salt 13: KATIE PATERSON

"I believe that space is not 'out there': it is right here, inside us, outside us, everywhere. We are made of the same atoms that arose some 13.2 billion years ago or so. These atoms have recycled themselves and now continue to transform themselves in infinite and astounding ways. The remnants of stars that exploded millions of years ago are inside our blood and are apparent in our breath. We are intimately connected with the larger cosmos."

- Katie Paterson, 2014¹

salt 13: **KATIE PATERSON**

Katie Paterson thinks big. She reaches across time and space to relate human and cosmic scales. She collaborates deeply with biochemists, engineers, and astrophysicists but ultimately looks beyond the framework of mathematics and language to describe the unseeable, to communicate the unfathomable, and to imagine the unknown. She enlists the familiar aesthetics and accessible languages of modern and old-fashioned technology such as radio waves, candles, pianos, and disco balls, to translate the seemingly incomprehensible into relatable concepts. By transporting us hundreds of years through human history or millions of miles through space, her works underscore our connectivity to the universe.

Paterson conceives of each of her works as an *ldea*, a concise phrase that takes shape in the imagination of whoever reads it. Paterson's *ldeas* are a lifelong pursuit and may or may not come into physical existence beyond being written or printed as text. They can exist as anything from small, solid silver wall-based word sculptures to fully executed artworks enacting the *ldea*. Thus, the *ldeas* describe works that exist, that are yet to exist, or that may only exist in the imagination.

<u>A live feed</u> of two galaxies

colliding

October 27, 2017 - May 20, 2018

"Ideas come to me," Paterson explains, "often through a process of writing, while images appear in my mind in a matter of seconds. These ideas are discrete, and later if I'm lucky their ripples might catch up with me, and I'll think about bringing them into existence."²

The following six *Ideas* [fig 1] are present in the exhibition *salt 13: Katie Paterson* at the Utah Museum of Fine Arts as small silver texts that will grow in each visitor's mind, possible to consider but not yet realizable beyond the imagination.

A solar flare	A live feed
containing all the light	of two galaxies
in the universe	colliding
Gravity	The milky way
released	compressed
one unit at a time	into a diamond
The universe rewound	Precious metals
and played back	returned
in real time	to their stars

The succinct, semi-poetic language of the *Ideas* reads like haikus, Japanese death poems, Zen Buddhist koans, or *Gedankenexperiments*.³ *Gedankenexperiments*, or thought experiments, are used as tools of discovery in the fields of philosophy, law, physics, and mathematics to consider a hypothesis, theory, or principle for the

fig 1 (left): *Ideas*, 2014 – ongoing Micro water-jet cut sterling, dimensions vary

¹ Ong, Amandas. "Introducing: Katie Paterson." *Frame*, June 2014. ² Ibid.

³ Jacob, Mary Jane. "The Gedankenexperiments of Katie Paterson," Tarbuck, Jonty and Jon Bewley (eds.), *Katie Paterson: Monograph*, London: Locus+/Kerberg Verlag, 2016, p 11.



purpose of thinking through its consequences. Like Paterson's *Ideas*, a thought experiment may not be possible to perform, and even if it could be performed, it need not be necessary. The goal of thought experiments, and of Paterson's *Ideas*, is to explore potential consequences of principles in question.

Many thought experiments that came about as theoretical exercises in the early 19th century, can now be realized thanks to advanced technology.⁴ Similarly, through intensive research and collaboration with a wide range of specialists including astronomers, geneticists, nanotechnologists, jewelers and firework manufacturers, Paterson has realized many of her seemingly impossible *Ideas*, as evidenced by the artworks in her *salt* exhibition. Moreover, Paterson's works tend to take a long view. Many, like her ongoing project *Future Library* (2014-2114) [fig 2], won't be completed until well beyond the artist's lifetime. What sounds impossible now, may be attainable with future, currently

fig 2 (left): Future Library Certificate, 2014-2114

Photo © Blaise Adilon, 2015. Exhibition view Frac Franche-Comté. Future Library is commissioned and produced by Bjørvika Utvikling, managed by the Future Library Trust. Supported by the City of Oslo, Agency for Cultural Affairs and Agency for Urban Environment.

In Norway, Katie Paterson has planted a forest that will supply paper for a special anthology of books to be printed in 100 years time. Between now and then, one writer every year will contribute a text, with the writings held in trust, unread and unpublished, until the year 2114. The manuscripts will be presented in a specially designed room in the new public library in Oslo. Writers to date include Margaret Atwood (2014), David Mitchell (2015), Sjón (2016), and Elif Shafak (2017). Paterson has created a limited edition artwork, a certificate entitling the owner to one complete set of the one hundred texts printed on the paper made from the *Future Library* trees after they are fully grown and cut down in 2114. The proceeds support the running of the project over its one hundred year duration.

The J. Williard Marriott Library at the University of Utah has purchased a certificate and will receive a complete set of the one hundred texts when they are published in 2114. The call number for Paterson's artwork certificate is N7433.4.P379 F88 2014 and is held in the K.W. Dumke Fine Arts & Architecture collection. To learn more about *Future Library*, visit https://www.futurelibrary.no/ unimaginable technological advancements. As Paterson likes to point out, we cannot trust the distance between the unrealizable and the realized.

Imagine, for example, watching a live feed of two galaxies colliding. What is the distance between our visualization and the reality of simultaneously filming and broadcasting the cosmic event in real time? Our own galaxy, the Milky Way, is scheduled to collide with the Andromeda Galaxy in about 4 billion years, but we will not have to wait that long. On December 14, 2017, the Hubble Space Telescope released an image of two galaxies colliding 350 million light-years away from Earth in the constellation of Ursa Major. What was previously thought to be galaxy NGC 5256 is actually two disc-galaxies merging with their centers just 13,000 light-years apart. Paterson taps into the brilliant minds and the rapidly advancing technology uncovering these secrets of the universe, and her *Ideas* remind the rest of us that the possible is not the opposite of the impossible. It is just a matter of distance, which may be shorter than it appears.

Regardless of the final form of Paterson's *Ideas*, the concept conveyed is their most important aspect. This valuation has roots in the Conceptual art practices of the 1960s, when artists began emphasizing ideas instead of a physical, aesthetic product. In 1967, artist Sol LeWitt gave this new art a name in his essay *Paragraphs on Conceptual Art*. He wrote, "In conceptual art the idea or concept is the most important aspect of the work. When an artist uses a conceptual form of art, it means that all of the planning and decisions are made beforehand and the execution is a perfunctory affair."⁵ Two years later, LeWitt further defined his parameters for the making and understanding of Conceptual art in a series of 35 statements. While

4 Ibid.

⁵ LeWitt, Sol. "Paragraphs on Conceptual Art," *Artforum* Vol. 5, no. 10, Summer 1967, pp. 79-83.

many of those statements describe Paterson's overall practice, four in particular seem to fore-shadow her ongoing series *Ideas*:

- 1. Conceptual artists are mystics rather than rationalists. They leap to conclusions that logic cannot reach.
- 3. Irrational judgments lead to new experience.

10. Ideas can be works of art; they are in a chain of development that may eventually find some form. All ideas need not be made physical.

20. Successful art changes our understanding of the conventions by altering our perceptions.⁶

Paterson is a conceptual artist. By creating new experiences with her works of art and *Ideas*, Paterson, the mystic, challenges conventional limitations to thinking and alters our perception of the world and our place in it. In addition to the six silver *Ideas*, *salt 13* features the realization of the following three Paterson *Ideas*:

Music bounced from the moon's surface missing notes left in space

A candle scented as if journeying from planet to planet

A mirror ball Reflecting Every solar eclipse

Each of these three thought experiments, like all of Paterson's *Ideas*, began as a concept that strained logical comprehension, yet each is now realized in a way that allows us to question what is truly impossible. In contrast to the extraordinary scope and nature of her *Ideas*, Paterson's realized works could be described as visually familiar, mundane, or plain. Somewhat counterintuitively, her stark, almost minimal aesthetic creates more depth and room for the imagination. "I tend to play down the visual in my work," explains Paterson, "with the hope that what is unseen becomes completed by the imagination."⁷ Two ephemeral works included in *salt 13*, for instance, appeal to senses other than the visual to describe the unseeable. By engaging the auditory and olfactory senses, Paterson communicates beyond the limitations of visual descriptors and empirical interpretation, which can mislead the viewer by creating the illusion of knowledge.

Music bounced from the moon's surface missing notes left in space

In 2007, Paterson created *Earth-Moon-Earth* (*Moonlight Sonata Reflected from the Surface of the Moon*) [fig 3] by translating Beethoven's piano composition *Moonlight Sonata* into Morse code and bouncing it off the moon via Earth Moon Earth (E.M.E.) radio transmission. However, as is typical with E.M.E. messages, part of the information was lost, absorbed, or refracted elsewhere by the moon's craterous surface. The received message was translated back into a musical score interpreting the gaps and absences as intervals and rests. Typically, the score plays on an automated grand piano, but for *salt 13* the piece will be performed live by a pianist throughout the day on February 17, 2018.

The music is instantly recognizable. Paterson relies on the familiar. That we so deeply know the melody of *Moonlight Sonata* makes the new pauses and irregular notes extremely discordant. More than a map or mathematical equation, that discomfort communicates the distance, the

⁶ LeWitt, Sol. "Sentences on Conceptual Art," Art & Language, Vol. 1, no.1, May 1969, pp.11-13.

⁷ Reiman, Joshua. "Dark Matter: A Conversation with Katie Paterson," *Sculpture Magazine*, November 2014, p 32.

strangeness, the alien nature of our orbiting moon. In a 2014 interview, Paterson described how the auditory form of *Earth-Moon-Earth* ignites the imagination. "The viewer's/listener's imagination fills the gaps in the score that's been bounced from the moon back to earth. I hope that the lack of sound will transport the mind miles away to the surface of the moon, where it can visualize the notes drifting in space, lost in the lunar shadows and craters. Sounds and silences for me can be a very visual trigger, and certainly convey time and distance in a way that images cannot."⁸

⁸ Ong.

fig 3 (below): Earth-Moon-Earth (Moonlight Sonata Reflected from the Surface of the Moon), 2007

Disklavier grand piano - Installation view, Cornerhouse, Manchester 2011. Photo © We are Tape.



A candle scented as if journeying from planet to planet

Paterson's Candle (from Earth into a Black Hole) (2015) [fig 4] burns over 12 hours creating a journey through space via scent. Possibly her most visually modest work, each layer of the slender white candle contains a unique perfume corresponding to the real and projected biochemistry of places throughout the universe, progressing as if taking off from Earth, travelling to the Moon, the Sun, Mars, Jupiter, and, via the stars, into a vacuum. "It burns down as if you're taking a trip through outer-space," Paterson explains. "It starts on Earth, which smells of forest, and then you go up into the clouds and the troposphere which smells like wet basement, apparently. This is where some fiction comes in, from people's descriptions. It's a mixture of the real and the imagined."9 Paterson worked with a perfumer and a bio-chemist over the course of a year to design the candle based on a combination of facts, descriptions from astronauts, and scientific guesses.

Unlike other senses, the olfactory system is directly linked with the limbic system, a primitive part of the brain that is responsible for processing emotions and memory. Thus, by triggering our complex sense of smell, Paterson's *Candle* communicates on a different plane, one that is possible of silently influencing our mood, behavior, and decision-making, and it creates a non-rational way of understanding an incomprehensible journey through deep space. For her exhibition at the UMFA, this journey, that we will never

fig 4 (right): *Candle (from Earth into a Black Hole)*, 2015 Scented layered candle, approximately 29cm in height, 3cm in diameter - Photo © Blaise Adilon, 2015. Exhibition view Frac Franche-Comté.



⁹ Hugill, Alison, "Katie Paterson Harnesses the Mysteries of the Universe in Masterful, Scientific Art," *Artsy*, September 12, 2016.

physically take, can be experienced on February 17, 2018. Visitors are invited to observe the burning candle while meditating, practicing slow looking, testing their sense of smell, and contemplating their connectivity with the cosmos. At the end of the day, the *Candle* will melt away, but Paterson's sensory journey will endure, burned into the limbic memory.

A mirror ball Reflecting Every solar eclipse

Paterson's work Totality (2016) [fig 5] is a large ball, 85 cm in diameter, covered with approximately 10,000 images of historic solar eclipses printed on tinv squares of mirror. Records of mankind's universal fascination with the celestial event, the images span hundreds of years and were generated at locations across the planet. The earliest reproduction is of a drawing of the eclipse that occurred on June 24, 1778, but most of the images are photographic, from early 19th century photography to today's most advanced telescopic images. Recorded from varying angles with varying degrees of precision, the eclipses are arranged to depict the progression of a solar eclipse. The mirrored ball is hung at eye level in the center of a dark gallery. Two beams of light strike the planet-like orb from opposite sides of the room as it rotates slowly, casting a galaxy of eclipses, collapsed over time and space, across the room and its visitors.

Though the science of eclipses has been well understood for centuries, they remain powerful symbols of transcendence and of the sublime. Paterson's boundless work has often been compared to the Romantic notion of the sublime, an aesthetic concept that has been debated and redefined for the past five centuries. Generally,



fig 5 (above): *Totality*, 2016 Printed mirrorball, motor, and lights, 85 cm in diameter. Photo © Ben Blackall, courtesy of the Lowry.

the sublime confronts us with greatness that surpasses our understanding and reminds us of our own insignificance and mortality. The sublime is awe-inspiring and terrifying. In the 17th and 18th centuries in Europe, the sublime was associated with nature. Philosophers, writers, and artists attempted to evoke the sublime in their descriptions of vast, powerful landscapes such as looming mountain ranges, deep chasms, violent seas, and fiery volcanic eruptions. Immanuel Kant's concept of the mathematical sublime, often exemplified by the infinitude of the starry night sky, seems particularly in line with Paterson's subject matter. In the 19th, 20th, and 21st centuries, philosophers and artists have been increasingly investigating the technological, as opposed to the natural, sublime. In the modern era, industrial and then digital technologies have changed the human relationship with the natural environment. Man's feats of mega-engineering-dams, railways, space travel-have purportedly conquered the vast and once unknowable chaos of nature. Thus, the admiration of the natural sublime has been replaced by reverence for the sublime of the factory, of aviation, of auto-mobility, of war machinery, and of the computer.¹⁰ Unlike nature and the vast cosmos, technology is an expression of the capacity of the human intellect, yet its infinite possibilities are nonetheless terrifying and incomprehensible.¹¹

Paterson's work both humbles us before the unfathomable majesty of the universe and acknowledges the awesome forces of technology, yet aspects of her work seem almost anti-sublime. While monumental in scope, her works can be visually understated or familiar. Paterson chooses these tactics because at the core of her practice is a need to communicate. Paterson's work "domesticates immensity," turning the vast into the recognizable,¹² to help the viewer relate to the cosmic. Yet, her domestication of the cosmic sublime does not claim to have tamed it.¹³ Perhaps because solar eclipses are infrequent enough to make one a rare phenomenon but frequent enough that most people will experience one in their lifetime, a solar eclipse "marks a point at which awe and understanding can overlap."14 Paterson's poetic translations of scale seek out this meeting of awe and understanding to transmit the mindbending nature of the universe while accentuating our connection to it.

Paterson traces her interest in cosmic connectivity to time she spent in Iceland prior to pursuing her MFA at the Slade School of Fine Art in London. It was there that Paterson remembers first becoming aware of her place in the universe. "Being around all these incredible natural events such as the glaciers and the exploding geysers and volcanoes, where the earth is warm and it is moving, I suddenly had the sense that here I am, standing on the planet and it is revolving around another star. I hadn't had that sense before, so that's when I started looking deeper into ideas of time and space and cosmology."¹⁵

Paterson's landscape-induced epiphany was similar to the experience of artists who ventured into the vast expanse of the American West in the 1960s and 1970s. Nancy Holt, describing in 1977 the desert landscape of Utah where she had situated her earthwork Sun Tunnels a year prior, said "walking on earth that has surely never been walked on before evokes a sense of being on this planet, rotating in space, in universal time."¹⁶ Like Paterson, Holt's work is acutely committed to relating the cosmic to the human experience. Sun *Tunnels*, comprised of four large concrete cylinders arranged on the desert floor in a cross pattern, acts like viewfinders directing our vision to specific spots on the horizon where the sun rises and sets on the summer and winter solstices. On any day, sitting inside the Tunnels and tracing the move-

- ¹³ Raven, Paul Graham. "Syzygy exhibition squeezes cosmic wonders into everyday objects," *New Scientist*, May 4, 2016.
- ¹⁴ O'Reilly, Sally. Of Great Magnitudes and Multiplicities. http://2017.katiepaterson.org/wp-content/uploads/2017/04/ Katie-Paterson_Sally_OReilly_essay2016.pdf Last Accessed December 22, 2017.
- ¹⁵ Luke, Ben. "Katie Patterson: Me and my meteorite." *Evening Standard*. April 24, 2012.
- ¹⁶ Lippard, Lucy. Overlay: Contemporary Art and the Art of Prehistory. New York: Pantheon Books: 1983, p. 106.

¹⁰ Nye, D. E. American Technological Sublime. Cambridge, MA: MIT Press, 1994.

¹¹ Atomic power and genetic modification are just two examples of the paradoxical nature of the technological sublime that has unfathonmable potential for both beneficial and destructive consequences.

¹² Vanderbrouck, Melanie. "Fitting the entire universe into an art gallery," *Apollo*, May 26, 2016.

ment of light and shadow makes one hyper-aware of Earth's rotation around the Sun. The vast desert and rising buttes attest to slow, geologic time, and the interplay of cosmic bodies signals immense scale, but *Sun Tunnels* situates the human within these greater, connected systems.

fig 6 (below): Nancy Holt (American, 1938–2014) *Sunlight in Sun Tunnels*, 1976, printed 2012

Composite inkjet print from original 35-mm color transparencies Purchased with funds from The Paul L. and Phyllis C. Wattis Fund, UMFA2013.1.1 Paterson's methodical organization of images into a grid in *Totality* also nods to minimalist and conceptual art practices from the 1960s and 1970s. Artists like Holt used the grid [fig 6], particularly in photography, to depict a repetition of forms or a sequential passing of time to illustrate an idea according to systematic rules. Though an incomplete record, *Totality's* overwhelming grid expresses in a compressed, digestible form the regularity of a rare cosmic event.



Prior to creating *Totality* from thousands of historic images, Paterson employed similarly obsessive cataloguing processes with a number of works. All the Dead Stars (2009) is a map documenting the locations of just under 27,000 dead stars-all that have been recorded and observed by humankind. History of Darkness (2010-ongoing) [fig 7] archives on slides images of darkness spanning billions of years from different times and places in the history of the universe. Fossil Necklace (2013) [fig 8] charts the development of life on Earth with 170 fossils, each representing a major event in the evolution of life through the vast expanse of geological time. Hollow (2016) [fig 9] is a compendium of the world's forests bringing together over 10,000 unique tree species, including petrified wood from the earliest forests that emerged over 390 million years ago, a sample from the oldest tree in the world, and some of the youngest and near-extinct species.

This strategy of mapping, charting, timetabling and enumerating to categorize, measure or survey is always inadequate, yet it is a fundamental operation of modernity.¹⁷ Paterson acknowledges that this limited attempt at empiricism highlights the impossibility of achieving full knowledge. For instance, when referring to her *History of Darkness* slide archive, she explains, "there is never a way to represent, see, or know all the darkness in the universe, so it's a kind of infinite journey, and

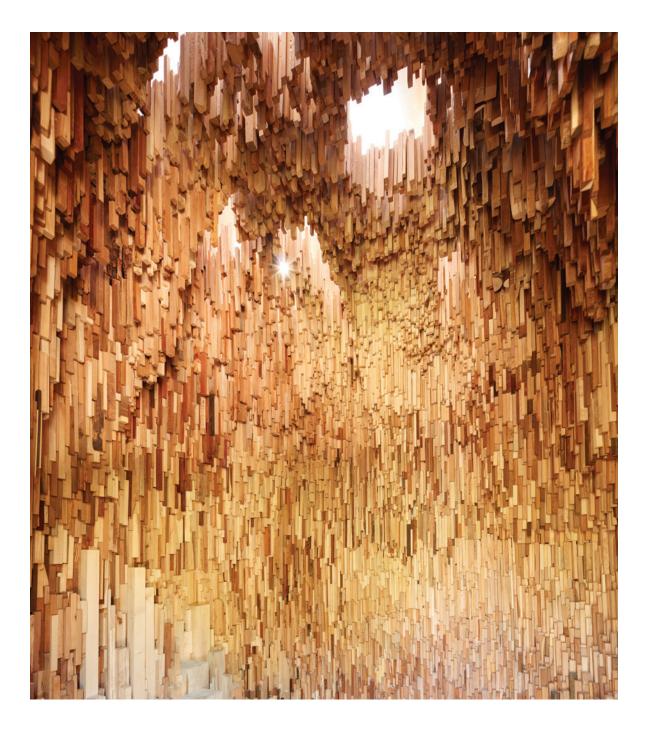
¹⁷O'Reilly.

- fig 7 (upper right): *History of Darkness*, 2010-ongoing Slide archive. Installation view BALTIC Centre for Contemporary Art, 2010. Photo © Katie Paterson
- fig 8 (right): *Fossil Necklace* [detail], 2014 Carved rounded fossils. Photo © John McKenzie. Courtesy of the artist and Ingleby Gallery, Edinburgh

fig 9 (opposite): *Hollow*, 2016 Katie Paterson and Zeller & Moye. Photo © Max McClure. Commissioned by the University of Bristol, produced by Situations.







a futile one, to try to capture it on a human scale, and make it an entity." $^{\rm 18}$

Paterson's admission of the futility of her effort underscores a cosmic viewpoint. While relating to the human scale is central to each of Paterson's works, her objective could be described as post-human or anti-anthropocentric. As Lars Bang Larsen points out in his essay in Paterson's recent monograph, "Paterson's works know about the necessity to radically rearrange knowledge and its subject; they have come to terms with how anthropocentric scripts have lost history; and they are fully up to speed about the moral, cognitive, and perceptual dissonances that result."¹⁹ Paterson's work does not regard humankind as the central element of existence: rather it situates the human in connection with, in relation to, and as a part of a greater complexity. *Totality* positions the human as a witness, able to experience and record but not affect cosmic events. Paterson's works avoid sanctimony, but her efforts to expose the scale and power of the universe reveal the limitations of the human-centric modern-capitalist worldview.

It is this suggestion of relational positioning that allows Paterson's works to transcend their technical forms. Sally O'Reilly rightly states in her essay Of Great Magnitudes and Multiplicities that Paterson "diverts these technical methods towards aesthetic and poetic effects, foregrounding not knowledge as such, but that which is felt but not understood, known but not sensible, shown but not comprehendible."20 Totality, by way of illustration, is not simply a grid of mirrored eclipses. It overpowers the room and envelops the viewer in a spinning crush of reflected celestial events collapsed over hundreds of years, inducing a state of wonder, if not outright physical disorientation, appropriate to the awesome subject at hand. This is the enduring sensation that runs through Paterson's works. They communicate on a wavelength beyond the empirical languages of math and science, hinting

at another form of knowing, through the body and its senses. By connecting the human experience with the greater cosmos in these miraculous ways, Paterson offers a vision of humankind's capacity for understanding its place in all of existence and a glimpse of what is possible.

Whitney Tassie

Senior Curator Curator of Modern and Contemporary Art

¹⁸ Moss, Ceci. "Interview with Katie Paterson," *Rhizome*, June 2010.

¹⁹ Larsen, Lars Bang. "Astronomy Domine. The Anthroplogical – Cosmological Squeeze in Katie Paterson's Work," Tarbuck, Jonty and Jon Bewley (eds.), *Katie Paterson: Monograph*, London: Locus+/Kerberg Verlag, 2016, p 221.

²⁰ O'Reilly.

Katie Paterson (Scottish, born 1981) received her BA from Edinburgh College of Art, Edinburgh, United Kingdom in 2004 and her MFA from the Slade School of Fine Art in London, United Kingdom in 2007. She has participated in solo exhibitions at venues inlcuding CentrePasguArt, Biel, Switzerland; Somerset House, London, UK; The Lowry, Manchester, England; FRAC Frache Comté, Besancon, France; the Mead Gallery at the University of Warwick, Coventry, UK; Kettle's Yard at the University of Cambridge, Cambridge UK; the Modern Art Museum of Fort Worth, Fort Worth, Texas; and BAWAG Contemporary, Vienna, Austria, among others. She has participated in group exhibitions at The Wexner Center for the Arts, Ohio; Henry Moore Institute, Leeds, UK; The Kochi-Muziris Biennial, Kochi, India: the Power Plant, Toronto, Canada; the Museum of Contemporary Art, Sydney, Australia; the Art Institute

of Chicago, Chicago, IL; the Renaissance Society, Chicago, IL; the Hayward Gallery, London, UK; and the Turner Contemporary, Margate, UK. Her work has been featured in international exhibitions including the 2017 Yokohama Triennale, Japan; the 2016 Gwangju Biennale, South Korea; Whitstable Biennial 2010, Whitstable, UK; PERFORMA 09, New York, NY; and Altermodern: Tate Triennial 2009, Tate Britain, London, UK. She has been the recipient of the John Florent Stone Fellowship at Edinburgh College of Art and was the Leverhulme Artist in Residence in the Astrophysics Group at the University College London for the academic year 2010-2011. Her work can be found in many public collections including the Art Institute of Chicago, Chicago, IL; the Solomon R. Guggenheim Museum, New York, NY; and the National Galleries of Scotland, Edinburgh, UK. Katie Paterson lives and works in Berlin, Germany.

salt 13: Katie Paterson is the thirteenth installment of the Utah Museum of Fine Arts' ongoing series of exhibitions showcasing work by emerging artists from around the world. salt aims to reflect the international impact of contemporary art today, forging local connections to the global and bringing new and diverse artwork to the city that shares the program's name. The salt series is made possible by the Andy Warhol Foundation for the Visual Arts.

Find more information on the *salt* series online here: **umfa.utah.edu/salt**

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