

On the Ice in Antarctica

The National Science Foundation's (NSF) *Antarctic Artists & Writers Program* provides opportunities for artists and scholars in the humanities to work in Antarctica. The NSF has sent approximately ninety artists and writers to the ice since 1950. Anna McKee travelled to Antarctica as part of the 2009-10 program season and visited the West Antarctic Ice Sheet (WAIS) Ice Core Project. McKee first landed at McMurdo Station, the American research center at the southern tip of Ross Island seen in these photos.

The Antarctic is the world's most remote, coldest, windiest, and highest elevation continent on Earth. Winter temperatures in the Antarctic can reach as low as -128°F , and winds frequently blow in excess of 100 mph. McKee kept a detailed journal with sketches recounting her experiences in this extreme environment.

Ice Cores and the

West Antarctic Ice Sheet (WAIS)

Anna McKee visited Antarctica with a special interest in the scientific research taking place at the West Antarctic Ice Sheet (WAIS) Ice Core Project field camp.

An ice core is a cylindrical sample of ice removed from the Earth's glaciers and ice caps using a specialized drill, such as the one seen in these photos and also hanging on the wall. By removing a core of ice, scientists can study the physical, chemical, and biological properties within the incremental layers of ice that accumulate over time. These layers contain clues related to temperature, air quality, and precipitation levels from thousands of years ago. By studying ice cores, scientists have learned about how the Earth's climate changes over time.

Visualizing Data in the Studio

Upon return to her Seattle, Washington studio following her visit to Antarctica, Anna McKee worked on paintings and etchings about her Antarctic experiences for several years. She then abstracted the ice core data findings collected by scientists into visual form—resulting in the installation *WAIS Reliquary*. Fabrication took thousands of hours. Her process included melting and forming water-tight glass ampules, as well as cutting, stitching, and dyeing silk fabric samples.

Visiting Antarctica is a rare opportunity for artists. Those who are fortunate enough to spend time on the ice often create artworks related to their experience

for many years to come. Based on sketches and photographs she took while on Antarctica, McKee created this series of etchings related to the West Antarctic Ice Sheet (WAIS). Titled *WAIS Camp Stories*, the etchings portray the infrastructure of the research field camp.

Anna McKee

WAIS Reliquary Urn

2016

Ice core drill

Courtesy of the Artist

To obtain this ice core sample, scientists drilled into the polar ice cap using a tool known as the DISC Drill. Scientists used this drill to cut and retrieve cores approximately five inches in diameter at depths of 11,000 feet at the West Antarctic Ice Sheet (WAIS). This particular drill was used for the first section of drilling.

McKee is in the process of obtaining this drill from the Ice Core Program and will transform it into an urn that will serve as the final resting place for the *WAIS Reliquary*. Following its final installation, the *WAIS Reliquary* will be dismantled and packed into the urn, along with archive material related to creation, interpretation, and reception of the project.

Anna McKee

WAIS Reliquary

2014

Silk, glass, wood, water, and 8-channel audio

Courtesy of the Artist

Traditionally, a reliquary was a container used to hold the relics or physical remains of important religious figures such as saints or martyrs. Anna McKee's sculptural *WAIS Reliquary* holds the artifacts of the Earth: thousands-of-years-old water samples collected by scientists from ice cores on the West Antarctic Ice Sheet (WAIS). McKee's installation translates scientific data related to the ice cores into a colorful visual form.

Although McKee's graph-like artwork at first appears abstract, it actually represents West Antarctica's temperature history over the past 68,000 years. Each colored silk strand represents 100 years of ice, and each glass ampule (a small sealed vial often used by scientists or medical doctors) is filled with water extracted from the ice. The changing colors reflect the changing conditions of the ice over time—in essence serving as a reliquary or lamentation for climate change.

The sound you hear is a composition by McKee's collaborator Steve Peters. He recorded and electronically processed the tinkling sound of the glass ampules to evoke the air bubbles, gasses, fissures, and layers contained in the ice.

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Anna McKee

Crack

2011

Acrylic on paper on panel

Collection of the artist