Breaking Boundaries
Seth Riskin in conversation with Margriet Schavemaker

Seth Riskin is the manager of the MIT Museum Studio and was a graduate student at the MIT Center for Advanced Visual Studies (CAVS) under the direction of Otto Piene in the 1980s. He is trained as an artist and a gymnast and he can combine both in his performance works. We will talk with Seth about technology and science and their impact on art. Connections with neuroscience will be of particular focus, since he coteaches a class on vision in neuroscience and art. Seth, could you give us some background?

I wish to speak about experience, and in the memory of Otto Piene. I met Otto in the mid-1980s as a student at MIT, and we worked together until his death. In our discussion, I wish to weave together a bit of Otto's work, my own, and some research ongoing at MIT in a picture that is focused on the ZERO experience, as it was, and as, I believe, it is very much alive today.
I developed and still develop my own light-based technologies, often mounting instruments on my body to articulate the illumination of space around viewers, and in this way to shape space and time perception.
In Otto's words, I came to MIT as a "flyer." That is to say, I was a former national champion gymnast, and I wanted to extend my body with light. I wanted to "become" space and to "move" space around viewers, thereby turning the subjective experience of movement into a collective one. Body-mounted light instruments that I created enabled me to use my physical ability to control the illumination of an otherwise totally dark space. I developed a language of articulated illumination that revealed the moving relationship of my body and the surrounding architecture. The instruments and the light phenomena they generated were applied to transcending limits of the body. The embodiment of visual space and time—as viewers experienced the performances—dissolved the habitual perceived boundaries between the body, or matter, the light, the material architecture, and the movement. The synthesis of these elements bridges the experiences of the performer and viewers; movements are transposed from the individual body to the shared space resulting in a collective movement experience.

Are the viewers in the same space of the performance?

The viewers are always in the same space. At times, the arrangement is different: in the holographic works, I perform behind a large transparent wall of holographic material and the viewers are on the other side. They view through the large-scale hologram and experience three-dimensional structures of light moving around and directed by the body.

This, of course, makes an easy connection to the Light Ballet by Piene. Can you talk a bit about this connection?

I believe that the connection is rooted in direct perception, in other words, pre-conceptual visual experience. Otto was highly focused on the primacy of experience in the production of artwork and in the perception of artwork—even in relation to intellectual considerations. According to him, an artist works with energy, and light was in fact a primary medium for Otto. Art for him was a kind of cycle: he was passionately interested in the question of how human energy translates to physical energy and, through art, translates back into human energy. It was an energy transfer between people that motivated Otto.

fig. 1 Seth Riskin during a Sky Art event by Otto Piene, Kunstpalast, Düsseldorf, 1996
Photo Arthur W. Schrewe / Otto Piene records, ZERO foundation, Düsseldorf

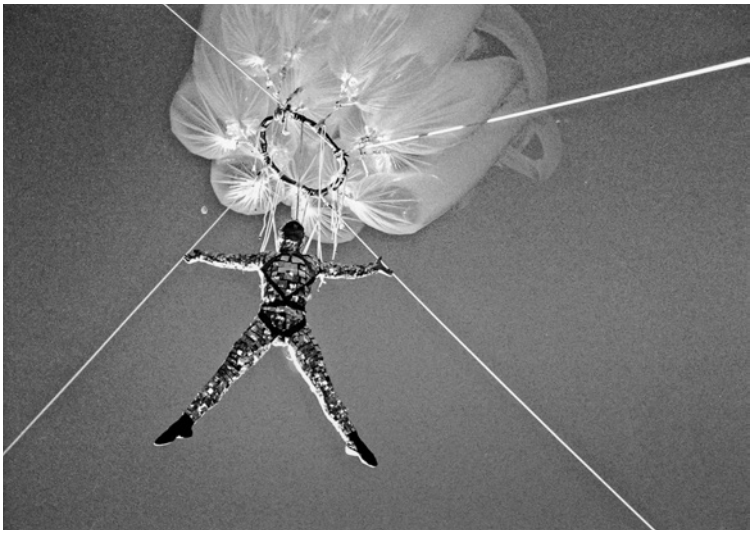

fig. 2 Seth Riskin during a Sky Art event by Otto Piene, Kunstpalast, Düsseldorf, 1996
Photo Horst Kolberg / AFORK, Kunstpalast, Düsseldorf

Light remains a mystery. It has always been. What exactly is light, and what is the human relationship with it? What is vision in this context? Is there a hierarchy between light and vision? These concerns Otto and I shared.

What do you mean by "hierarchy between light and vision"?

Well, it is common understanding that light information delivers to the brain the world as given—the objective world that exists without us. The hierarchy can be characterized as "light gives vision." Perception is not passive, however, but constructive. To some extent, the brain builds the world that we see. Paying attention to, and utilizing this creative function of perception in the manner of art, we take an active approach to vision. Light in this context becomes a medium for shaping visual experience, not simply a vehicle for delivering it.

I was always fascinated by the ways Otto Piene tried to make the viewers part of the artworks. They themselves become screens in a way: the light is projected also on their bodies, so that they become an active part of Piene's immersive installations. In your works, we see mainly you as a performing artist and not so much the audience.

It is true, perhaps because I am the engine of it. But in performance I move into the background as a silhouette. In the viewers' perception, my body movement is transposed into the movement of fluid architectural structures articulated by the light. The viewers are within the moving architecture, as they perceive it, and this sets them into movement. So I am not a performer on stage. There is a kind of symmetry between my movement experience and the viewers' movement experiences.

You work interdisciplinarily with MIT scholars from the field of neuroscience on the phenomenology of vision—a topic in which Piene was engaged in as well. Having studied philosophy, he approached the relationship between the subject and the object from a philosophical perspective. How do you come then to neuroscience?

Light was for Otto a primary vehicle, with which he could transcend the boundary between the subject and the object. The way that the Light Ballet—and we have to remember that Light Ballets were originally performed by Otto—structures the light, was such as to transcend limitations: limits of gravity, constraints of time, and habitual, or rigid, ways of thinking that color our experiences. With the transcendence of these limitations, we have the viewer experiencing the kinds of expansion, the floating, the quiet, the tranquility, or—you could say—the pure possibilities in silence of the ZERO moment.
This gets to the question of neuroscience. Otto was up to 'articulated illumination'. He used filament lamps, reflectors, and camera obscura projections to change the viewers' perception of the hard surround. In this way, Otto used light to manipulate vision at a fundamental level so as to restructure our experiences. In my Light Dance artwork, I also use articulated illumination interacting with material surfaces to shape space and time in perception. Light Dance and Light Ballet are close in this regard. There has always been an intellectual side to my work, alongside the artistic, so it was a natural step in the development of my work that I investigated what was happening in vision neuroscience. Ultimately, I started collaborating with scientists toward shared goals of studying the interaction of light and vision and generating visual experiences through the manipulation of light.

Could you elaborate a bit more on 'articulated illumination'?

I build equipment to produce specific light effects. The equipment projects articulated light—lines, circles, grid patterns, for example—from my body to the boundaries of the room. As I move, the light effects change in size, shape, and speed on the surfaces of the room. The resulting experience, for the performer and viewer, is one of "sculpting" space. Otto, in his Light Ballet work, was also concerned with this kind of "sculpture" and the experiences it could generate.

How does this relate to neuroscience?

I began talking with vision scientists about these kinds of perceived transformations of objects and spaces that come about through articulated illumination. Articulated illumination became the subject of research studies. What has developed is quite interesting: by highly controlled light, we can take back the structure of what we see to what is called early visual processing, the very beginning of visual experience. We can control elemental, constructive functions of vision and influence how the brain builds up a picture of a world. Articulated illumination offers a way to look into and study the early structuring of space, time, and forms in the visual brain. One project example is that we use a robotic arm to control the movement of articulated light to generate specific visual experiences. We can probe into how the brain structures a visual world based on light information, and this is also a resource for working with light as an artistic medium. Consequently, we recognize that perception is constructive. Perception is a creative function, not just a passive one.

Have the neuroscientists' research questions about how vision develops and about the intellectual conceptualization of what hits the eye influenced you as an artist as well?

Yes. I was always thinking philosophically and related to science. It traces back to the *Light-Space Modulator* by László Moholy-Nagy and to other works from the past — the works of Wassily Kandinsky, for example, in terms of analysis of vision and transcendence of pictorial representation to total abstraction. So this is the context out of which my recent work has come.
Understanding the open questions in vision science has allowed me to start probing my work more specifically. If perception is constructive, then we begin to transcend the habitual, notional boundary between the interior and exterior worlds. This phenomenological leap accords with the potential of art and is particularly exciting. I think a lot of artists feel this strength of artistic purpose. What I am starting to see is that there is a distinct role for art in relation to vision neuroscience: art can be more than a fanciful idea; it can tap into deep structures of how we experience the world in a way that complements science. As an artist, I can start to bring my imagery into the exploration of physical reality and really make a case, alongside science, for this kind of experience-based intelligence. Such an approach has the potential of overcoming the constrictive, unproductive roles of disciplinary divides.

Although the collaboration between artists and scientists has not always been very popular at MIT, you run a fantastic studio program there. Can you talk a bit about that as well?

Before Otto's death, he and I were talking about the development of what is called the MIT Museum Studio — something I originated and Otto was involved with from the beginning. It is very much in the spirit of ZERO and of the Center for Advanced Visual Studies (CAVS), which no longer exists. Since Otto's death, the studio has developed quite strongly to carry on that tradition at MIT, and its work is focused on the legacy of Otto and ZERO.
Vision in Neuroscience and Art is a new course that has been taken on by the department of brain and cognitive sciences. This is a major step at MIT, to have such an approach part of the science curriculum. At MIT, we are pioneering methods of thought and creation that open the space between art and science rather than reducing one to the other.

Are the students of this new course aware of ZERO?

The students I work with are very much inspired by ZERO. The impulse they are driven by is quite similar whether they come from engineering, or material science, or brain science. There is a kind of intelligence that they are often missing in their programs and that they identify in the practical approach we offer at the Studio. The Studio and the new course, as well as other courses, are focused on the tradition of physicality, sensory learning,

figs. 3–4 Seth Riskin, *Light Dance*, Massachusetts Institute of Technology (MIT), Cambridge, 2015
Photos Allan Doyle

fig. 5 Seth Riskin, *Light Dance*, MIT, Cambridge, 2015
Photo Allan Doyle

and the power of artistic manifestations that communicate with people through the senses. Therefore, you will recognize echoes of ZERO in the students' artworks.

How do you see the future development of this program?

I think the future at MIT — and perhaps also beyond MIT — is one in which art plays a particular and essential role in pronouncing, in relation to other areas of knowledge, subjective experience. In relation to objective knowledge, subjective experience is not well understood or valued. I believe that the firsthand, subjective experience that is essential to art — quite different from the generalizing function of scientific method — represents a much-needed complementary approach in the activities of knowledge generation. Who better than the artist to advance this kind of experience-making? And experience is the core of knowledge.

So you say that the interest in ZERO today has not to do only with the influence of the technological society but also with the collaboration between various disciplines and with the role of artistic research — a term that has not been brought up yet, but I think is a key issue, especially for those working in art academies or in art schools. Artists have more research possibilities today, and artistic research is seen more and more as something that needs to be taken seriously, although it is still hard to get the funding for it. How do you relate to the model of artistic research that is so popular now?

Well, I think it is making the case for the human capacity as it is expressed through art and as it is found in perception. Our entire knowledge of the world, as far as we can measure it and develop theories about it, traces back to human experience. We can never take the human out of the loop. So if we change our minds about the role of perception and the value of perceptual intelligence as found in artistic practice, we can start to imagine that art — instead of being something that is antiquated or marginalized — is in fact at the center of many fields of pursuit like brain science or vision science. Can science go on with highly abstracted theory-making that is so distantly removed from firsthand experience? I think that there are forefronts of science that can benefit from the deep-going intelligence that art has to offer. Here are opportunities to shift the model by which we understand the world and ourselves and therefore shift research to include the artistic.

How would you relate this focus on perception and on vision science — which could be interpreted as a sort of modernist formalism — with the multiple and hybrid forms of mediatization that the ZERO artists were deploying?

To do work at the intersection of art and vision neuroscience, we need to work with technologies for the new experiences they afford. The adaptation or invention of technologies as new artistic media is critical to the work we do at MIT, but the mentality that we foster behind our efforts leading to the experiences that the artworks generate is most important. I think this prioritization is similar to that of ZERO artists. There was driving vision and philosophy behind their work. 'Mediatization' was not an end in itself, in my view, but perhaps the unintended result of grappling with the force of new technologies and materials, trying to turn them to artistic ends. Overall, there is a reason why I do this work at MIT and why Otto was at MIT. It is not about the media, but about combining technical knowledge with humanistic intelligence toward a more complete expression of the human experience and potential. This drives my students and me and I believe it is what drove Otto.