

*Smoke Bombs, Lightning Bolts,
and Levitating Water*
Experiments in Troika's Lab
By Michael Slenske



THIS PAGE AND OPPOSITE: TROIKA

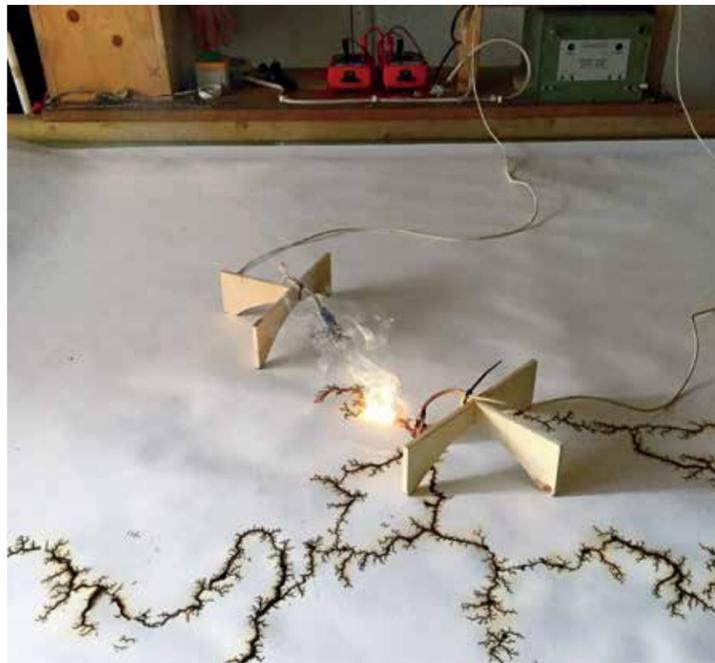
Three's



Installation view of
Polar Spectrum, 2015,
at CentrePasquArt in
Biel, Switzerland. Wood,
graphite, black flock.

OPPOSITE:
Installation view of *Dark
Matter*, 2014, at Art Basel.
Wood, aluminum, black
flock, 93½ x 93½ x 93½ in.

Company



“Don’t touch anything and you’ll be safe. You’re very close to death,” says Sebastien Noel. We’re huddling under a shed of sorts built from small timbers and draped in plastic. The structure covers a 5-by-10-foot sheet of woven matte photo paper that is sprawled across a tempered-glass table, which the Franco-Italian artist and his German partners,

Eva Rucki and Conny Freyer, known professionally as Troika, use to create their increasingly popular “light” drawings. I can’t quite tell if Noel is being slightly cheeky with this warning or just trying to scare me a bit, but the ambiguity makes the situation all the more fraught. Primarily because I’m leaning against a 40,000-volt power box—which, unbeknownst to me, is switched off—while my hands hover above a voltage knob whose arrow is positioned within a seemingly safe green zone. When I ask what would happen if the knob were turned to red, Noel looks over at me with a Cheshire Cat grin that is all the more beguiling when complemented by his butter-thick French accent and salt-and-pepper bouffant. “Don’t go there,” he says, with a quick smirk. “It’s instant death.”

Moving toward relative safety on the other side of the table, I examine the work, which is covered in connective capillaries of lightning-shaped brown-to-black reliefs—varying in depth according to the density of the fibers—that were zapped into the paper’s surface. The scroll itself has been soaked in a borax-based fire-retardant solution to prevent a massive conflagration from burning the contents of the studio to the ground. These include everything from potassium perchlorate and colored smoke bombs to high-powered strobe lights and countless industrial-quality mechanical marvels, as well as the handmade machines that produced them.

Located in London’s Shoreditch neighborhood, this arched, brick-walled



Path of Least Resistance, 2013. Electric charge on paper, 73 x 44 in.

OPPOSITE, FROM TOP: *Light Drawing* in progress. The artists send 15,000 volts of current through electrodes attached to woven matte photo paper that has been treated with a Borax-based fire retardant solution.

Exterior of the studio, in the Shoreditch neighborhood of London.

TROIKA, OPPOSITE: BOTH IMAGES, MICHAEL SLENSKE

space is more akin to the makeshift laboratory of a madcap scientist in the mold of *Back to the Future*’s Dr. Emmett Brown than the studio of an art collective, which in January made its U.S. debut, with “Cartography of Control,” at Kohn Gallery in Los Angeles. They are represented by Galería OMR in Mexico City and have shown in such institutions as London’s Victoria and Albert Museum, the Art Institute of Chicago, and New York’s Museum of Modern Art. Another show, “Limits of a Known Territory,” is on view through September 5 at NC Arte, the Neme Foundation’s cultural-education space in Bogotá, Colombia.

The display of science and art at the studio—with experiments playing out round the clock—is not simply for show; it’s a tool for opening up new perspectives. “Science is very rational and has been extremely powerful since the Enlightenment. Psychology is based on math, economics is based on math, nearly everything that surrounds you is based on a very defined or finite set of concepts. What we’re thinking is that science is very incomplete. We don’t think you can calculate everything, we don’t think the entire world is predictable,” says Noel, who grew up loving Carl Sagan’s “vulgarization” of hard science for the masses. “It’s more of a fluid way of thinking, a meeting point, a merger of the two.”

On this exceptionally chilly April afternoon, Rucki is attempting to collapse the boundaries between art and science by moving two electrodes across the fire-retardant paper and spraying water on the surface in a painterly gesture so as to direct to some degree the unpredictable current that Freyer is about to send through this path of least resistance. Behind her, there is a storage area filled with a few of Troika’s large mechanized sculptures—one of which, a spinning light sculpture called *Thixotropes*, 2011, drew complaints from fashion brands like Tom Ford for the violent noise it made while revolving at 75 MPH while suspended from the Selfridges rotunda five years ago. Of course, proximity to life-threatening danger is all in a day’s work for Troika.

“Everyone stand back,” says Freyer, as she dons a pair of safety goggles, sidling with her visibly pregnant belly up to the control panel. “No, further back.” That last reminder is an effort to prevent a curious reporter from getting fried as she delivers 15,000 volts through the cables. Noel informs me, “You take a shock from the table, you go into cardiac arrest 99.9 percent of the time. You are dead.”

Before I can blink, the electrodes are firing, literally shooting sparks and small flames through the paper—“invisible lightning,” Freyer calls it—as another bronchial branch burns itself into the abstraction. The trio has been at this work for three days, and by week’s end they may well have a finished piece, which will then be taken to the adjoining mews space they are borrowing from a landscape architect. There, Troika’s team of assistants will brush the paper free of any heavy (or aesthetically displeasing) soot and mount it onto a backing board before it’s off to the framer. These increasingly epic electric tapestries are certainly awe-inspiring, and proved a hit with Michael Kohn, who met Troika during their 2013 solo show “The Far Side of Reason,” at OMR, where he purchased an edition of their 2010 *Falling Light* sculpture, made of mechanized, illuminated Swarovski crystal lenses, attached to the ceiling, that appeared to rain drops of light on the gallery’s floor.

“It reminded me of the oil wells on the way to LAX—that whole *Blade Runner* beauty came upon me,” says Kohn. He calls the room for chance in the light drawings “not that different from the accidents that happen when a painter is painting.” Of course, these works represent just a couple of phenomenological investigations in Troika’s increasingly broad and scientifically methodical practice.

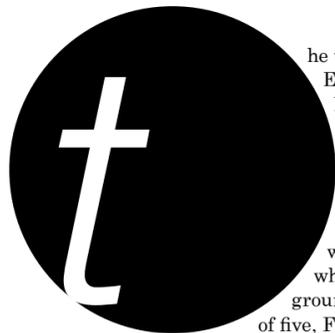
“They’re working with these energies and then summoning all these forces. For me, it’s about trying to connect to this higher field of knowledge, which is not perhaps the path of most contemporary artists—you may have Tomàs Saraceno or Olafur Eliasson—who are pushing the boundaries between art and science,” says OMR director Cristobal Riestra, who first met the trio at Design Miami in 2010, where they debuted the *Falling Light* installation in large format. Though at that time they were still considered by many to be a design collective, Canadian curator Natalie Kovacs brought this same installation to a group show at OMR in 2011, and by the following spring Riestra had a suite of more intimately scaled light drawings at Art Basel in Switzerland, where they sold out in a matter of minutes. “They use

science as a tool to bring light to the fact that there's mystery in everything."

Over the past 15 years of Troika's partnership, which began during their student years at London's Royal College of Art, their explorations have included testing the limits of gestalt theory via perception-bending sculptures that combine the simple geometries of square and circle (*Squaring the Circle*, 2013, *Dark Matter*, 2014, and *Polar Spectrum*, 2015); reversing and freezing the gravitational flow of water via strobe flashes whose frequency functions above those that could induce a seizure (*Testing Time*, 2014); making sculptural drawings from thousands of black-and-white dice via predetermined algorithms that create unpredictable, if painterly, patterns (*Calculating the Universe*, 2014; *Hierophany*, 2013); crafting temple architectures from reflected light to synthesize the worlds of theology and agnostic reason in one piece (*Suspension of Disbelief*, 2013); creating drawings with electricity (the epic "Cartography of Control" works); clusters on colored papers called *Fahrenheit 451*, 2012; simpler two-point trajectories known as "Path of Least Resistance"; and "Path of Most Resistance" works invoking Promethean myths via circular abstractions), candle smoke (*Black Dust*, 2013), and smoke bombs trapped in mazes (*Labyrinth*, 2012); or simply separating black ink via chromatography paper and water into its rainbow of constituent hues to comment on color perception and the origin of the universe ("Small Bangs").

"Everything in our material world seems to have been created from the explosion of a mysterious dark point source," says Rucki. "The analogy is similar to small bangs in the sense that we also start with a dark point which explodes to reveal all colors in succession. For us, though, the motivation is more metaphorical of our inability to imagine a sea of color within the absolute blackness of the ink."

Riestra calls the latter "a very simple exercise that's very beautiful in the way it connects to the creation of the universe. Even if it's just a play on those things that we think we know, by materializing them in these beautiful ways, it becomes something truly poetic."



he trio's own origin story began in small towns across Europe. Born in a tiny hamlet half an hour west of Dresden, Freyer, a Teutonic blonde with a razor-sharp wit, was raised by two general-practice physicians. "The rest of my family is split between butchers and priests, so I come from a very religious background," she says, noting that her parents had "some kind of interest in art, but that was more classical, Renaissance, and Baroque, which I guess kind of goes with the religious background." Though she made drawings from the age

of five, Freyer didn't see contemporary art until one of her German teachers took her to a museum show in Dresden, where she encountered the paintings of Georg Baselitz. The work left an impression, but nothing as powerful as Peter Doig's 1995 painting *Concrete Cabin*, which depicts a modernist home through a forest. "It creates this sensation that's really incredible. Most of his other paintings do almost nothing for me," she says.

After 17 years in Communist villages, she worked as an au pair in Cleveland and San Diego, then started studying graphics in Germany, continuing with fine art in Canada before heading to the Royal College of Art in London for her MA.

Freyer found Noel's want ad for a roommate on a blackboard listing the day after she arrived and called because his name sounded inviting. Noel, too, had grown up in small-town isolation, in the 100-person commune of Saint-Julien-lès-Montbéliard, in eastern France. His mother taught French, and his father was an artistically minded entrepreneur who worked as a hairdresser and sold everything from home alarm systems to houses to white porcelain.

"I was mostly playing in the woods, making huts and bows and shooting things and making explosives. It was farmland, probably very similar to Texas or Arkansas," says Noel. "There, you do whatever you want to do." That freedom came to an end at the age of 11, when he was shipped off to a military boarding school. After later studying mathematics and earning



Installation view of *Falling Light* in "Persistent Illusions" at the Daelim Museum in Seoul, 2014.

ABOVE: Installation view of *Dark Matter*, 2014, at Art Basel. Wood, aluminum, black flock, 45½ x 45½ x 45½ in.

ALL IMAGES THIS PAGE: TROIKA. OPPOSITE, TOP: SIMON ZACHARY CHERIT

a master's in engineering, he went to Milan, where he began working with designers like Antonio Citterio, which padded his wallet but did little for his creative ambitions. "I became fed up designing chairs," says Noel. The breaking point came, he says, "when I did a gold-plated swimming pool—that was it for me."

He met Rucki, an alluring brunette with a cool intellectual detachment, within days of arriving at the RCA and soon began courting her. The couple now have a four-year-old daughter. Rucki grew up in Emmerich am Rhein, on the Dutch-German border. Though she remembers the city as "too big to be nice and too small to be interesting," it neighbored Kleve, the childhood home of Joseph Beuys, which "was very much part of my upbringing, since my dad was an art teacher and my mom was a dance teacher." At 16, Rucki left home to take a printmaking internship, and then studied graphic design and moving images at the Hogeschool voor de kunsten Arnhem (now part of ArtEZ Institute of the Arts) in the Dutch city of Arnhem, which was one town upstream in a Gerrit Rietveld-designed building overlooking the Rhine. "We still had all the woodblock print, lead silkscreen, ceramic workshops," she says. "It functioned a little bit like the Bauhaus."

While the idea of working in a collective never really occurred to any of them at the time, after they visited an abandoned nuclear power plant in Germany whose grounds had been turned into a theme park called Kernwasser Wunderland (now Wunderland Kalkar), they devised an immersive sound-and-video installation for Rucki's final project at the RCA, which explored the surreal and dystopian quality of the architecture. "Within the cooling tower, the echo is such that sounds will bounce back and forth for several minutes at time, which is highly disorientating. We had never heard something quite like this," says Rucki. There was also a harsh juxtaposition between the monolithic monumentality of the man-

TOP LEFT: Installation view of *Polar Spectrum*, 2015, at CentrePasquArt. Wood, graphite, black flock.

BELOW: Installation view of *Testing Time*, 2014, at Kohn Gallery, Los Angeles. Water, electronics, LED.



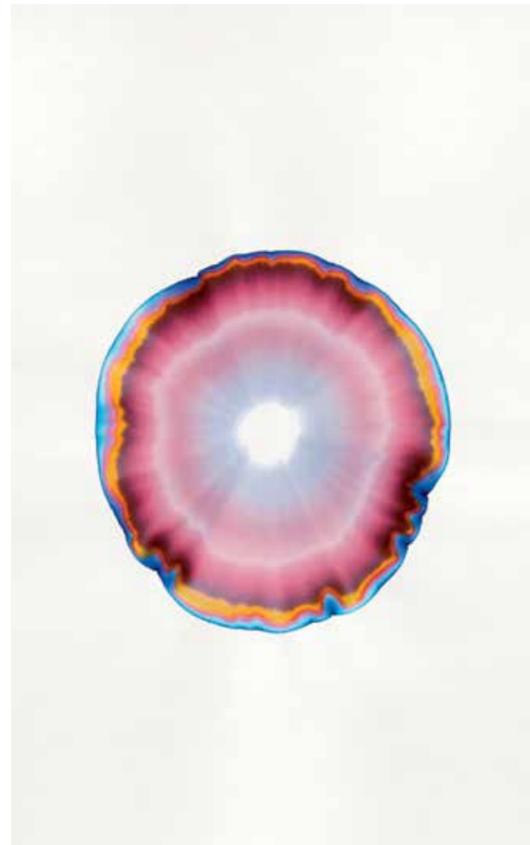
made space and the birds chirping within. The synthesized soundtrack was reminiscent of “a live version of Steve Reich’s *It’s Gonna Rain*.” By overlaying a simple sine wave played in the tower, they created the initial *tuuuuuu* sound of a landline being picked up. “So already back then, there was this interest in the friction between science and art, or in the misreading of science for artistic purposes, as a cooling tower has never been built for its acoustic properties,” says Rucki. “And yet, this is about the most impressive, surreal space we’ve ever experienced.”

Freyer concedes that they all had different reasons for collaborating but insists that she found “a lack of exchange” at the RCA, whereas “it was really rewarding and thriving when we would talk. The conversations we had and the potential projects we were thinking about felt more immediate and more interesting.”

They devised another project, called *Schizoprotica* (or the addiction to tearing things apart), for which they placed 5,000 fliers on the floor of Fordham Gallery in Whitechapel and invited visitors to tear them. The pieces were then optically scanned by a MIDI machine, which encoded every note, readjusting the whole scale according to the pattern of tears. “So C2 would become D1, A4 would change to E6, and so on, for every note of the scale, just as if you were de-tuning and re-tuning a piano, and then playing a classical piece on it,” explains Noel. “The result was very immediate and quite uncanny, oscillating between recognition and amusement at the distorted melodies. The machine was intuitive enough to be fun but also precise enough for a musician to really start performing with it.”

Martyn Ware, a founding member of the Human League, actually stayed on the floor for hours, methodically ripping heavily orchestrated feeds like a conductor working on the fly. “He was really going for it,” says Noel. “We had to push him out of the space.”

Troika admit some of these early projects were naive. Still, the interactivity of these installations and interventions—coupled with their clever hacks on math and science—suggested an approach for them to work on a larger



FROM TOP:
Small Bangs, Series 1, #2,
2013. Black ink on paper,
26¼ x 19 in.

Conny Freyer

FROM TOP: TROIKA; ELENA HEATHERWICK. OPPOSITE, COUNTERCLOCKWISE FROM TOP LEFT:
TWO IMAGES, TROIKA; ELENA HEATHERWICK



scale and with a system by which investigations remain open, with works evolving and reconfiguring over years, even decades, just as a scientist might recalibrate experiments and hypotheses based on subsequent findings.

“It’s quite interesting how one process in their work leads to the next in a very natural way,” observes Riestra, noting that Troika’s 2005 *Electroprobe* installation—a selection of appliances and mobile devices that created an electromagnetic orchestra—began with a simple, loose arrangement in London a decade ago and became a tightly tuned piece by the time it was exhibited at OMR in 2011, and even more so later for their “Persistent Illusions” retrospective at the Daelim Museum in Seoul last fall. In a similar fashion, their 2010 *Light Rain* installation for the 2010 Shanghai Expo was clearly a forerunner for *Falling Light*. The best example of their adaptive process, however, can be found in the evolution of *Squaring the Circle*, a simple-seeming black, flocked line sculpture that hangs from the ceiling and is bent to resemble a square from one perspective and a circle from another. While Troika debuted the piece with a mirror before it at their 2013 solo show at OMR, they opened up the work this winter by placing it in a corner without any reflection at Kohn’s voluminous space.

That piece then led to the creation of *Dark Matter*, a multidimensional, geometric void that OMR presented to raves in the Unlimited section of Art Basel last year. This work then evolved into a broader, more minimalist extrapolation—again made from flocked wood—called *Polar Spectrum*, which they recently showed at CentrePasquArt in Biel, Switzerland; it will travel to Lehbruck Museum in Duisburg, Germany, this September.

If viewed from one angle, this latest work might resemble a blackened Richard Serra sculpture of a cone bisecting a pyramid and yet look completely flat in the form of a Vitruvian circle-square configuration from another. The idea is to evolve Troika’s original concept to what Noel calls “a pure experience where an infinite number of inferences” can be drawn from it. “With *Dark Matter*, you stand in front of it, and it is so dark there’s a sense, as in a James Turrell, that you don’t know where it begins,” says Riestra. “It has no shadows, no reflection; it’s like a black hole in space. It’s actually like the opposite of a Turrell, where one is light and the other is dark.”

“It’s questioning the authenticity of what you’re seeing,” adds Kohn, who had a similar experience with *Testing Time*, which he exhibited in one of his smaller galleries opposite one of the “Labyrinth” drawings. “They could have simply turned on a faucet, but they used their aesthetic judgment to make an object that reminded me of contemporary Brazilian sculpture. It

CLOCKWISE FROM ABOVE LEFT:
Black Dust, 2013. Soot
on paper, 30 x 22 in.

Eva Rucki

Sebastien Noel

reminded me of the wonder of magic and illusionism and how you don't really saw a woman in half—it's a trick, but it's still amazing."

It's a fine line between illusionistic art and magician kitsch, and Freyer, Rucki, and Noel are very suspect of any connections between their work and that of the next David Blaine. "We're looking for the point at which our work surpasses the trick. It's not about being a trickster and tricking people into thinking something they shouldn't be thinking. It's actually quite the opposite," says Freyer. "With *Squaring the Circle*, I've reached a point where I don't care if people see the square or the circle because it's not only about that; it's about so many other things. If it was just about the illusion, then we would try everything to make it perfect, and that's not what is important."

To achieve what Noel calls "a third position that transcends" any sleight of hand, Troika plan to expand the *Testing Time* concept in Bogotá beyond discrete sculptures to eight floor-to-ceiling streams. They will appear to rise from a flooded ground-floor gallery that will be traversed on geometrically shaped stones, which were inspired by the boulders Noel saw interspersed among the contemporary works at the Macura Collection, near Belgrade.

"It's a simulation of reality mixed with an actual reality and a real live feedback loop," says Rucki, noting that the stones are meant "to serve as a grounding point. They'll force you to slow down."

The day after the sparks flew off the light-drawing table, Troika demonstrated a "Labyrinth" drawing with an Yves Klein—blue smoke bomb that flooded the inside of a new round maze. Though the test failed aesthetically—with thick accumulations of the ultramarine smoke bleeding



Installation view of the soot on paper *Labyrinth*, on the wall, and a wooden labyrinth suspended in the foreground, in "Persistent Illusions" at the Daelim Museum, 2014.

ABOVE: Installation view of *Electroprobe* Installation #5, 2014, at the Daelim Museum.

LEFT: Installation view of the 2015 exhibition "Cartography of Control," at Kohn Gallery, with *Calculating the Universe*, 2014, on the back wall, and *The Sum of All Possibilities*, 2014, hanging in the foreground.

ALL IMAGES THIS PAGE: TROIKA. OPPOSITE: MICHAEL SIENSKIE

around the lower edges of the maze—it got them thinking more about a life-size maze installation they wanted to bomb in Bogotá, but they couldn't logistically make the piece work by the summer opening.

"When the work doesn't transcend itself, when it arrives at the result that you predicted and that's it, when it comes to a closure instead of an opening, and it's bone-dry," says Noel, "I think that's a failure."

While dragging on an e-cigarette that never left his side for four days, Noel runs a simulation for me on Smokeview, a high-tech application more commonly utilized by firefighters, forensic analysts, and construction firms looking to fireproof buildings. The piece does not appear to be something that will fail, though whether it will rise above the level of studio experiment to that of artistic success remains to be seen.

As is the case with much of Troika's process, this conversation leads to talk of another massive work that seems easier to realize—if someone were to give them a few million dollars. To be titled either *Moon Collectors* or *The Dark Side of the Earth*, the work is a land-art piece, inspired by the light of the Dead Sea (though they don't necessarily need to construct it there), that amplifies full moonlight into daylight via circular formations of mirrors, sort of like Smithsonian-meets-Mithraism. "I love this idea of a work that you have to wait for, that's not immediately consumable, and you might miss it if it's not the right light," says Freyer.

"Hopefully, people would plan rituals around this place," says Noel, who walks me over to the back end of their studio, where Rucki is preparing a test for the taller *Testing Time* streams planned for Bogotá. She turns off the house lights, he switches on a 75 Hz strobe light, and, like magic, the simple hose stream breaks down into individual drops that appear to hover in place from the floor to the peak of the 15-foot ceiling. When the lights go up, I'm slightly disoriented, and mystified by the thought of trying to navigate eight of these spot-lit streams from small stones in a flooded gallery space.

"They're teasing the unknown. There's no context. Context doesn't matter in their work," says Riestra. "Art today has every bit of context where you need to know every little bit of information to understand what you're looking at, and if you don't, you miss the party entirely. For those who don't, it's cryptic and doesn't inspire investigation any further. In the case of Troika, it's not about what it means to society. It's black-and-white; it's a definition of definition. They have all the potential—the originality, quality, diligence, and uniqueness of what they're researching, and a never-ending source of information to use—and this can be very powerful, because they can render the world from a different angle than what we've seen, and it's a practical one, an honest one." MP

A maze, after the artists attempted to make a new version of their "Labyrinth" drawings using an ultramarine smoke bomb.