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## THE SKY'S THE LIMIT

JANET ECHELMAN DISCOVERS  
THE UNKNOWN

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IN SEARCH OF  
THE WORLD'S  
BEST PUBLIC ART

FINALISTS OF THE SECOND  
INTERNATIONAL AWARD FOR  
PUBLIC ART

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# DISCOVERING THE UNKNOWN

## AN INTERVIEW WITH JANET ECHELMAN

BY DANIEL TUCKER

*Janet Echelman is an artist who defies categorization. Her work is at the intersection of fine art, ancient craft, cutting-edge technology, architecture, and public art. Starting out, she was rejected by every art school she applied to. Today she has received a Guggenheim Fellowship, the Aspen Institute's Henry Crown Fellowship, and a Harvard University Loeb Fellowship. O, The Oprah Magazine ranked Echelman's art as number one on its list of "50 Things That Make You Say Wow." Her 2011 TED talk, "Taking Imagination Seriously," has had well over a million views and has been translated into 34 languages, and she was invited back to speak on the TED main stage in 2014 for its all-star 30th anniversary conference.*

*This interview is an edited transcription of a September 19, 2014, dialogue that was part of Moore College of Art and Design's Studio Conversations series sponsored by the Graduate Studies "Social and Studio Practices" area.*

**Daniel Tucker: As I understand it, you were a painter until you went to this residency and your paints didn't arrive and you had to improvise a new solution. Talk about your life as a painter and your uses of abstraction.**

**Janet Echelman:** I was a painter for ten years, and I was engaged and passionate about it. I always wanted to pull the work to a place where someone else would complete its meaning. It had to engage you enough to draw you in and make you think about it. It was very much about gestural lines and drawing, which was a mark of the fluid movement of my arms. I was documenting the energy of that movement.

I remember painter John Snyder saying that your first painting has your entire career in it. My early drawings and paintings were about

Artist Janet Echelman began the first ten years of her career as a painter. She now collaborates with a wide range of experts to design, construct, and install “net sculpture environments” and other artworks in cities worldwide.



BOTTOM: Photo by Janet Echelman, TOP: Photo by Erna Peter, courtesy Studio Echelman.

line, language, and movement. What was exciting to me when I first discovered sculpting was that those lines became physical.

It was a radical shift: Before, my art was a frozen moment of energy, and now it has potential for ongoing movement of energy. The work is always interacting, not only with us, but with the changing patterns of sun, wind, and the shadow-drawings it creates as you stand below it. The ways those shadow lines move on the ground are a kind of living drawing. They are in constant flux—a living, breathing art that’s animated by forces beyond us.

**You have a degree in counseling psychology, went to grad school at Bard and undergrad at Harvard. Talk a little bit about your education and how the different threads have influenced your work.**

Well, one wouldn’t typically set out to educate oneself the way I have. I followed my interests through the world.

One professor who had an influence on me that I didn’t realize at the time was Stephen J. Gould, who taught a course called “The History of Earth and Life.” He was a natural scientist, a polymath, and a great luminary at Harvard. He was passionate about the arts and played music, connecting all these different fields.

For an assignment we had to choose a period from the history of Earth. I chose the pre-Cambrian era and studied its life-forms. What drew me was that these life-forms had not developed complexity to the point of having organs. They were single cells that were spired and extruded—basically planes that hadn’t developed multi-cell thickness. But from that hint of life, different life-forms evolved. Then they all disappeared, so it was like this failed design experiment in life.

I was intrigued by this amazing design generation that disappeared. Something was so compelling about that. My early sculptures feel connected to that. They all explored form through surface and have a kind of bilateral or radial symmetry like different design approaches to the design of life. That was my approach to making sculpture.

**It makes me think about scale. What is that journey like when you go from the size of a room to the size of a building?**

Just hearing you ask the question reminds me of how it felt, which makes my heart sink. I didn’t have those tools in my toolbox. I knew what I wanted, but I lacked understanding of the materials and technology needed to build at a monumental scale.

I think the skill set I relied on was from my time working as a reporter. I know how to venture out and ask questions. If the first person I talked to didn’t have an answer, maybe they could send me to three other people who might.

It has been a gradual process. My first artworks were very temporary and low-tech. As they’ve grown, I’ve had to reach out and collaborate with engineers, architects, landscape architects,

computer scientists, and fabricators. The teamwork is one of the things I enjoy most. I make sketches and send them to my engineer, and he calls back and says, “Well, you’ve drawn this, but really you need to simultaneously pull up and down like a saddle,” and then I redesign it. I’m always learning. Not every engineer would want to work on these projects, or have the patience. My lead engineer studied sculpture at Yale before he studied engineering—it’s a great fusion.

**Can you talk about the range of things that might go into your research?**

The joke is, “How do you eat an elephant? One bite at a time.” My research is my way of doing that. I think of a commission as a kind of identity search, so I usually start by interviewing people. How do they think about themselves? What do they want to project to the outside world? In talking to people, I learn who they are and what their culture is.

One of my recent challenges has been a beautiful experience. The Bill & Melinda Gates Foundation asked me to give visual form to their mission, which is actually quite daunting. Here is an organization that is tackling the world’s most intractable problems, like poverty and malaria. Through interviewing a broad range of people there, I came to understand what was important to express with my art.

Here’s another example. The Biennial of the Americas asked me to give form to the interconnectedness of the 35 nations that make up the Western Hemisphere. What is the representation of interconnectedness of nations? It seemed overwhelming. I didn’t know what to do.

I was at the Guggenheim visiting the Tino Sehgal installation and the guide/performer leading me through asked me if I knew that the recent Chile earthquake changed the length of the day. I said I didn’t, and immediately started reading about it—how this earthquake had shortened the length of the earth’s day by slightly redistributing the earth’s mass, and a NASA scientist was able to measure it for the first time.

We knew that 1.26 microseconds had been shortened off the earth’s rotation. I always thought time was one of the only things you could count on, like death and taxes. That realization was like, “Okay, this

OPPOSITE TOP: *Skies Painted with Unnumbered Sparks* (2014), installed at the TED Conference’s 30th anniversary in Vancouver, British Columbia, is Echelman’s largest, most interactive sculpture installation to date. It spanned 745 feet and was 24 stories high. Echelman’s studio collaborated with Aaron Koblin, director of Google’s Creative Lab, to develop its interactive lighting. Spectators’ physical gestures with their mobile devices caused beams of light to project across the piece in real time. OPPOSITE BOTTOM: Echelman’s *1.26* has been installed in various locations, including this 2010 installation at the Biennial of the Americas in Denver, Colorado. The work, which spans 80’ x 60’ x 30’ feet, was suspended from the roof of the Denver Art Museum. The work’s title refers to the 2010 Chile earthquake that shifted the earth’s core, thereby shortening the earth’s rotation and changing the length of the day by 1.26 microseconds.

is interconnectedness” An event that happened in Chile has affected my day. That was enough. The title of the work was *1.26*.

**Walk us through the evolution that led you to work at a bigger scale and with lighter materials.**

In evolutionary biology they talk about *punctuated equilibrium*. We don't gradually evolve, but instead go through little leaps. I think that's true of my artwork. I make a little discovery—from painting these lines and gestures I discover the ancient technology of fishing nets—and suddenly make a leap.

I was working with net sculptures and making steel armatures to hold them up, and then I got to a place where somehow that didn't work anymore, because in my sculpture *1.26*, the forms were very complex and the structural capability of steel wasn't suitable. It was another one of those pressure moments: “What am I going to do?” The new approach suddenly seemed so obvious. If we make a grid out of these new ultra-strong, lightweight tech fibers, like ultra-high-molecular-weight polyethylene, we can make any shape we want!

And that's what we did. I found a fiber called Spectra and called Honeywell, who generously agreed to donate it for our research. That was a real breakthrough, because for the first time I could make completely soft monumental forms that didn't need rigid structures for support. Once I jettisoned the heavy steel, it was light enough to attach directly into the existing city—existing buildings and infrastructure. That opened up so much; suddenly these artworks could pack up into a box and travel.

Computer software that has been developed for the architectural world has opened up possibilities for my sculpture. There was no software that could model what I was doing as an artist. Luckily, my tech-savvy husband David said, “You should go hire a computer scientist to write it.” As an artist, it never occurred to me that I could do that.

**I think most artists are trying to figure out how to build a website.**

Right! Or a mailing list or to even consider making my own tools as opposed to being limited by the tools that existed. But I had to find the right collaborator. Autodesk, the design software company that makes AutoCAD, decided to make my studio a strategic initiative. They've worked with us for three years to create a custom tool to model my sculptures. It's allowed me to explore density, shape, and scale with the forces of gravity and wind—all within the context of the built environment. We can manipulate designs and see the results immediately. It's transformed my process. I couldn't create what I do now without it.

**Do you find people are excited when you ask for help, or can they sometimes not deal with the unusual requests?**

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OPPOSITE TOP: In 1997, Echelman traveled to India on a Fulbright Lectureship. There she began sculpting with indigenous fishing nets when her painting supplies didn't arrive. *More than you can chew* is a 50' x 105' x 105' foot piece made of bronze, cotton, Bhandini-dyed silk, and galvanized steel from her Bellbottoms Series in Mahaballipuram, India. OPPOSITE BOTTOM: Echelman's *Pulse* will be completed in 2015 at Dilworth Plaza in front of Philadelphia City Hall. It was inspired by the site's historic associations with transportation. A garden of dry mist, the work will be embedded in the new plaza's 11,600-square-foot fountain fountain and will trace aboveground the real-time paths of three subway lines below.



BOTTOM: Image by OLIN, courtesy Studio EcheIman. TOP: Photo courtesy Studio EcheIman.

It depends who. I could ask, ask, ask. I can tell immediately if they just don't want to partake, and then don't even bother. But there are so many people out there who really do want to do something interesting and new. Good thing it's like dating. You only need to meet one.

**Any place where people gather has some history of conflict that informs the way that those places have developed. What is your take on the conflicts you encounter?**

It is interesting, because I am often asked about the conflict of art and science. What conflict? Where is it? Science and art are based in the same questioning, and I embrace both of them. Also, the conflict between art and architecture—where is that?

Different people see the world in different ways. That may just be my approach. The man who created LinkedIn says that when he was a kid, he always saw every person he knew as a set of connections to other people. That's how he came up with the idea. I was speaking with a former teacher of President Obama who said that in grade school Obama was able to bring people of different opinions together.

I see the physical world in terms of interconnections and synthesis. In conflict, I'm not sure I want to side with one view or another, but to understand the spaces between them. My sculptures are about that. They are about this resilient, interconnected system in balance.

**People often describe your pieces as providing an experience of wonder. What does "wonder" do for us?**

When someone is drawn to lie down underneath one of my sculptures for a moment of contemplation, to watch the way it changes—which one can only notice when spending time with it—that could be described as an experience of wonder. All of my practice is about discovery, where everything is an unexpected turn. Perhaps there is some of that wonder for me—it makes us feel alive.

**Considering the popularity of your online video, more people have seen it than many of your individual works. So maybe you could tell us a little bit about TED talks as an art form.**

Certainly no artwork of mine has been translated into as many different languages as my TED talk. I received feedback from someone who works in prisons in Spain, how they were introducing TED talks to the inmates who selected mine, which was surprising to me. I was told that they related to my rejections, and not giving up.

**Your art school rejections?**

Yes. And how everyone said I was not worthy, but that just made me find my own way.

The TED talk has brought the ideas of my art to places I could never have gone. I was installing a sculpture in Sydney, Australia, and

a man came up to me and said, "I just have to tell you, I am from Manila in the Philippines and I saw your TED talk." It was so surreal. From country to country to country.

There's this sense of porousness of the world, that an idea can be expressed and shared with people who never would have encountered my work. That's a very exciting opportunity of this era, this sort of exponential, porous, global sharing. Someone used the term "cultural entrepreneur." What is that? What is being an artist today? What are we sharing and creating? How do we want to be relevant to life?

One reason I install my work in public spaces over streets is because everybody feels entitled to be on the street, while a lot of people don't feel entitled to go to a gallery or museum. The street is Everyman's place. I've had wonderful conversations about my art with homeless people who are truly engaging with the art, asking me what it is about, and saying what they think it is, and that's meaningful. Why are we making art if it is not about life?

**DANIEL TUCKER** *makes documentaries, publications, and events inspired by his interest in social movements and the people and places from which they emerge. He directs the new Social and Studio Practices department at Moore College of Art and Design in Philadelphia.*

Echelman's *As If It Were Already Here* was installed over Boston's Rose Kennedy Greenway in May 2015 and will remain there until October 2015. The aerial sculpture includes over 100 miles of twine and more than a half million knots. Data from sensors around the site monitor fiber movement and direct the color of the light projected onto the sculpture's surface.



