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Art and time — Exploring infinite, discrete moments

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This is a nebula supernova remnant, left behind by the explosion of a massive star thousands of years ago.

COURTESY OF NASA/ESA/HUBBLE HERITAGE TEAM

By SURA JESELSON

Several months ago, I wrote about environmental artist Andy Goldsworthy, noting his reverence for time and how integral it is to his work.

At that time, I focused primarily on his “ephemeral works,” meaning works that occur too fast for the human eye to grasp. Goldsworthy, therefore, slowed them down by photographing the sequences, thus enabling the events to be observed in our own time continuum.

The obverse of these studies are time-lapse photos that allow us to see events that are otherwise simply too slow for us to grasp.

Many of Goldworthy's projects utilize the slow but steady growth of trees to create symbols.

In the Holocaust memorial at the garden of the Jewish Heritage Museum in Manhattan, he planted seedlings into holes drilled into boulders to symbolize perseverance, rebirth and renewal.

Another of his living projects, Spire, is at the Presidio National Park in San Francisco. It showcases a constantly changing landscape in which a steeple created from multiple trunks of harvested mature Monterey cypress trees are gradually overgrown by the new replacement forest of cypresses.

Each day yields a new tableau.

Perhaps my favorite piece, though, is a stone cairn in the subtropical rainforest of Queensland, Australia, gradually being engulfed by Ficus roots. Although these roots can be viewed as strangling — hence the name of the piece, Strangler Cairn — my overall sense is one of roots embracing and nestling the stone.

Today's sequel is devoted to time, but not time as we usually think of it — today, tomorrow, last week, last century. I am speaking about “deep time,” otherwise known as geologic time.

Consider that our universe is believed to have been created 13.7 billion years ago, and time assumes another dimension entirely. To put things into perspective, our solar system is thought to have been formed around 4.56 billion years ago, and the Earth began to form around 4.54 billion years ago.

It certainly gives an entirely new twist on the concept of youthfulness.

In 1788, the Scotsman John Playfair is said to have remarked when observing some rock formations and realizing the implications of their great age, “The mind seemed to grow giddy by looking so far into the abyss.” Was he giddy from fear or excitement? I choose to believe that he was exhilarated by the magnificence of the seemingly endless continuum!

In January 2015, the National Academy of Sciences in Washington hosted an exhibit, “Imagining Deep Time” in an effort to artistically portray the concept of endless time. The pieces are clearly grappling with a task that is beyond us all, try though they might.

Over the years there have been two models of time: cyclical and linear. The Babylonians, Greeks and Mayans, among others, saw time as cyclical, a condition of repetitive moments — day and night, the seasons, birth and death, which played out in the lives of all people.

Jewish tradition, which later influenced the daughter religions of Christianity and Islam, saw time as linear with the attendant differences between yesterday, today and tomorrow. It also implied a clear vision of time, which begins at Creation and runs seamlessly to the end of times.

By the 1600s, there arose scientific interest in fossils and rock formations and strata. In 1666, Nicholas Steno, a Danish anatomist working in Florence, recognized that fossils were evidence of ancient organisms. He also realized that finding fossils in ancient rock indicated the great age of these artifacts.

His work was expanded upon by Robert Hook, who examined fossils under a microscope and noticed the similarities between ancient and modern species.

These materials required scientific thinking to consider that the world was considerably older than previously thought.

There was equal ferment in the areas of geology and mineralogy. Geologic maps were being drawn, one by William Smith of England and Wales, another by George Cuvier of the Paris Basin.

James Hutton, the “Father of Modern Geology,” posited the theory of Uniformitarianism that states “geologic processes acted in the same manner and essentially the same intensity in the past as they do in the present, and such uniformity is sufficient to account for all geologic change.”

Charles Lyell (1797-1875) further popularized Hutton’s work through his book *Principles of Geology* supporting Uniformitarianism. His work deeply influenced Charles Darwin, who took it along with him on board the HMS Beagle.

Time rules our daily lives ruthlessly. But contemplating cosmic time — with its view into the deep past, as well as into an almost limitless future — is still a thrilling concept.

Have a thought or comment for Sura Jeselsohn? Email her at greenscenesura@gmail.com.