

MILDRED LANE KEMPER ART MUSEUM

Educator's Guide

Tomás Saraceno: Cloud-Specific

September 9, 2011–January 9, 2012

ABOUT THIS GUIDE

This guide is designed as a multidisciplinary companion for educators bringing their students to view *Tomás Saraceno: Cloud-Specific*, on view at the Mildred Lane Kemper Art Museum from September 9, 2011, to January 9, 2012. Our intent is to offer a range of learning objectives, gallery discussions, and post-visit suggestions to stimulate the learning process, encourage dialogue, and make meaning of the art presented. Teachers at all grade levels should glean from this guide what is most relevant and useful to their students.

IN THIS GUIDE

Before You Visit	p.2
In the Gallery	p.3
Collection Connections	p.4
In the Classroom or at Home	p.5
Vocabulary	p.5
Additional Resources	p.6



Tomás Saraceno, *32SW Iridescent / Flying Garden / Air-Port-City*, 2007. Air pillows, elastic rope, webbing, iridescent foil, and pump system, 67" diameter. Courtesy of the artist, Andersen's Contemporary, Tanya Bonakdar Gallery, and pinksummer contemporary art.

ABOUT THE ARTIST

Tomás Saraceno (Argentine, b. 1973) is internationally recognized for his fantastic architectural proposals, pneumatic sculptures, and environmental installations. *Tomás Saraceno: Cloud-Specific* showcases a selection of the artist's latest inflatable sculptures, prototypes, and video work, all linked to his investigations into new modules for living that respond to the challenges of climate change and other social and environmental concerns. Drawing inspiration from structures found in nature—clouds, bubbles, spider webs—this installation of his newest work advances the artist's longstanding exploration of *Air-Port-City* (2001–present), a visionary project for a sustainable city in the sky.

INTERDISCIPLINARY CONNECTIONS

Visual Arts, Architecture, Environmental Studies, Engineering, Biology, Chemistry, Physics, Aeronautics, Sociology, Political Science, Philosophy, Technology

LEARNING OBJECTIVES

- Students will discuss how multiple disciplines inform Tomás Saraceno's playful and experimental art, including architecture, environmental studies, and engineering.
- Students will explore ideas of innovative, sustainable living spaces and the notion of a utopian world.
- Students will discuss different approaches to the built environment, how cities are organized, and issues of land ownership and borders between nations.
- Students will explore the influence of the natural world on Saraceno's work, particularly clouds, bubbles, and spider webs.

The guide was prepared by Allison Taylor, manager of education programs, and Stephanie Ruse, school and community programs assistant. Contact Stephanie Ruse at (314) 935-5624 or ruse@wustl.edu to schedule a visit to the Museum.

BEFORE YOU VISIT

Suggested topics to explore, research, and discuss with your students before visiting the exhibition.

Sustainability | elementary school level

- In his architectural models, Saraceno seeks to create a more permeable, sustainable relationship between the built and natural environment. But what does “sustainability” mean? Research sustainable practices for homes, schools, and offices. How sustainable is your school? Your classroom? If you could redesign the structure of your school, how would you make it more integrated into the natural environment? What might it be like to go to school in a structure designed by Tomás Saraceno?

Utopia & Dystopia | middle and high school level

- Sir Thomas More titled his 1516 novel about a fictional island society *Utopia*, a word that comes from the Greek phrase for “no place,” implying that a true utopia is impossible. According to Tomás Saraceno, “utopia exists until it is created.” He explains, “A hundred years ago was it not considered to be a utopian thought that people could travel by aeroplane? Now, five million people fly every year...; the idea of utopia is in constant mutation and changes according to the era.”¹ Do you believe that the creation of a utopian society is possible? Why or why not? What would it look like?
- Co-existing with nature is essential to Saraceno’s vision of utopian life. *Brave New World* (1932), *1984* (1948), *Fahrenheit 451* (1951), *The Giver* (1993), and *The Hunger Games* (2008) are examples of novels about futuristic dystopias, or repressive societies that are often under the guise of being utopian. How might one person’s utopia be another person’s dystopia? In many of these novels, humans are isolated from and distrustful of the natural world. Why do you think that might be? What role does nature play in these societies?

Dome Architecture | high school level

- One of the greatest influences on Saraceno is the visionary architect and inventor R. Buckminster Fuller (American, 1895–1983), who designed structures that use a minimum amount of materials and energy while enclosing a maximum amount of space. One such structure is his geodesic dome, which uses straight elements to form interlocking polygons and relies mainly on tensegrity, a form of tension, to stay in place. Where do you see the influence of Buckminster Fuller’s philosophical ideas and geodesic dome structure in Saraceno’s art? Research other artists, architects, and engineers who make use of the geodesic dome. How does their work compare to the images of Saraceno’s work in this guide and online?

Border Disputes | high school level

- Tomás Saraceno’s ongoing project *Air-Port-City* consists of various modules and bubbles that theoretically join together like clouds to form international cities. This vision would allow for “an incredible mobility for people, information, [and] data, creating a continuous redefinition of the boundaries and of national, cultural and racial identities.”² Consider different present-day border disputes—for example, between Mexico and the United States or within Israel. Does Saraceno’s *Air-Port-City* offer a practical solution to those conflicts? What further issues might it raise?

¹ Tomás Saraceno, “Conversation with Tomás Saraceno, Luca Cerizza, and pinksummer,” 2004, <http://www.pinksummer.com/pink2/exb/sar/exb001en.htm>.

² Ibid.

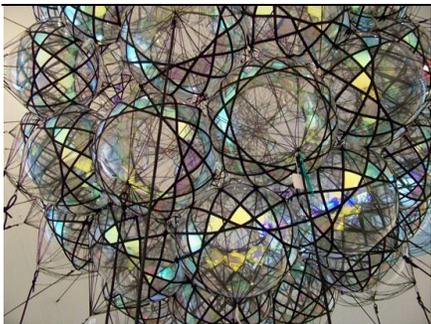
IN THE GALLERY

Ideas to consider when visiting the exhibition.

Does this art remind you of anything you've seen in nature? Imagine the artwork in an outdoor setting. How would being in the natural world affect the artwork?

Saraceno takes inspiration for his art from nature, particularly spider webs, bubbles, and clouds. How is this reflected in his artwork? He has been fascinated with spiders and their webs since seeing an image that simulated what the beginnings of the universe looked like and thinking it resembled drops of water caught in a web. He is consistently inspired by the strength and structure of webs, and he even keeps spiders in his studio in Frankfurt so he may study their webs up close.³

ART INTERACTION *80 SW Iridescent / Flying Garden / Air-Port-City, 2011*



Have you ever collaborated on a project? What was that experience like? What are the advantages of collaborating with people who have different strengths from you?

Saraceno was trained as an architect, was an artist-in-residence at NASA, and is known for his collaborations with professionals working outside of the art world. Looking at this piece, can you describe some professions or disciplines that *80SW Iridescent / Cloud-City / Air-Port-City* relates to? Take, for example, architecture, because designing this structure is similar to designing a building, and engineering, because of the knowledge of scientific principles needed to construct and balance this piece. What other professions can you name?

Tomás Saraceno, *80SW Iridescent / Flying Garden / Air-Port-City, 2011*. Eighty transparent pillows with transparent film, black webbing, black rope, elastic black rope, and iridescent foil, 10' 10" diameter of sphere; overall dimensions variable. Edition of 3.

ART INTERACTION *One Cloud Module, 2011*

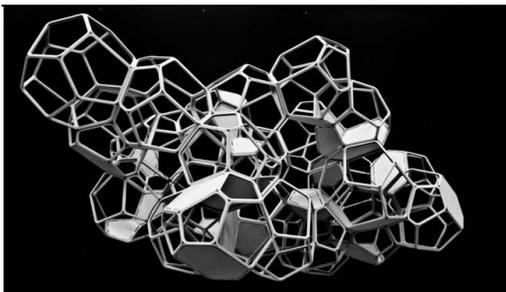
How has the built environment affected the natural world? What efforts are being made to combat those effects?

These modules or pods are Saraceno's creative response to the irreparable damage caused to the natural environment by the built environment. While they currently function as both art installations and architectural models, Saraceno hopes that they may one day provide an alternative to current man-made structures. What would be different about living in a Saraceno city versus a traditional home or city? What would be similar?



Tomás Saraceno, *One Cloud Module, 2011*. Aluminum, PVC pillow, transparent film, and solar cookers, 16' 4 7/8" diameter.

ART INTERACTION *Air-Port-City / Cloud-City / 24 Cloud Modules, 2011*



How often do you travel, move, or change schools? What would your life be like if you led a more nomadic existence? What kinds of nomadic societies or groups of people exist today?

Saraceno's inspirations for *Air-Port-City / Cloud-City / Cloud* are the physical properties and movements of clouds and bubbles. As part of his desire to create a utopian city in the sky, Saraceno sees these habitable cells acting like clouds or bubbles that humans can join together through platforms and create a truly multicultural city where everyone is under the same rules of international laws, thus eliminating the need for separate governments, politicians, and militaries. These

kinetic, cloudlike cities would be in a constant state of flux much like nomadic peoples have been for centuries. Imagine inhabiting one of these modules. How would your movement in these pods affect those around you?

Tomás Saraceno, *Air-Port-City / Cloud-City / 24 Cloud Modules, 2011*. Beech plywood, 27 1/2 x 57 7/8 x 27 1/2".

³ "Opening-Day Artist Talk: Tomás Saraceno and Curator Yasmil Raymond," Walker Art Museum Website, accessed July 1, 2011, <http://channel.walkerart.org/play/opening-day-artist-talk-tomas-saraceno/>.

COLLECTION CONNECTIONS

Explore these connections to artworks on view in the Kemper Art Museum's permanent collection.



Frederic Edwin Church, *Sierra Nevada de Santa Marta*, 1883. Oil on canvas, 40 1/16 x 60 1/8". Mildred Lane Kemper Art Museum, Washington University in St. Louis. Bequest of Charles Parsons, 1905.

Frederic Edwin Church, *Sierra Nevada de Santa Marta*, 1883

Frederic Edwin Church (1826–1900) was a member of the Hudson River school of American landscape artists, who painted scenes of the lush New England landscape. This painting was made later in his career and is based on his memories of an earlier trip to South America. In this idealized representation of a mountain range, Church depicts South America as an exotic paradise or “New Eden.” Church sought to produce an emotionally intense and spiritually uplifting image of the natural world, as well as document the natural riches of a region that the United States attempted to claim as their own.⁴ American viewers could take refuge in these types of scenes as a way of escaping the ever more industrialized and urbanized environment. In what ways are both Church and Saraceno inspired by nature? How do their goals differ? While both artists seek to represent a utopian world, Saraceno also seeks to raise awareness of the damage humans cause to the natural world—an idea that Church nostalgically ignores.



Olafur Eliasson, *Your Imploded View*, 2001. Polished aluminum, 51 3/16" diameter. Mildred Lane Kemper Art Museum, Washington University in St. Louis. University purchase, Parsons Fund, 2005.

Olafur Eliasson, *Your Imploded View*, 2006

Olafur Eliasson (b. 1967) is a Danish-Icelandic artist and a contemporary of Tomás Saraceno who is known for his sculptures and large-scale installations that often incorporate light, air, and mirrors. This sculpture is a 661-pound reflective aluminum sphere that hangs from the ceiling of the Museum's atrium. It can be set in motion to swing back and forth, forcing you to consider your relationship to it as it moves. The title, *Your Imploded View*, also encourages the viewer to engage with the images reflected in the aluminum surface. Look closely at the imperfect reflections—what can you see? You might notice your own reflection, the reflection of other visitors, the art installed in the museum atrium, and the museum space itself—including the walls, floor, seating, and even natural light coming in from the windows at either end of the atrium. These distorted images encourage you to become aware of your experience of reality, and your experience of the museum environment, as one that is culturally constructed.⁵ How is interacting with Eliasson's sculpture similar to interacting with the exhibition of Saraceno's works? In what ways do both artists push the viewer to become aware of physical space?

⁴ For more information, see Matthew Bailey's Spotlight Series essay on Church's *Sierra Nevada de Santa Marta* from May 2011: <http://www.kemperartmuseum.wustl.edu/files/spotlightMay11.pdf>.

⁵ For more information, see Meredith Malone's Spotlight Series essay on Olafur Eliasson's *Your Imploded View* from December 2007: <http://www.kemperartmuseum.wustl.edu/files/spotlight12.07.pdf>.



Dan Peterman, *Accessories to an Event*, 2006.

Post-consumer reprocessed plastics and stainless steel hardware, dimensions variable. Mildred Lane Kemper Art Museum, Washington University in St. Louis. University purchase, Bixby Fund, and with funds from the Weil Family, 2006.

Dan Peterman, *Accessories to an Event*, 2006

Dan Peterman (b. 1960) creates sculptures through the process of adaptive reuse, or altering post-consumer materials to create something new and functional. The six benchlike units on the Florence Steinberg Weil Sculpture Plaza are made of reprocessed plastics and stainless steel hardware. Situated among other sculptures, the benches are three-dimensional art objects, but their title, *Accessories to an Event*, implies that they are meant to be used and enjoyed for a larger purpose. Like Tomás Saraceno's installations, Dan Peterman's art looks toward a sustainable future and encourages visitors become aware of their interactions with each other.⁶ For what "event" could they be used? How would you describe your experience of sitting on the benches? How does this experience compare to your experience of Saraceno's *One Cloud Module*? Which work of art seems more comfortable? More functional?

IN THE CLASSROOM OR AT HOME

Follow your visit to the museum with one or more of these suggested activities.

- Visit the Missouri Botanical Gardens and explore the Climatron—the geodesic dome that takes inspiration from the designs of architect R. Buckminster Fuller. Compare and contrast the Climatron to the works you experienced in *Tomás Saraceno: Cloud-Specific*.
- Keep a nature journal and record positive ways humans are preserving nature and negative ways that humans are destroying nature.
- Research and write about a current border dispute giving equal attention to both sides of the conflict.
- Create a work of art inspired by bubbles, clouds, or spider webs.
- Write a story about an imagined utopian society.
- Create an ideal, sustainable living environment either on paper or in three-dimensional form.

VOCABULARY⁷

1. **Ecosystem** – a biological community of interacting organisms and their physical environment.
2. **Environmental art** – an art form in which the artist creates a three-dimensional space in which the spectator can be completely enclosed and involved in a multiplicity of sensory stimulations—visual (seeing), auditory (hearing), kinetic (moving), tactile (touching), and sometimes olfactory (smelling).
3. **Geodesic dome** – half-spherical space-frame made of linked lightweight elements arranged in hexagonal figures developed by R. Buckminster Fuller.
4. **Globalization** – the growing interconnectedness between political, social, and economic systems beyond national or regional borders.
5. **Installation art** – an assemblage or environment specifically created for a particular interior, usually a museum or gallery, that considers the relationships between various elements rather than concentrating on one object.
6. **Nomadic** – wandering; living the life of a nomad, or a person who continually moves to find fresh resources and has no permanent home.

⁶ For more information on Peterman's sculptures, see James Yood, "Dan Peterman: Museum of Contemporary Art," *Artforum International* (Nov 1 2004). For more on his 100-foot *Running Table* in Chicago's Millennium Park, see Laurie Palmer, "Dan Peterman: A. Montgomery Ward Garden, Grant Park," *Frieze*, (Oct 9 1997).

⁷ All definitions adapted from *Oxford Reference Online*, Oxford University Press, accessed July 12, 2011 through Washington University, <http://www.oxfordreference.com>.

7. **Pneumatic** – containing or operated by air or gas under pressure. Pneumatic architecture involves the use of inflatable pressurized structures (often domes or cylinders).
 8. **Sustainable** – conserving an ecological balance by avoiding depletion of natural resources.
 9. **Tensegrity** – the characteristic property of a stable three-dimensional structure consisting of members under tension that are contiguous and members under compression that are not.
 10. **Utopia** – an imagined place or state of things in which everything is perfect. The word was first used in the book *Utopia* (1516) by Sir Thomas More.
-

ADDITIONAL RESOURCES

- A number of interviews with Tomás Saraceno and videos of his installations are available on YouTube:
 - Saraceno speaks about his work at the Statens Museum in Copenhagen for Deutsche Welle TV: <http://youtu.be/ln5PuwzRFgY>.
 - The Miami Museum of Art installs Saraceno's *Galaxies Forming along Filaments, Like Droplets along the Strands of a Spider's Web*: <http://youtu.be/-UERbJtEAvs>.
 - Saraceno speaks about his work in the exhibition *Rethink: Contemporary Art & Climate Change* at the National Gallery of Denmark: http://youtu.be/8ri2HzNlc_4.
 - Arch Daily's video of *Cloud City* by Saraceno in the Harvard University Graduate School of Design exhibition *The Divine Comedy*: <http://www.archdaily.com/132706/video-cloud-city-by-tomas-saraceno/>.
 - The following websites provide high-quality images and information about Saraceno's art:
 - "Tomás Saraceno: 14 Billions," *Cool Hunting*, March 9 2010, <http://www.coolhunting.com/culture/14-billion.php>.
 - "Tomás Saraceno," *Tanya Bonakdar Gallery*, http://www.tanyabonakdargallery.com/artist.php?art_name=Tomas%20Saraceno.
 - Articles about Saraceno's work:
 - Tomás Saraceno, "Conversation with Tomás Saraceno, Luca Cerizza, and pinksummer," 2004, <http://www.pinksummer.com/pink2/exb/sar/exb001en.htm>.
 - Bruno Latour, "Some Experiments in Art and Politics," *E-flux journal* 23 (2011).
 - Resources on utopias and utopian architecture:
 - Gregory Claeys, *Searching for Utopia: The History of an Idea* (New York: Thames and Hudson, 2011)
 - Yona Friedman, "On Models of Utopias and Social Ecology," *Leonardo* 5 (1972): 37–41.
 - Resources on pneumatic architecture and the use of domes:
 - Eva Diaz, "Dome Culture in the Twenty-first Century," *Grey Room* 42 (2011): 80–105.
 - Hadas Steiner, "The forces of matter," *The Journal of Architecture* 10 (2005): 91–109.
 - Resources on teaching sustainability and sustainable classroom practices:
 - "Students and Sustainability" from the U.S. Environmental Protection Agency: <http://www.epa.gov/greenkit/student.htm>.
 - To make models of geodesic domes out of paper:
 - For younger students – Building Big Educators' Guide Activity: Geodesic Dome: http://www.pbs.org/wgbh/buildingbig/educator/act_geodesic_ho.html.
 - For older students – Hila Science Projects: Build a Dome: <http://hilaroad.com/camp/projects/dome/dome.html>.
 - Zometool parts and kits can be used to make three-dimensional models of shapes used in Saraceno's art. For more information or to purchase, visit www.zometool.com.
-

Support for the exhibition is provided by I-CARES at Washington University in St. Louis; the Missouri Arts Council, a state agency; the Graham Foundation for Advanced Studies in the Fine Arts; the Regional Arts Commission; James M. Kemper, Jr.; the David Woods Kemper Memorial Foundation; John and Anabeth Weil; the Hortense Lewin Art Fund; and members of the Mildred Lane Kemper Art Museum.

All artworks appear courtesy of the artist and Tanya Bonakdar Gallery, New York, unless otherwise noted.