



TO INFINITY AND BEYOND



BY ALLISON BARKER

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'pace Art' isn't a term one hears a lot in the art world, just yet. Defined by the International Association of Astronomical Artists (IAAA), the movement broadly encompasses "art emerging from knowledge or ideas associated with outer space". The IAAA boasts a roster of 130 member-artists; yet, a quick web-search of a few of these names returns some surprisingly rudimentary websites for a school that supposedly unites aestheticism with complex cosmic technology. The category of Space Art remains largely unexamined in the literature of traditional art outlets like museums, galleries and auction houses. In fact, none of the prestigious artists listed in this article would refer to themselves as 'space artists' (nor are they included among those listed on the IAAA index), but the intergalactic fascination which unites them certainly constitutes a trend, if not a genre, in contemporary and emerging art. While the IAAA appears to be more a league of 'scientists-who-fancy-themselves-artists' than anything else, over the last 15 years, impressive works of Space Art have been making their way into the hallowed white walls of the established art world.

Space Art really took off after WWII, when comic books and science fiction magazines increasingly served as outlets for the genre. In America, pioneers like Chesley Bonestell (b. 1888-1986) incorporated developments in fields like rocketry and astronomy into depictions of UFOs and otherworldly landscapes for Hollywood sets, magazine covers, and graphic novels. Comic villains, previously iterations of Nazis, Hitler, Tojo, or Mussolini, by the 1950s had morphed into aliens and communists. Meanwhile, in US-occupied-Japan, modern manga exploded. American comics imported by U.S. military debatably influenced the 'manga' genre (some argue manga developed independently from Japanese Meiji traditions); regardless, manga, which can be traced back as far as 1905, proliferated on the devastated island nation in the wake of WWII. Artists like Osamu Tezuka (creator of Mighty Atom a.k.a. Astro Boy) explored the future of technology while providing an outlet for the relevant concerns of those haunted by the apocalyptic nightmare of the atomic bomb.

In the 1960's, as the Cold War tensions escalated and the Space Race seized the world's attention, science fiction's popularity continued to grow. The arms race between the world's two major superpowers had sparked the development of bigger and better rockets on both sides. As their nuclear potential grew, so too did each nation's extra-terrestrial ambitions. In 1968, just one year before the first man walked on the moon, Stanley Kubrick's masterpiece '2001: A Space Odyssey' opened minds in America and beyond to the real possibilities of space travel and habitation through its imagined-but-informed depictions of man's journey into the cosmos. Films like Star Wars (1977), Alien (1979), 2010 (1984), and The Right Stuff (1983) explored what it meant to conquer the universe, using developments in special effects to translate cutting edge scientific discoveries into a language we could not only understand, but also envision. Comics and later, films, often presupposed human potential in space, using the universe as a theater for airing the global cultural concerns of their respective eras. If indeed, as conspiracy theorists would have it, the American moon landing was produced on a sound stage, it's probably the most successful work of space art in the galaxy... now and for eons to come.

Ironically, the magnificent intellectual and aesthetic potential of Space Art traces its roots to the terrifying prospects of global nuclear destruction. After WWII had devastated Europe, to many the world appeared a place too bleak – it bordered on absurdity. Albert Camus summarised the experiences of those artists, "Born at the beginning of the First World War, who were twenty when Hitler came to power... who were then confronted... with the Spanish Civil War, the Second World War, the world of concentration camps, a Europe of torture and prisons – these men must today... create their works in a world threatened by nuclear destruction."

Among these artists: Visionaries Otto Peine, Heinz Mack, and Gunther Uecker, who founded the Zero group in Dusseldorf, 1957. Zero provided its artists a blank slate, with a goal of returning to "a zone of silence and of pure possibilities". At a time when our world felt a nearly impossible place to live, members of Zero opened themselves to a universe of creative prospects, using media like light, light forms, smoke, and mirrors to explore the struggle between light and dark, good and evil, which defined their era. In 1961, at the height of the Cold War, Peine described his desire for art, which would take place peacefully in the infinite beauty of space:

*"Yes, I dream of a better world.
Should I dream of a worse?"*

What remains of art, of the constructive ability of man, if we look down on the world from above? Centuries shrivel to moments when we think that they will roll on forever. The world of space is the only one to offer man practically unlimited freedom. (Why is there no art in space, why do we have no exhibitions in the sky)... Up to now we have left it to war to dream up a naive light ballet for the night skies... When will... we conquer the sky for the fun of it, glide through the universe, live the great play in light and space, without being driven by fear and mistrust? As a spectator of this astronauitic theater, man would not have to take cover, he would be without fear, free..."

Half a century later, we have begun to accomplish Peine's dream. As the Space Race fades into distant memory and private citizens reserve seats on commercial flights into the galaxy, artists today collaborate with scientists to create works of unparalleled technical finesse and beauty. Even as we continue to use our most advanced technology in the pursuits of war, collaborations in the name of peaceful artistic and scientific discovery have bridged gaps between nations and given us the first real examples of the 'astronautic theater', to which Peine aspired. By integrating the most advanced yields of technology (both in terms of what it continues to reveal to us about outer space as well as its ever-expanding potential as a medium), successful works of Space Art tether themselves to their place in history, achieving timelessness through poignant examinations into the everlasting enigmas of existence. Surely today an 'exhibition in the sky' seems a more plausible accomplishment than world peace, but we can hope that the cosmic quest for beauty and knowledge will continue to triumph over the human tendency for destruction as we unlock the mysteries of the universe, and discover the magical truths of our common history as Earthlings.

"Artists today collaborate with scientists to create works of unparalleled technical finesse and beauty."

TOM SACHS AMERICAN (B. 1966)



In 2011, Tom Sachs debuted his massively ambitious project, SPACE PROGRAM: MARS, at the Park Avenue Armory in New York. With support from public art non-profit Creative Time, Sachs transformed the Armory's soaring 55,000 square-foot Wade Thompson Drill Hall into a full-scale expedition to the red planet. Working with simple materials like foam core, hot-glue and plywood, Sachs and his team created an elaborate spacecraft, a fully functioning mission-control unit, launch platforms, a Martian landscape and handmade Tyvek suits. While his models and landscapes approached technical perfection, Sachs takes artistic license when it comes to the accoutrements of space travel, equipping his spaceship with a fully stocked booze cabinet, library, toolkit, and soundtrack "necessary for survival on an alien planet" – handmade humor has been a central element in the artist's career.

In 1998, Sachs took on his largest project yet when he outsourced the

creation of a full-scale model of the atomic bomb dropped on Nagasaki (the ultimate destructive and inherently disposable commodity). Entitled 'SONY Outsider', the work disappointed critics and even the artist himself. By eliminating any evidence of human fallibility, Sachs had removed an essential element from the body of work he had already produced so successfully. In a 2006 interview conducted for the catalogue survey of his exhibition at the Fondazione Prada, the artist admits, "At the time I didn't fully grasp the value of my handcrafted [work]... I should [have left] it to SONY or Motorola to make those perfect things."

The experience reaffirmed Sachs's commitment to assembling functional contraptions out of found rather than manufactured materials. With renewed resolve, the artist went on to investigate his obsession with space exploration in sculptures like 'Crawler' (2003), and



'Lunar Module (1:18)' (1999). In 2007, inspired by the Apollo Missions of the 60s and 70s, he created the first iteration of SPACE PROGRAM, which included a 1:1 model of the Apollo lunar module presented in Gagosian's Los Angeles gallery.

For both his lunar and Martian 'expeditions', Sachs not only recreated the physical structures associated with space travel, he also simulated, in real time, the various exercises required for travelling to space. Over the course of four weeks at the Armory, he and his team performed live demonstrations: "launching", "landing" and "exploring" on Mars. They executed scientifically accurate instrument checks, rover deployment, suiting protocol and sample collecting, giving viewers real insight into the realities of space travel and asking timely questions about how we plan to conquer the last frontier.

THIS PAGE, ABOVE: IN SPACE PROGRAM: MARS AT THE PARK AVENUE ARMORY, THE ARTIST TOM SACHS AND HIS TEAM IMAGINE AND EXAMINES THE SURFACE OF MARS. PICTURED IS THE MOBILE QUARANTINE FACILITY.

THIS PAGE, CLOCKWISE FROM TOP LEFT: UNITED STATES, 2013, PART OF TOM SACHS'S AMERICAN HANDMADE PAINTINGS EXHIBITION; WORK FROM SPACE PROGRAM: MARS AT THE PARK AVENUE ARMORY; TOM SACHS AND KANYE WEST.



AZUMA MAKOTO JAPANESE (B. 1976)



Tokyo-based florist-cum-artist, Azuma Makoto, took horticulture to stratospheric new levels this 2014 summer outside Gerlach, Nevada. Known for creating exquisite floral designs for titans of luxury like Boucheron and Hermes, Azuma collaborated with JP Aerospace (America's Other Space Program) to launch two botanical installations into outer space from a camp in the Black Rock Desert.

The sculpture, entitled 'Exobiotanica', comprised "Shiki 1", a 50-year-old Japanese white pine bonsai suspended from a light metal frame, and "untitled", an arrangement of "brightly coloured flowers from around the world." In preparation for the launch, Azuma and his team experimented with the effects of super low-temperatures on the sculptures and worked on precise calibrations for video and digital cameras, which would capture Exobiotanica's journey through

the atmosphere. The sculptures were then escorted into space by two launch devices, 'Away 100' and 'Away 101', each attached to helium balloons and equipped with identical different tracking systems. After launching separately, six GoPro cameras arranged in a sphere captured 360-degree views of their journey, beaming back surreal images of the horti-sculptures against the dramatic landscape of outer space.

JP Aerospace, the artist's astro-collaborator, has been constructing and sending objects into orbit for 31 years now. John Powell, founder of the Sacramento-based volunteer organisation has been launching things into outer space since he was a teenager. To him, the best thing about Azuma's project was that "a familiar object like a bouquet of flowers flying above Earth domesticates space, and the idea of travelling into it."

THIS PAGE, CLOCKWISE FROM TOP: THE JAPANESE WHITE BONSAI, LAUNCHED INTO SPACE AS PART OF AZUMA MAKOTO'S PROJECT, EXOBOTANICA; AZUMA MAKOTO AT WORK IN HIS STUDIO.



TREVOR PAGLEN AMERICAN (B. 1974)

Trevor Paglen's probing artistic career prepared him well for his foray into Space Art. A few years ago, when Paglen started taking pictures of classified spy satellites in the night sky, he discovered that certain communications satellites, because they've been synchronised with Earth's orbit, will never be affected by atmospheric drag, and thus, will never decay. Long after Earth's skyscrapers have crumbled to the ground and humans have disappeared from existence, a loop of metallic detritus will circle twenty-two thousand miles above the planet "like ghost ships", possibly for billions of years.

Inspired by this phenomenon, he secured funding from Creative Time in 2008, then set out to work on his first official piece of Space Art. For the project entitled "The Last Pictures", Paglen collaborated with researchers at MIT to create a vessel that could be launched into space, and attached to one of these future "ghost ship" satellites, carrying an explanation of our existence. Paglen and his collaborators eventually decided on a gold-plated aluminum canister carrying a small silicon disc, etched with a hundred tiny black and white images selected by the artist.

THIS PAGE, CLOCKWISE FROM TOP LEFT: GOLD-PLATED, MICRO-ETCHED DISC, AS ONE OF THE WORKS FROM TREVOR PAGLEN'S *THE LAST PICTURES* PROJECT, CONTAINING ONE HUNDRED PHOTOGRAPHS OF SIGNIFICANT HISTORICAL EVENTS LAUNCHED INTO SPACE ON A SATELLITE; PORTRAIT OF TREVOR PAGLEN; AN EMBLEM FROM THE PENTAGON'S BLACK WORLD, AS PART OF PAGLEN'S BOOK PROJECT *I COULD TELL YOU BUT THEN YOU WOULD HAVE TO BE DESTROYED BY ME*; NATIONAL SECURITY AGENCY HEADQUARTERS, AS PHOTOGRAPHED BY PAGLEN

Paglen took painstaking measures to select the final one hundred images etched on the disc. When the last pictures launched in 2012, its pictorial chronicle of human history included images of the Suez Canal, cave paintings, a middle finger extended toward the Eiffel Tower, a dust storm in Texas, a mushroom cloud, an industrial chicken farm, and Trotsky's brain. Paglen admittedly painted a pretty bleak picture of human existence. He explained to The Atlantic, "This is not a project that's supposed to explain to aliens what humans are all about and be the definitive record of human civilisation... [Rather,] it is a collection of images [to] explain to somebody in the future what happened to all of the people who built the dead spaceships in orbit around the earth. And how they killed themselves...."

Paglen's futuristic memento mori might someday reveal to aliens the formidable danger humanity exerts on itself; in the meantime, the last pictures supplies us, earth dwellers, with a cosmically macabre warning.



SHARON HARPER AMERICAN (B. 1966)

Sharon Harper's photographs of the ever-changing movements of cosmos speak as poetically as Degas' impressionistic depictions of Parisian ballerinas. Unsurprisingly, Harper revealed to the Harvard Crimson in 2012, "I've been really inspired by sculpture and dance... the visceral and kinetic response you can get... I think you can also get that in photography." Working within the traditions of champions of her own medium, the artist admires 19th-century photographers, like Eadweard Muybridge, who focused on visualising motion.

Harper began taking pictures at 17, and eventually earned an MFA in photography and related media from the School of Visual Art in New York. Early in her career, she resolved that daylight provided too much description for the images she hoped to capture. Speaking with Crimson reporter Victoria Zhuang, Harper remembered the evolution of her practice, "I was looking for a way to photograph that contained [an] element of transformation. And when I photographed during the day, I found... [the images] too descriptive of reality... when you're dealing with darkness, you're up against the technical limits of photography. Subject-wise, in the darkness there's this element of surprise. First I was working with moonlight, but then I'd be at a point where I'd just point my camera at the moon... trying to create some relationship with something so far from us."

Since, Harper's worked mostly at night, using extremely long exposures to capture the constant flux of the solar system on film. Her ability to manifest the movements of the planets in a single image expands our perception of the unseen. The resulting series, such as 'Moon Studies and Star Scratches' (2003-09) are representational yet abstract, appearing as though the artist has finger-painted with the stars in the sky. Working "against the technical limits of photography", Harper's mystifying images examine how technology affects very human our perception of nature, and in particular, outer space.

THIS PAGE, ABOVE: A WORK FROM SHARON HARPER.

MICHAEL NAJJAR GERMAN (B. 1966)



"Najjar's imagination gently leads us into the future, opening our minds to a realm of nearly infinite possibility."

A self-described artist, adventurer and future astronaut, Najjar intends to be the first contemporary artist in outer space. In 2015 (or 2016) Najjar will boldly go where no artist has gone before when he blasts off into the stars aboard Virgin Galactic's inaugural commercial space flight. Before launching from Spaceport America in the New Mexico Desert, the artist will be intensely prepared. Going above and beyond any standard pre-space-prep required by Virgin Galactic, Najjar's investigative tendencies prompted him to do as professional astronauts and enroll in the training program at the Gagarin Cosmonaut Training Center (GCTC) in Star City, Russia. At GCTC the artist has flown fighter jets in the atmosphere, simulated space walks in zero gravity, completed centrifuge training, and documented his aeronautical progress along the way.

The series, begun in 2011 and fittingly entitled 'outer space', already includes two-dozen series of photo and video projects, which combine straight photography and digitally manipulated images. Among them,

a visual account of Najjar's experience in a reduced gravity airlift, entitled 'kinetic drift' (2011 – ongoing), considers the pending reality of long-term stints in space by exploring the effects of microgravity on astronauts' balance and proclivity for increased spatial disorientation after extended Zero-G exposure.

Another, inspired by the experience of simulating weightlessness underwater, 'liquid gravity' (2013) pictures a cosmonaut submerged in what at first appears to be a simulated experience of anti-gravity in a massive tank of H₂O. However, a computer generated glimpse of the earth, visible through the industrial looking porthole, intentionally disorients the viewer, revealing an inherently human tension felt between space, anti-gravity, and the body. By exploring the most humanising effects of space travel in his work, Najjar's imagination gently leads us into the future, opening our minds to a realm of nearly infinite possibility, and perhaps, a future world fit for the Jetsons.

THIS PAGE, CLOCKWISE FROM TOP: MICHAEL NAJJAR WEARING AN ORLAN-M SPACE SUIT IN THE HYDROLAB IN YURI GAGARIN TRAINING CENTRE, STAR CITY, RUSSIA; IMAGES FROM HIS SERIES *OUTER SPACE*.

AGNES MEYER-BRANDIS

GERMAN (B. 1973)



Since 2011, artist Agnes Meyer-Brandis has been personally training 11 geese, yes, geese, for a “ground breaking lunar expedition” on a farm in Abruzzo, central Italy. Schooled in both art and science, Meyer-Brandis studied mineralogy before transferring to the Maastricht Academy of Fine Arts in the Netherlands to focus on sculpture. An ever-enthusiastic student, she learned about photography under the Czech artist Magdalena Jetelova and earned her masters degree from the Academy of Media Arts in Cologne. Since, Meyer-Brandis’ artistic career has been marked by whimsical, “subjective science” experiments she refers to as “bio-poetic investigations”.

In 2007, prompted by an invitation from the German Aerospace

Center to create a project that explored the relationship between weightlessness and cloud formation, Meyer-Brandis came across a collection of early science fiction writings by 17th century English bishop Francis Godwin. Godwin’s tale, entitled, ‘The Man in the Moone’ (c. 1620), describes the adventures of one Domingo Gonzales, a courageous Spaniard who flies to the moon in a chariot pulled by “moon geese”.

Inspired by Godwin’s imaginative story, Meyer-Brandis developed the idea for her “Moon Goose Colony”, which would test the hypothesis that, given the appropriate training, geese could, indeed, fly to the moon. As with all of her “bio-poetry”, the artist conducted exhaustive



investigative research before working with the geese. In preparation for the Moon Goose Colony, Meyer-Brandis consulted with NASA scientists when she visited the Jet Propulsion Laboratory in 2010.

The following year her avian-ambitions came true when the artist adopted 11 goose eggs and convinced an Italian farmer to host her wild research experiment. Neil, Svetlana, Gonzales, Valentina, Friede, Juri, Buzz, Kaguya-Anousheh, Irena, Rakesh and Konstantin-Hermann, (each named after a famous astronaut or related fictional character), soon hatched into healthy little goslings and immediately began training for space travel. Enrolled in a rigorous lunar program of artistic design, Meyer-Brandis required the birds regularly attend lectures on the space

debris problem, simulate space walks, and study navigation techniques. After their first nine months under the artist’s wing, she determined that her feathered friends had prepared adequately for ‘The Moon Goose Analogue’, and released them into an enclosed environment on the farm that simulates conditions on the moon’s surface.

The project is ongoing. In many of her international exhibitions, Meyer-Brandis features a control room in which visitors can take a gander at her flock on a live stream from Abruzzo. “I’m creating my own areas of study,” the artist explains, “I hope to use that to observe people’s attitudes towards the exploration of new worlds both on and beyond earth.”