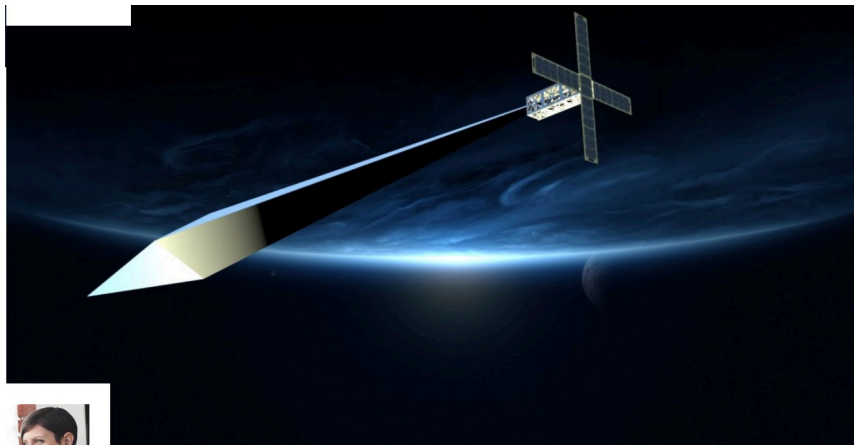




Segal, Corinne, “This beaming sculpture will shine from earth’s orbit—and probe the politics of space,” *PBS/KQED*, September 23, 2018



By —
Corinne
Segal

8

comments

Share ...



This beaming sculpture will shine from earth’s orbit – and probe the politics of space

Arts Sep 23, 2018 2:08 PM EDT

In November 1969, six tiny pieces of art hitched a ride to the moon.

The journey—undertaken in secret on the Apollo 12 mission—began with the sculptor Forrest Myers, who solicited small drawings from artists Andy Warhol, Claes Oldenburg, David Novros, Robert Rauschenberg and John Chamberlain. “Give me a drawing of something you want to go to the moon,” he told them.

Just months after Apollo 11 landed Americans on the moon, Myers worked with engineers at a lab to etch the drawings, including one of his own, on the surface of a ceramic wafer measuring less than one inch long and requested formal permission from NASA to send them on the next mission. As the launch date approached, Myers said, he had not heard back—so he **passed the wafer** through a middleman to an engineer working on the mission. Shortly before the launch, Myers received a telegram confirming the wafer had been stashed in one of the lunar module’s legs.

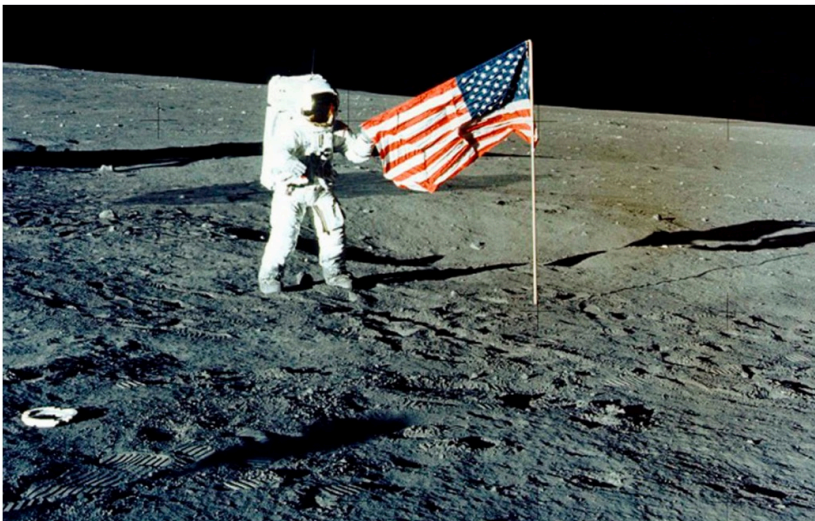
ALTMAN SIEGEL

1150 25TH ST. SAN FRANCISCO, CA 94107

tel: 415.576.9300 / fax: 415.373.4471

www.altmansiegel.com

The night the Apollo 12 lifted off from the Kennedy Space Center in Florida, Myers, Rauschenberg, Warhol, and Chamberlain opened a bottle of champagne at Max's Kansas City bar in Manhattan, celebrating what they believed would be the first art in outer space. Today, the piece is known as **"Moon Museum."**



Charles "Pete" Conrad Jr. stands with the U.S. flag on the lunar surface during the Apollo 12 mission, in this 1969 photo. Photo by NASA via Reuters

Now, nearly 50 years later, artist Trevor Paglen hopes to draw the public's eye back to the sky with "Orbital Reflector," a sculpture made of shiny material much like Mylar that will reflect the Sun's light while orbiting the Earth. The sculpture, contained in a small structure called a CubeSat, is scheduled to launch on a SpaceX Falcon 9 rocket from Vandenberg Air Force Base, California, in mid-November. When it enters orbit about 350 miles away from Earth, the sculpture will detach and inflate to its full shape, a diamond that may shine as bright as a star in the Big Dipper. After about two months, it will re-enter Earth's atmosphere and disintegrate.

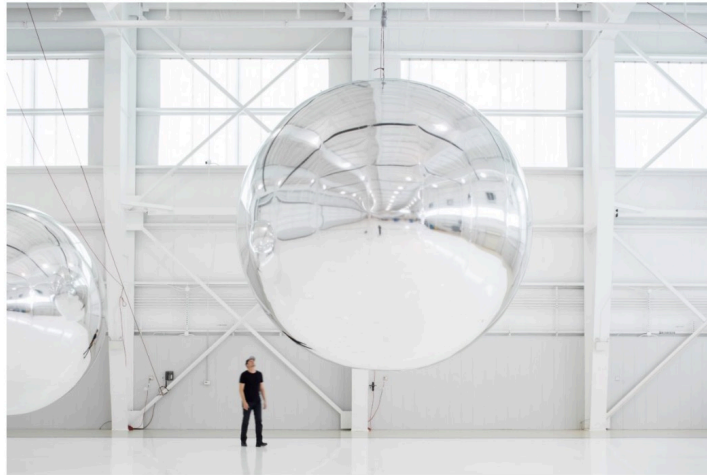
By sending an object with no military value into space, Paglen said he hopes to raise a conversation about who is allowed to operate past Earth's atmosphere. As artists and historians praise his effort as boundary-breaking, some people within scientific communities are saying it lacks a practical purpose.

ALTMAN SIEGEL

1150 25TH ST. SAN FRANCISCO, CA 94107

tel: 415.576.9300 / fax: 415.373.4471

www.altmansiegel.com



Trevor Paglen, Prototype for a Nonfunctional Satellite (Design 4; Build 4), 2013, Mixed media, 16 x 16 x 16 feet. Courtesy of Altman Siegel Gallery and Metro Pictures, 2013.

Art and a new space arms race

Paglen, a 2017 MacArthur fellow, has long been preoccupied with the less-visible, or deliberately hidden, infrastructures that make up the world. For years, he tracked the movements of more than 180 classified U.S. military spy satellites, measuring and photographing their locations for his project **“The Other Night Sky.”**

In his research, he came across the work of Russian Suprematist artist Kazimir Malevich, who in his 1920 text “Suprematism: 34 Drawings” described a vision of “Sputniks,” objects that orbited the Earth. More than 35 years later, the Soviet Union launched Sputnik 1, which became the first artificial satellite to orbit the Earth.

Malevich’s writing laid out “an imagination of space that’s very different than what space has turned out to be,” Paglen said.

Paglen points out that mankind’s relationship to space is inextricable from the recent history of geopolitical warfare, beginning with the space race and nuclear brinkmanship by the U.S. and Soviet Union.

In 1967, the **Outer Space Treaty** between the U.S., United Kingdom and Soviet Union stipulated that none could place weapons of mass destruction, nor conduct military exercises, in space. But in recent years, Russia, China and the U.S. have ramped up the development of weapons for space warfare, marking what some experts have called a space arms race.

“

“I want people to think about who should have the right to put what into space, and to what ends.” – Trevor Paglen

ALTMAN SIEGEL

1150 25TH ST. SAN FRANCISCO, CA 94107

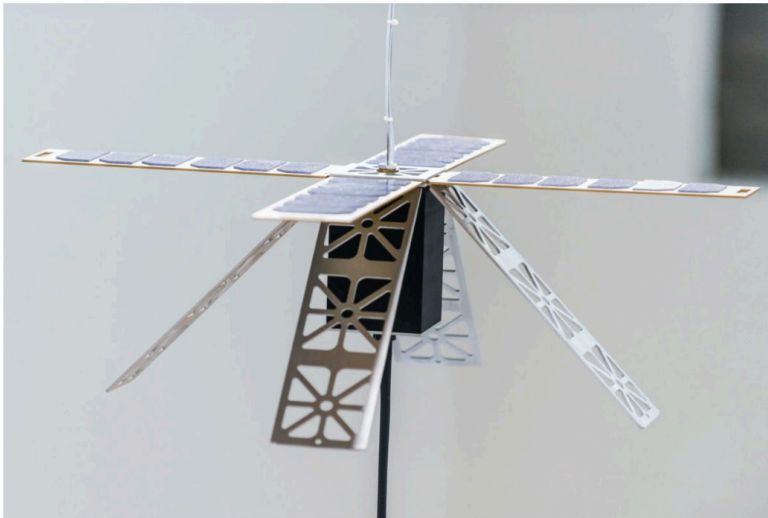
tel: 415.576.9300 / fax: 415.373.4471

www.altmansiegel.com

And in June, President Donald Trump requested the creation of a **Space Force**, which stoked public conversations about the possibility of space warfare, but the concept has not gained traction; it would require an extensive reorganization of the military and congressional approval.

With this competition among nations in mind, “I was thinking about, could we imagine a version of spaceflight that was about public space and was not about militarism?” Paglen said.

In 2008, he began assembling an advisory team that included academics, engineers, and other members of the aerospace industry. Six years later, he connected with the Nevada Museum of Art, who agreed to partner with him for the project.



Prototype for Trevor Paglen: Orbital Reflector, co-produced and presented by the Nevada Museum of Art, on view in the Donald W. Reynolds Grand Hall at the Nevada Museum of Art. Courtesy of Nevada Museum of Art. 2016.

As part of the design process, Paglen considered the level of light intensity he wanted the sculpture to reflect, the amount of time it would spend in space and the type of technology that would achieve those goals. The project had a budget of \$1.5 million, raised from a combination of **sponsors** and a **Kickstarter campaign**, most of which went toward fabrication and launch costs, according to Amanda Horn, director of communications at the Nevada Museum of Art.

The piece also needed to comply the same extensive national and international standards as every other object in orbit, including those set by the International Traffic in Arms Regulations, the Federal Communications Commission and the U.S. Air Force.

Currently, there are more than 1,800 satellites orbiting the Earth, according to a **database** compiled by the Union of Concerned Scientists, a science advocacy organization based in Cambridge, Massachusetts. They serve a variety of purposes, including intelligence, telecommunications and research. For this project, Paglen said, he wanted to “make a satellite that’s the exact opposite of every other satellite that’s ever been made.”

Last week, the FCC granted a license for the project, directing Paglen and the Nevada Museum of Art to comply with the International Radio Regulations and provide details of the sculpture’s frequency assignments to both the FCC and International Telecommunication Union. The approval marked the final step in the project’s licensing process, a “huge amount of work” that stretched over a decade, Paglen said.

Who is allowed in space?

The project has drawn some criticism and confusion from scientists who question the value of adding what they see as impractical items to Earth’s orbit.

“It’s the space equivalent of someone putting a neon advertising billboard right outside your bedroom window,” Jonathan McDowell, an astrophysicist at the Harvard-Smithsonian Center for Astrophysics, **told Gizmodo**.

Some of that criticism comes from a “sense of encroachment,” said Dr. Caleb Scharf, director of the Columbia Astrobiology Center at Columbia University. The project is “not quite capturing reasons why we should reflect upon our place in the universe and why we should preserve the possibility of those reflections, which means keeping the night sky as raw as possible,” he said.

Not everyone in the field agrees. Kerri Cahoy, associate professor of aeronautics and astronautics at Massachusetts Institute of Technology, said that raising awareness around space could outweigh other concerns. “If it has a couple kids out there on a clear night with a telescope tracking it and pointing and watching, and is enough of an event that they get out there and do that, then it’s all worth it,” she said.

ALTMAN SIEGEL

1150 25TH ST. SAN FRANCISCO, CA 94107

tel: 415.576.9300 / fax: 415.373.4471

www.altmansiegel.com



Design concept rendering for Trevor Paglen: *Orbital Reflector*, co-produced and presented by the Nevada Museum of Art. Courtesy of Trevor Paglen and Nevada Museum of Art. 2017

Paglen responded to criticisms in August in a Medium post titled **“Let’s Get Pissed Off About Orbital Reflector...”**, saying he hoped to provoke productive conversations.

“My intention has been to bring some awareness about how profoundly compromised space has become by the world’s militaries and corporations,” he wrote. “I want people to ask questions about the legitimate uses of space. I want people to think about who should have the right to put what into space, and to what ends.”

Artists have long confronted the question of who is allowed to occupy locations technically considered “public,” in particular a group of American land artists in the 1960s and 1970s, whose work Paglen cited as inspiration for “*Orbital Reflector*.”

Yearning to create large-scale work beyond the confines of gallery walls and traditional practices, land artists took to the remote landscapes of the American West. Creating massive pieces that defied existing art norms, they drew the public’s eye to lesser-known locales.

One of the movement’s most well-known pieces, “*Spiral Jetty*” by Robert Smithson (1970), consists of a 1500-foot long earthwork of black basalt rocks that extends as a spiral into the bed of the Great Salt Lake in Utah. Other pieces, including “*The Lightning Field*” by Walter De Maria (1977)—in which the artist placed 400 stainless steel rods 220 feet apart in the western New Mexico desert—explicitly called the viewer’s attention to the relationship between the landscape and the sky.

In many cases, land artists were not only “creating large scale artworks like we’ve never seen before, they were also stirring up a conversation or a provocation about who owns that space, that public space,” David Walker, executive director of the Nevada Museum of Art, said.

ALTMAN SIEGEL

1150 25TH ST. SAN FRANCISCO, CA 94107

tel: 415.576.9300 / fax: 415.373.4471

www.altmansiegel.com



Nancy Holt, Sun Tunnels, Great Basin Desert, Utah, 1973-1976. Concrete, steel, and earth. 110 1/2 x 822 x 636 inches. Art © Estate of Nancy Holt/Licensed by VAGA, New York, NY. Photo courtesy of the Estate of Nancy Holt.

Meanwhile, artist Nancy Holt turned her gaze to the stars.

For the piece “Sun Tunnels” (1976), Holt positioned four concrete cylinders, each about the length of a cement truck, in the Nevada desert, miles away from the nearest town. For a few days around the winter and summer solstice, the cylinders perfectly frame both the sunrise and sunset on the horizon, and a series of cutouts in the cylinders also frames the constellations Capricorn, Draco, Perseus and Columba.

Holt **wrote** of the location, “Only 10 miles south of Sun Tunnels are the Bonneville Salt Flats, one of the few areas in the world where you can actually see the curvature of the earth. Being part of that kind of landscape and 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.”

ALTMAN SIEGEL

1150 25TH ST. SAN FRANCISCO, CA 94107

tel: 415.576.9300 / fax: 415.373.4471

www.altmansiegel.com



Nancy Holt, Sun Tunnels, Great Basin Desert, Utah, 1973-1976. Concrete, steel, and earth. 110 1/2 x 822 x 636 inches. Art © Estate of Nancy Holt/Licensed by VAGA, New York, NY. Photo courtesy of the Estate of Nancy Holt.

Land artists “using the Earth as a context for the piece, but also by doing a slight intervention into the Earth, [were] asking you to see the Earth with a fresh or different set of eyes,” Paglen said. “For me, that’s very much what I’m trying to do with this project, is to stage that kind of provocation. It’s a kind of intervention into the space of space.”

Suzaan Boettger, an art historian and author of “Earthworks: Art and the Landscape of the Sixties,” said she sees “Orbital Reflector” as a continuation of land artists’ work. “It’s part of a trajectory of expansion of places where art can be,” Boettger said.

“Space and this vast landscape of the West relate to one another very well,” said Kelly Kivland, associate curator at the Dia Art Foundation, which owns both “Spiral Jetty” and “Sun Tunnels.”

“Using space is the next terrain for artwork ... makes great sense,” she said. “It speaks to this idea of the unknown in the relationship to the sky above and our universe.”

ALTMAN SIEGEL

1150 25TH ST. SAN FRANCISCO, CA 94107

tel: 415.576.9300 / fax: 415.373.4471

www.altmansiegel.com



Astronaut Alan L. Bean, Lunar Module LM pilot, deploys the Apollo Lunar Surface Experiments Package ALSEP during the Apollo 12 mission in this November 19, 1969 NASA photo. Photo by NASA via Reuters

On November 14, 1969, Apollo 12 became the second manned mission to land on the moon and may have borne the first space-based artwork. Two years later, the Apollo 15 crew placed a sculpture by Paul Van Hoeydonck on the moon that commemorated **14 astronauts** killed in their line of work. And now, the next generation of space art is nearly ready to begin its voyage.

Forrest Myers, who masterminded “Moon Museum,” said he hopes to see the day when artists travel to space to create their work.

“I think once they get there, they’ll figure out plenty of stuff to do,” he said. “This is the future of art.”