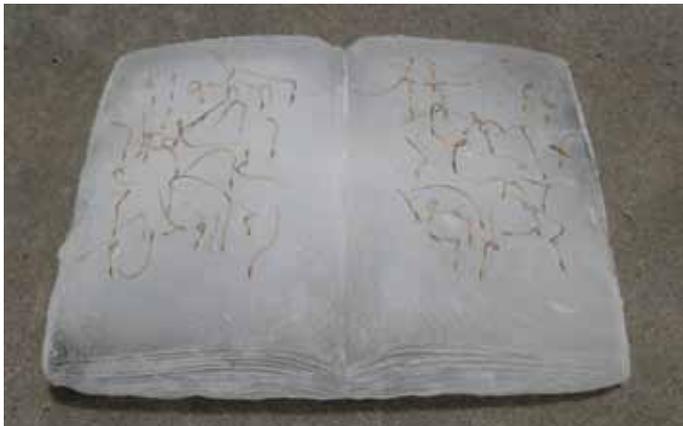


astounding. This is a stunning and lyrical happenstance, that these green dories are what happens when a ball of ice gathers up the creative urgency of the universe and drops it onto Earth. And I thought, *this cannot slip away*, the millions of years it took to make this river, or to sew the sail on a maple seed or tuck building plans into a ball of cottonwood fluff. *The wonder of this must not slip away*. Now it seems like a right and good thing—for all of us, in all the ways we know how—to float the seeds of new life out into the currents of the rivers that flow across the wounded plain.

Let us, all of us, do the work of seeds—learning again how to bend toward the light, how to put down roots, how to live as a member of a community of living things. Let us do the work of books, imagining into existence new, better ways to live, seeking always what is lasting and beautiful. Let us do the work of rivers, gathering the Earth's wisdom and carrying it like sunlight into the future. Let the power of our conviction and the new corrosiveness of our sorrow carve hard truths in the rocks. 🐾

See an audio slide show about the making of ice books at www.orionmagazine.org/multimedia.

TOP: Mountain mahogany (*Cercocarpus montanus*). Rio Grande, New Mexico. BOTTOM: Smooth sumac (*Rhus glabra*). Ottawa River, Ontario, Canada.



Students with an ice book in Boulder Creek, Boulder, Colorado.

RESTORATIVE ART

Basia Irland has sculpted and launched ice books in rivers and streams across the United States and abroad. To create these watershed restoration sculptures, Irland works with ecologists, botanists, and river restoration biologists to ascertain the best native seeds for the specific riparian zone in which the books will be released. The books are hand-carved out of frozen river water, and the seeds are embedded within them, as text. Finally, members of the local community gather to launch the books into the river or stream. Along the Nisqually River in Washington State, for example, Nisqually tribal members, salmon restoration specialists, musicians, fifth graders attending Wa He Lut Indian School, students and professors from Evergreen State College, and Mount Rainier forest rangers all took part. Participants in New Mexico on the Rio Grande have included artists, farmers, hydrologists, Pueblo members, and hundreds of interested watershed citizens.

As the ice melts in the current, the seeds are released to eventually plant themselves along the riverbanks. As they grow, they will mitigate floods and droughts, slow erosion, regenerate the soil, filter pollutants and debris, supply food and habitat, and provide shelter and shade for riverside organisms, including humans.



Wild sunflower
(*Helianthus annuus*).
Rio Grande, New Mexico.



Spanish broom (*Genista hispanica*), wild fennel
(*Foeniculum vulgare*).
The river Muga, Spain.

OPPOSITE: Fremont cotton-
wood (*Populus fremontii*).
Rio Grande, New Mexico.





Desert willow (*Chilopsis linearis*) seeds and seed pods, lemonade berry (*Rhus trilobata*), riparian grasses. Rio Grande, New Mexico.



Red maple (*Acer rubrum*), American elm (*Ulmus americana*). Ottawa River, Canada.

River oats (*Chasmanthium latifolium*), swamp milkweed (*Asclepias incarnata*). Great Miami River, Ohio.



Red maple (*Acer rubrum*).
Ottawa River, Ontario,
Canada.

