

FIELD NOTES

Material Poet

An artist trained in science talks about “cloning” million-year-old glaciers



PROFILE

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When I was still a young sculptor's apprentice, it suddenly hit me that I no longer wanted to make images and objects like my art school masters, creations that would, at most, be representations of my imagination. I thought, perhaps naively, that if I dove into physics, astronomy, cosmology and neuroscience, I could catapult over these limitations and pioneer a vastly more creative practice.

In my recent work, I mostly make poems out of matter and energy. Some

are small exotic projects that at first blush seem nearly impossible. I built a work that exploits the phenomenon of sonoluminescence, in which extremely high-pressure sound waves in liquids create tiny sources of electromagnetic energy. The installation converts text from a computer keyboard to synthesized speech with enough sonic force to form and hold a tiny bubble at the center of a jar of water. The sound causes the bubble to implode and then form again 50,000 times a second. Through a process that is still not fully understood, the implosions generate a bright point of visible light. It is a star in a jar created by spoken word.

I'm preparing a very large work now for the entrance of the University of Alaska [UAF] Museum of the North in Fairbanks. The inspiration was the old saw that no two snowflakes are alike. The reason for that is that they are precise atomic recordings of their lifetimes. Each is the story of its fall.

The same is true of ancient ice crystals. But with the help of some geophysicists at UAF, I have developed a process for “cloning” fragments of ice-core samples taken from million-year-old glaciers. We make thin, tapered plastic containers, each about two square feet, and fill them with ultrapurified water. Even at -40 degrees [Fahr-

eneit], this supercooled water remains liquid because it lacks a seed to trigger the process of crystallizing into ice. When you drop in a small fragment of ancient ice, it provides that seed: the water instantly organizes itself to mimic the prehistoric pattern.

A film on the outside of each container polarizes the light passing through the ice. In combination with the taper, this makes the crystal structure of the cloned glacial fragment visible as an intricate, hologramlike pattern of color. Given the rate at which Arctic glaciers are receding, cloning them may soon be as good a view as we can get. —As told to

W. Wayt Gibbs