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A Science-Minded Artist Shrinks the Universe to Human Scale

Katie Paterson, a Scottish artist known for deeply research-based works, continues her universal explorations with two shows in England.



The Scottish visual artist Katie Paterson at her studio in Dumferline, Scotland Robert Ormerod for The New York Times

By Dale Berning Sawa

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Katie Paterson's work has always been about Earth, and the great vastness beyond.

A Scottish multidisciplinary artist, she has worked with scientists across the globe on exhaustively researched projects, including The Future Library, an anthology of 100 previously unpublished books written by some of the 21st century's most celebrated writers.

In 2022, astronomers helped her count the times the sun has risen since the Earth was formed — to the most accurate level scientists can — for a piece titled "—there lay the Days between—." Years earlier, she had worked with scientists specializing in light at the firm Osram to develop lightbulbs that simulate the lunar glow.



A view of the entrance to the Silent Room of the Future Library in Oslo, Norway Einar Aslaksen

And yet, "I never want to go into space," Paterson said in a video interview. Asked whether her works are portraits of Earth or of us, she said, "It's going to be us."

"If all those cosmic sequences hadn't happened, we wouldn't be here breathing and talking together," she explained.

Ultimately, she said, in all her work, she has always been trying to "get a little bit closer to that understanding of quite how precious life is." That lifetime pursuit underpins three current projects: a series of paintings on view in an exhibition in Cumbria, England, and "Afterlife," which will soon be installed at the Folkestone Triennial 2025 in Kent, England; and "True North," which has taken Paterson from Japan to the Norwegian archipelago of Svalbard, where she has just completed a residency.

For the Cumbria show, "Expanding Landscapes: Painting After Land Art," at Abbot Hall through Sept. 6, she is showing three paintings from her series "O" (2023-25). Each is a smallish colored disc on a paper square, the paint made with pigments ground from de-accessioned scientific research materials.

The dark chocolate brown color in one piece, "O VI," was obtained by grinding up a piece of carbonaceous chondrite, a type of meteorite over 4.6 billion years old, that is, from before our solar system formed, and containing what are called presolar grains. Another piece, "O V," is a mottled peach stain Paterson achieved by layering salts that geologists collected from sites of fully or partially evaporated oceans.

The dark taupe pigment of a third disc, "O IX," is made from the ground-up rocks and fossils that chart the Earth's compositional layers, from the deepest point that scientists have dug to date, to the surface of the Earth's crust. Jan Zalasiewicz, a geologist and emeritus professor at the University of Leicester, donated what Paterson said was "his own kind of personal collection."



Three pieces from Paterson's "O" series on view at Abbot Hall in Cambria, England, as part of her "Expanding Landscapes: Painting After Land Art" exhibition. Johannes Pretorius

The formal minimalism of the “O” paintings belies the depths of time encrusted on their surfaces. “They’re making these miniature macrocosms of vast spaces across the world,” Paterson said. Particularly with the presolar dust, “it’s almost nothing, yet it connects us to the beyond.”

In person, Paterson is calm and buoyant. When we met in London last month, Paterson was dressed in cream and rust with tomato red nails, offset against the gray blur of a blustery evening in King’s Cross Station. She was on her way to Folkstone to finalize the installation plans for “Afterlife,” the piece she was commissioned to make for the Folkestone Triennial, which runs from July 19 to Oct. 19.

“Afterlife” is a collection of 197 tiny sculptures that Paterson has made by working with her assistant to create (or obtain, where they already existed) 3-D scans and 3-D prints of ancient amulets, or good luck charms, held in museums and private collections around the world — the kind people have, for centuries, kept on their person to ward off evil and harm. Referring in particular to those from ancient Egypt, Paterson said: “A lot of them were put into coffins or put in with mummies, and would be there to accompany the dead to their afterlife.”

To recreate these tiny sculptures, Paterson used a variety of materials that were either the result of industries that extract or deplete natural resources (fast fashion, pollution, mining) or symbolize the losses that such processes are causing (glaciers melting because of climate change; mangrove forests threatened by coastal erosion and human encroachment).

They include microplastics found in snow from the top of Mount Everest and, she said, “a polystyrene cup, which, hideously, was discovered in the Mariana Trench” — the deepest known undersea trench. Paterson was also given manufactured stalactites, conflict shrapnel and bits of plastic regurgitated by a baby albatross in Antarctica.

Paterson then used these materials to create replicas of the ancient amulets. Anything hard enough was carved by hand or cut by machine. Soft, liquid or crumbly materials were suspended in plant resins, beeswax or plaster in casts made from molds of the 3-D prints of the originals.

She asked the English artist Edmund de Waal if she might be able to scan one of the Japanese netsuke he inherited from an uncle. He agreed to her using a tiny rat made of ivory, with eyes of dark buffalo horn. Paterson carved a copy out of a piece of eggshell from the Aepyornis, a giant flightless bird that is now extinct.

She also remade an acorn symbol from the Mesoamerican Olmec people out of a bit of bright-red Neoprene material, and turned that Mariana Trench polystyrene into a copy of an ancient Nubian hieroglyph from Sudan. She transformed ash donated by a person in Australia whose home had burned in a wildfire into a 20th-century Greenlandic Tupilak, an Inuit amulet depicting what was originally believed to be a powerful spiritual creature.



Paterson’s “Requiem” at Ingleby Gallery, Edinburgh, Scotland John McKenzie

Paterson had initially used some of that Australian ash in an earlier installation, “Requiem,” exhibited at Ingleby Gallery in Edinburgh. For that work, Paterson collaborated with the National Glass Center in Sunderland, England, to create a glass funerary urn and 364 small glass vials. She placed the urn in the middle of the gallery, and the vials, filled with different kinds of dust, on shelves on the walls. Invited guests and members of the public then poured the vials’ contents into the urn. Each portion of dust weighted only 21 grams, the amount that the physician Duncan Macdougall posited to be the weight of a soul.

Scientists had helped Paterson determine which materials to grind into dust in order for each vial to represent a specific point in Earth’s history. The first held the same kind of presolar grains she used in “O VI.” The last contained genetic material of Partula snails, also known as Polynesian tree snails. Once, the snail was declared “extinct in the wild”; conservation efforts resulted, in 2024, in one particular Partula species being re-established in Polynesia. In other words, it is a species that nods, hopefully, to a possible future.

A spiritual thread runs through “Requiem” and “Afterlife.” Unlike earlier works, which anchored the immensities of the universe in the prosaic (a mirror ball, a lightbulb, a record player, confetti cannons), these recent pieces seem to express a yearning for the beyond.

Paterson described her “Afterlife” amulets as “these little praying objects.” Visitors to the Folkestone Triennial will see them installed in individual dips carved into wooden tabletops, like so many cupped palms.

“It’s finding these human ways to grasp human actions,” Paterson said back in March, in a video interview from her room in a Zen temple in Kyoto, Japan. “It’s got to therefore be something that we can actually relate to our being, I suppose, and our scale of things.”

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