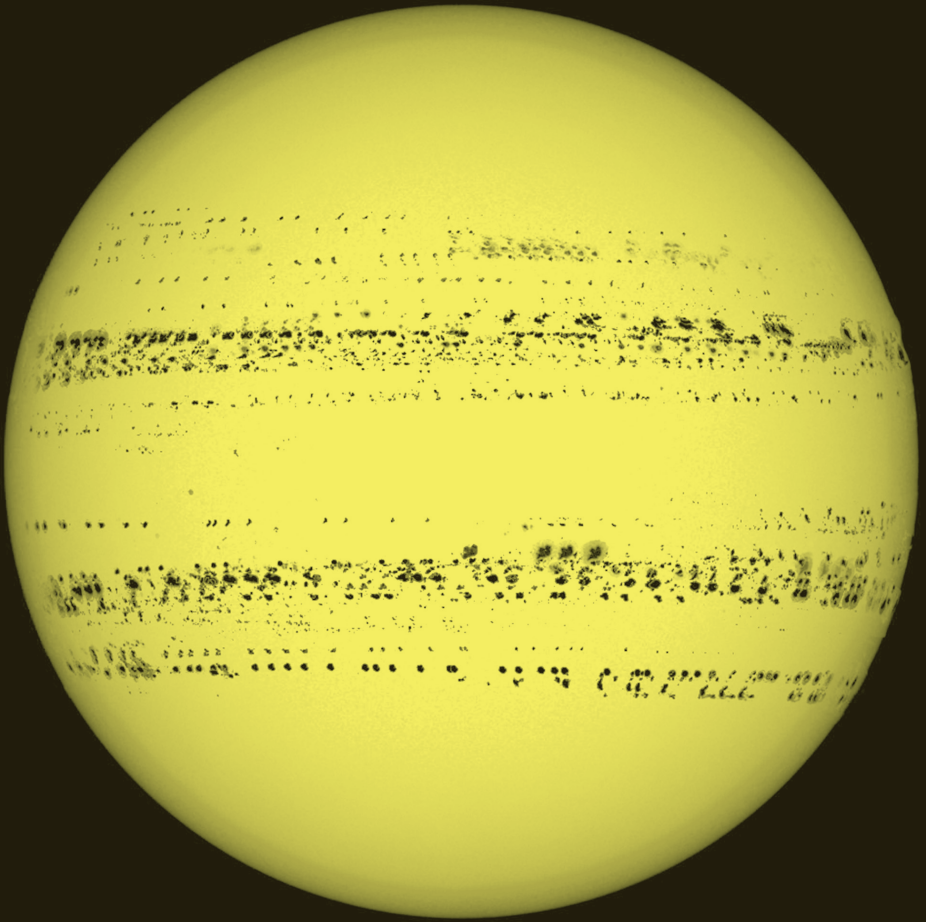




Sarah and Joseph Belknap

Eyes on the Sun, Hands on the Moon

Karsten Lund

In 2011 the National Aeronautics and Space Administration (NASA) launched the Space Weather Media Viewer, a website and iPhone app that collects near-real-time images of the sun from a variety of NASA missions.¹ These coronagraphs, HMI intensitygrams, and the like are beamed back to Earth from orbital satellites and from a terrestrial observatory in Austria. Each of the available views is a visual rendering of a data stream passing through a filter designed to facilitate observation of various types of solar activity, such as the sun's magnetic energy, solar wind, coronal loops, and plasma discharges. At any moment, a viewer can choose an image of the sun as a cold white circle speckled with black spots or a red sphere with flamelike magnetic loops—just two of the available options.

The artists Sarah and Joseph Belknap (who began working together shortly after getting married in 2008) have spent considerable time looking at NASA's iPhone app, and its images form the basis for their new video, *12 Months of the Sun* (2014). Although assembled from scientific sources, this multichannel animation is a subjective recording of a year in the life of our nearest star. From May 2013 to May 2014, whenever Joseph thought about the sun, even casually, he and Sarah would take screen shots of five of the filtered satellite views. The resulting regimen of screen grabs—irregular and idiosyncratic—was dictated by their thought patterns and passing conversations. The scope of their archive steadily increased, and once a full year had passed, the Belknaps compiled the set of images into an animated progression. As the video unfolds, visual correlations occur among the five screens, as events such as magnetic storms sweep across the sun.

This video is just one of many new artworks in the Belknaps' exhibition at the Museum of Contemporary Art Chicago. Their larger body of work, which encompasses sculpture, photography, video, installation, and performance, is fueled by a curiosity about how we think about our place in the cosmos and the various ways we apprehend celestial phenomena. The Belknaps' work is inspired not only by the history of science, and its methods and discoveries, but also by a personal sense of wonder and notions about the cosmos that prevail in the popular imagination. The video *12 Months of the Sun* provides a telling example of their approach in that it combines an individualized act of observation with an acute interest in scientific imagery.

"Seeing is so important in the sciences," writes the critic and novelist William H. Gass, "that the task is seldom left to the unaided eye, and never to the untrained one."² Indeed, the satellites to which the Belknaps refer essentially record the invisible, revealing aspects that

1 The Space Weather Media Viewer can be accessed at sunearthday.nasa.gov/spaceweather.

2 William H. Gass, "Catherine Wagner's Laboratories," in Cornelia Homburg, ed., *Art and Science: Investigating Matter*, exh. cat. (St. Louis: Washington University Gallery of Art, 1996), 33.



the human eye cannot see. Trained as artists, not astronomers, they do not claim to be scientific observers themselves. Instead, their work implicitly questions the role aesthetics plays in scientific discourses. In the end, these two realms are hardly antithetical. On a basic level, curiosity and experimentation are central characteristics of both art and science. Moreover, the Belknaps point out, most images of the sun or remote galaxies that illustrate scientific studies amount to artistic interpretations already. They are, in other words, arresting visualizations of non-visual data or enhanced depictions of elusive phenomena. Another case in point: NASA's Space Weather Media Viewer notes that the images it aggregates are in fact "color quoted" with false colors so that scientists can quickly distinguish them. Mediation and interpretation play significant roles in astronomy and other scientific disciplines, and aesthetic choices are involved in the process of sharing results.³ After all, the sun can *only* be closely observed in images, because to look at it directly is blinding.

The cultural meanings ascribed to the sun and the moon reflect the ways we experience these distant entities. "Every child is taught not to stare at the sun. The sun is the source of life itself, the great creative power," the poet Mary Ruefle writes. "One cannot confront god without instant annihilation. The moon has no light of its own; our apprehension of it is but a reflection of the sun."⁴ The moon becomes a testament, in this way, to our contingent experiences of the cosmos. In other works, the Belknaps focus exclusively on the moon, another celestial subject that allows them to explore various modes of observation and, in this

3 Robert Simmon, an art director affiliated with NASA, discusses these factors in *Task Newsletter #2* (Summer 2009); also available on the Walker Art Center blog: blogs.walkerart.org/design/10/22/spaceship-earth-the-image-archive-of-nasas-earth-observatory/ (accessed July 22, 2014).

4 Mary Ruefle, *Madness, Rack, and Honey* (Seattle and New York: Wave Books, 2012), 15.

case, the possibilities of unconventional sculptural materials. Recently, they have been making what they call “moon skins.” After either looking through a telescope or referring to photographs, they hand-carve a replica of the moon’s surface in hard foam and then produce a casting of the cratered mold out of silicone rubber. The resulting sculptures look as if the moon had shed its skin, like a snake, or as if the outer crust had been hung out to dry.

Precursors to the Belknaps’ approach to materials, especially experimental castings of rubber and fiberglass, can be found in the work of artists such as Bruce Nauman (American, b. 1941), Eva Hesse (American, b. Germany, 1936–1970), and Robert Overby (American, 1935–1993). For example, in the mid-1960s Hesse used latex in ways that accentuated its skinlike quality. Overby used that synthetic product to make impressions of architectural surfaces in the 1970s. The Belknaps, working decades later, use a more versatile rubberlike substance, but they similarly experiment with a range of applications and effects, modulating qualities such as density and weight, translucency, color, texture, and form. As a result, each of their sculptural works conveys its own apparent mood and distinct tactile qualities.

The question of touch as it relates to vision, and more generally to the apprehension of captivating objects in space, such as the moon, has a notable history of its own. In the early 1970s, the painter Vija Celmins (American, b. Latvia, 1938) made a number of detailed graphite drawings of the moon’s surface based on newspaper clippings and magazine photographs. For one of these works, *Moon Surface (Surveyor I)* (1971–72), her reference image was a composite photograph from the spacecraft *Surveyor I*, which landed, unmanned, on the moon in June 1966. Images from subsequent *Surveyor* missions were published the following year in *Scientific American*; in his accompanying article, Ronald F. Scott asked, “When men first set foot on the moon, what will the ground be like?”⁵ He went on to surmise how the moon must feel to the touch, basing his conjecture on photographs—*Surveyor I* sent back thousands—and footage of *Surveyor III* digging into the lunar surface. Celmins, for her part, made a meticulous drawing from visual evidence twice removed.

The Belknaps’ moon skins vaguely recall Celmins’s drawings, while actually translating the surface of the moon into a tangible, three-dimensional form. Their versions represent a different approach to comprehension, implying that artists might get to know the moon better by touch. Their efforts at rendering its surface share other crucial aspects with Celmins’s methodology, namely an underlying emphasis on the making of the work and the subtle transformations of their subject. As the critic Stuart Morgan suggests, Celmins, in “purloining” scientific subject matter, “is creating a parallel to the world to which we are accustomed, making it hers with all the involvement, however distant, that any such operation entails. In the end, the colour and the marks, standing for themselves, attest to the making rather than to any reality beyond. The image is adjusted, manipulated and twisted until it becomes different from what it had been.”⁶

5 Ronald F. Scott, “The Feel of the Moon,” *Scientific American* 217, no. 5 (November 1967): 34, as cited in *MoMA Highlights* (New York: Museum of Modern Art, 2013): 291, and discussed in Katie Geha, “Feel the Moon,” *Pastelegram.org*, June 12, 2012; pastelegram.org/features/79 (accessed July 7, 2014).
6 Stuart Morgan, “The Hard Way,” in James Lingwood, ed., *Vija Celmins: Works 1965–96*, exh. cat. (London: Institute of Contemporary Arts, 1996), 78.



The same might be said of the Belknaps' moon skins, which similarly require time and effort to produce by hand. The artists carve each mold gradually and the process of making the work is just as important as the final results, which diverge from the initial point of reference. Ultimately, each moon skin bears its own distinct crater pattern, texture, and visual effects, whether dense and shadowy or vividly colored. The completed objects are evocative constructions born of observation but suggesting a parallel world.

As Mary Ruefle observes, both scientists and poets have long laid claim to the moon; it is simultaneously an object of empirical study, a ready source of wonder, and a familiar—if often overworked—literary motif. In discussing various reactions to the first manned lunar landing, in July 1969, Ruefle recalls how some commentators lamented that the event ruined the moon as a subject of poetry, as if its mystery and power were diminished once astronauts stepped onto its dusty surface. Others felt differently. Ruefle quotes the Argentine novelist Julio Cortázar's response: "Man has reached the moon, but twenty centuries ago a poet knew the enchantment that would make the moon come down to earth. Ultimately what is the difference?"⁷ The Belknaps' outlook shares something with Cortázar's. Knowledge, they insist, does not necessarily dilute a sense of wonder. To understand the origins of the aurora borealis (magnetic discharges from the sun) hardly detracts from the experience of witnessing breathtaking color in the sky.

7 Cortázar quoted in Ruefle, *Madness, Rack, and Honey*, 18.



The Belknaps' work often operates at the crossroads of knowledge and wonder. In doing so, it encourages us to ponder the distance between our earthbound selves and the celestial entities above us. With their moon skins, they figuratively bring that orb down to Earth, as if they had peeled a piece of it away for a closer look. In their monumental, site-specific installation at the MCA, occupying a full gallery, the Belknaps present impressions of two craters side by side. One is a rendering of the largest impact crater on Earth, the Vredefort crater in South Africa (roughly a hundred ninety miles wide), and the other is the largest on the moon, the South Pole-Aitken Basin (a staggering fifteen hundred miles across). Using a similar process to the one employed to create their moon skins, the artists carved a model of each cavity and then made a silicone casting—in this case, twenty-four feet wide. They also mixed in other substances, such as mica flakes and simulated lunar regolith—an artificial equivalent of moon dust used by researchers—to give the silicone the desired color and texture. While collapsing the distance between the Earth and our nearest celestial neighbor, the Belknaps provide a comparative analysis of aesthetic forms: the Vredefort crater is soft and weathered, while the lunar crater is hard-edged, preserved in an airless void, and pockmarked by smaller holes within its basin. Both of these craters probably were produced by asteroid impacts billions of years ago. From one perspective, the Belknaps have simply mapped two different topographies. But their choice of subjects alludes to the cataclysms that result when natural forces collide in space.

In Arizona's Painted Desert, the artist James Turrell (American, b. 1943) has been toiling since the late 1970s on a magisterial work of land (and sky) art, situated within the volcanic Roden crater, an optimal site for celestial viewing. The Belknaps share Turrell's fascination with sky gazing and appreciation for the deeply affecting experiences it can provide. But the types of craters they have chosen to replicate cast considerably darker shadows, so to speak. A sense of wonder can be as much about fear as about beauty, and the Belknaps' craters hint at potentially catastrophic events. The kinds of asteroid impacts that created the actual craters they have rendered artistically could happen again, whether tomorrow or a hundred thousand years from now. The Belknaps' video of solar-satellite images also contains an ominous premonition, if only for those who know what they are seeing. One satellite view shows coronal loops pulsing out of the sun's surface. If one of these loops were to break, it could send a massive magnetic discharge to Earth that would devastate the power grid for decades to come.

Why are we humans so compelled to look up at the sun and moon or marvel at the promise of outer space? An inherent sense of wonder is surely one source of the answer. The experience of gazing at the night sky can produce a powerful scale shift, a sudden awareness of the vastness of the universe. There may be other answers, too. Looking up to the cosmos might become increasingly appealing as climate change and other looming threats come to alter life as we know it on our planet.

The outer reaches of the solar system, and even beyond, contain faint beacons of hope. In March 2009 NASA launched a space observatory, named after the seventeenth-century astronomer Johannes Kepler, to search for Earthlike planets beyond our solar system. To date, the *Kepler* spacecraft has found nearly a thousand so-called exoplanets, some of which hypothetically could sustain life. For their MCA exhibition, the Belknaps have also produced a handful of new silicone skins inspired by those faraway planets and by Jupiter's moons, which someday might be terraformed, too—that is, transformed to mimic the environment and atmosphere of Earth. Our own moon, for all its enduring romantic appeal, is actually a harsh expanse of dust and rock. Its austere beauty contrasts with the colors of Jupiter's moons (or images of them, at least) and what we know of exoplanets, which remain impossibly distant for now.

Whether viewed as tenuous symbols of hope or simply as a catalogue of cosmic forms, the Belknaps' moons and exoplanets embody the couple's singular combination of reference points and methods. Inspired by traditions of scientific observation, these works concurrently echo the longstanding dream of touching the moon (first achieved in 1969) and represent a process of artistic interpretation and material experimentation. At the same time, these moon skins appear in a deflated state, lending them a note of pathos: They look a bit like industrial remnants or synthetic leftovers—as if to emphasize, in the end, their origins on Earth.

Museum of Contemporary Art Chicago

220 East Chicago Avenue
Chicago, IL 60611
312.280.2660
mcachicago.org

Sarah Belknap (American, b. 1983) and **Joseph Belknap** (American, b. 1979) are Chicago-based interdisciplinary artists and educators who earned MFAs at the School of the Art Institute of Chicago. Their work has been exhibited in Chicago at the Arts Club of Chicago, Chicago Artists Coalition, Western Exhibitions, and Comfort Station, as well as in artist-run exhibition spaces in Brooklyn, Detroit, and St. Louis. In addition, they have staged performances at the Chicago Cultural Center, the Hyde Park Art Center, Links Hall, and the MCA.

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Sarah and Joseph Belknap
4 Months of Sun Spots, 2014
HMI intensitygram composite
(black and white)
9 × 9 in. (22.9 × 22.9 cm)

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