Echoes of time in images of the Antarctic

British landscape artist Chris Drury imaginatively interprets radar pictures taken of ancient ice layers underneath the south pole.

Martin Kemp

We have become accustomed to the idea that, in nature, time frequently manifests itself in layers. We may think of the rings in trees or the ridges in shells, both formed by patterns of unequal growth. Over the longer term, geological stratification provides the most obvious example.

The idea is, in fact, relatively new. Although Nicholas Steno recognized in the seventeenth century that rock strata embodied time, it was not until the nineteenth-century work of Charles Lyell that strata were clearly envisaged as translating directly into eons of time.

With our present urgent concerns about what we are doing to our planet, the stories that are locked into the succession of layers of rock have become more than a simple matter of understanding the deep history of Earthly time. As with much good history, these stories have the potential to help us make informed judgements about the future.

This is particularly true of the patterns of ice and snow accumulation in polar regions, where the single element of frozen water displays, in the most direct way, the regularities and irregularities of temperature-driven processes within the body of Earth.

In December 2006, the British artist Chris Drury travelled to Antarctica to work with the British Antarctic Survey for three months as part of its artists and writers programme. Drury has developed a habit of discerning the analogous nature of organic and inorganic phenomena across different scales. In Antarctica he discovered an awesome subject that did not readily yield to his established practices.

"The ice sheets of Antarctica are an endless expanse of nothingness," he writes. "It's the kind of intense nothingness that both fills and empties the mind." In the face of this sublime vastness, "any mark made by man is like pissing in the wind — irrelevant and gone in the next moment".

He began his time in Antarctica by making sculptural interventions in the physical environment, but became increasingly engaged with the methods that the scientists were using to chart the expanse of time embedded within the thick slabs of ice beneath their feet.

One such method uses ice-penetrating radar beamed from an aircraft to obtain echograms from ice strata that are up to

four kilometres deep and 900,000 years old. The echogram data Drury used — the print-outs of which can be as long as 20 metres — resulted from four-hour round flights over the polar landscape. Fascinated both by the images themselves and their resonances with other physical phenomena, he printed

out small sections on artists' paper, reworking the lines in ink and pencil. Manually and visually, he drew out the sense of flow across the undulating surfaces that demarcated the zones of time.

The data in the original echograms are intended to be read in a specific, analytical way. As an artist, Drury hopes to draw us into seeing the "bigger picture, exploring unusual connections". *Under The Ice, Over the Unknown*, detail Flight G23 (pictured) presents a rich opportunity for echoes of an imaginative kind.

My immediate thought was that the illustration looked like a Chinese landscape painting, particularly the monochrome ink paintings characteristic of southern China during the Song dynasty. Then I recalled the 'images made by nature', most notably the 'landscapes' that are visible by sectioning and polishing veined 'hard stones' (*pietre dure*) — a speciality of Florence from the seventeenth century onwards. Drury also saw similarities with echocardiograms, among other things, and superimposed the trace of a pilot's heartbeat onto one of his echogram sections (<http://chrisdrury.blogspot.com>).

With Drury's artwork, we are in a territory that we can all recognize: that of imaginative projection. Patterns produced by chaotic systems, such as clouds or, as Leonardo da Vinci recognized, in stains on walls, are particularly amenable to such projection. The Chinese painters, for their part, certainly exploited what might be called controlled chance when they let their ink run on the paper.

There is no right or wrong in this kind of reading by visual analogy. It is certainly very different from how scientists read echograms. But it is not necessarily unscientific. It can lead us into thinking about the kind of natural properties that have fascinated artists and scientists alike: time, accretion, flow, pattern, chaos, self-organization, rhythm, layer, scale, organic, inorganic, human and non-human. At the heart of these properties are processes that can be vast and minute, robust and fragile — and beautiful. Our engagement with the processes using every faculty we have available is what stands between us and disaster. ■

Martin Kemp is research professor in the history of art at the University of Oxford, OX1 1PT, UK.

See Chris Drury's artwork at www.chrisdrury.co.uk.

Chris Drury sees echoes of landscapes in ice layers.

C. DRURY