CLOCKWISE FROM TOP LEFT: All images **Jo Nigoghossian**. *Steel and Neon Sprawl*, 2013, steel, neon, rubber, 86 x 68 x 44 in. *Steel and Neon Sprawl* (detail), 2013, steel, neon, rubber, 86 x 68 x 44 in. *Solitary with light compartment*, 2014, steel, neon, 21 x 48 x 21 in.

JO NIGOGHOSSIAN + KENNY GREENBERG =

Questioning Light, Winter 2014

JO: You were talking the other day about a collaboration you did—with neon light and beams of light going up into the sky. You talked about containment of the neon light. Is this significant to you—that the light is trapped in form? Seems very powerful. How has your relationship to the medium changed over time?

KENNY: This one relates somewhat to your first question—the discussion we had on the difference between contained and released light. When I began I was hyperaware of the idea of neon as neon. It was a new medium for me. So, for example, when I incorporated neon into my own sculpture, there was an intent to highlight its key attributes—with neon popping out of a wall, bright neon laying on the floor. In other instances, the neon itself was formed in unexpected ways. It was often a rebellion of sorts against its uses in contemporary design, such as a piece I made in which the glass appeared to be blown into shards or into complex, interwoven knots. I was enjoying the irony of using neon as neon, but not *as neon*, if that makes any sense.

Working with other artists further influenced how I approached the medium. I shared my first studio with a casual glassblower who formulated and batched his own glass. I focused then on glass techniques and tools not normally used with neon, along with colors and densities that could only be achieved through handmade glass, and even shapes and vessels not normally part of conventional neon forms. When I collaborated with other light artists and worked with lighting designers I became more attuned to the presence of light both captured within the glass and spread into the environment. Much of my work then played with harmonies and contrasts. When I met my future wife and frequent collaborator she was in fashion, designing one-of-a-kind collaged wearable art. Her work and her experience of neon brought greater clarity to aspects that I had mostly only sensed, such as the different textures of light. She also pushed me toward intentionally fabricating free-form designs. For me, there had always been a separation—either I followed a strictly geometric design or I fashioned it free-form, out of the air. Being able to capture the sense of a free-form design with precision that does not destroy it was quite challenging.

I think I also became aware of a third locale for light, which is within the mind's eye. So experiments with animation—concrete and abstract—were a huge part of my explorations. I had a semipermanent work at Socrates Sculpture Park, where a red neon stick figure ran along the top of the park's office building. One thing I learned was that at night, when there was less visible background, the figure seemed to run in an indeterminate space, at times small enough to seem like it was just in my head, while at other times, it was seemingly way larger than life.

As I write this I am seeing connections that leap across time. I realize that when I work with an artist today part of my adaptability is my familiarity with the ideas he or she is exploring. I am almost always surprised by the other artist's vision, which usually opens up an idea that I had never thought about. But at the same time, I feel I know the well we are drinking from.

JO: It is interesting that there was a shift in intention for free-form design. A friend of mine described a Kiki Smith piece we recently saw as "just freaky enough," which I loved because it was close to the edge, but you could see the knowledge and consciousness in it (it was not a free-form piece, by the way). I think about it a lot in my own work. There are infinite possibilities—there is a risk of working unconsciously (sometimes I do), and there are images and opinions that form my intention for the work—but I criticize those in the moment of physical production. It can be a struggle to push through. And as you say—in pushing through this vision without destruction.

In something like glasswork, the eye-to-hand precision has to be so acute. I am reading *The Craftsman*, and it talks about concentration and looking closely, which makes you forget your hands; they just extend and adapt accordingly to what you see and will to be. What do you think about stance and the whole body having to be in tune when working with this material? And what about pace change? It seems like you would have to be ready to switch speeds or flow suddenly … so timing and a rhythm seems part of the success. But is that different each time? Sorry, long question!

KENNY: Glass is rather unforgiving, but at the same time, it is very responsive to its human companion. I suppose it applies to almost any craft. I've felt that there is a similarity to playing a musical instrument. I've been studying Thelonious Monk when I have time to play piano. There is a peculiarity where, if you play some pieces slowly and carefully to get each chord right, it can sound kind of crappy. As you build up a fluidity and familiarity with where the progressions are going, suddenly what was harsh is incredibly smooth. Right now I'm teaching

neon to a very experienced glassblower and ceramicist. Very little time goes into showing him the basics. The major amount of time goes into him just becoming familiar with body stance, finding the approach and timing as the glass moves within the flames, and so on. Neon glasswork is not generally as symmetric and repetitive as the glasswork that would be for making a bowl or goblet, with which he is far more familiar.

Concentration in neon glasswork and even in processing is at times quite focused. This is particularly so when following a tight pattern. One of the most common yet probably underappreciated aspects of neon is conventional lettering. You will see the best examples in neon signs and designs from the 1930s through the 1950s. All designs and templates were hand-drafted, and the intent of the glass benders seems to proclaim a pride in workmanship. Today, we quickly bang out designs on a computer. In a fast-paced world everyone wants it now, and there is no sense of any longevity beyond the coming season.

Getting back to concentration, if I am tense, that tension can be captured in the glass, and the next morning I may find a crack. If I drift into thinking about tomorrow's appointments or bills I have to pay, I'll overheat and lose the bend I'm working on, sometimes forcing me to start from scratch. This all forces one to develop a level of patience and is possibly comparable to a near-meditative state. But it can also bring about tantrums, where glass starts flying. The work is physically demanding so if something goes wrong, your best energy and focus may be shot, and if you are on a deadline and have fallen behind, well, that can make things worse. I learned early on to stop at the point when I saw the project moving backward.

Yet with all that in mind, because we frequently work with theatrical productions and even live TV, I have many times had situations of extreme time demand and pressure. Last spring I provided neon signage that was the main backdrop for MoMA's annual Garden Gala. Being informed of a broken sign at five in the afternoon, I had to reproduce a rather complex and ornate piece, deliver, and install it by the time the doors opened at seven. To add to the fun, my client anxiously called me almost every ten minutes to see how I was progressing. I remember the sense of just *doing*, just making it happen. Definitely a sort of scary tension, but you just live in the moment. Things slow down the way people describe being in a car crash. And a level of experience and confidence is there at the same time. There is always some degree of trepidation after the glasswork is done because the work must be processed and exposed to high jolts of electricity, heat, and a vacuum, which can reveal any defects and send the piece back to square one. So the sense of relief does not kick in until the piece is sitting on the aging table glowing the proper color. Then of course, for the MoMA project, there was the added tension of getting to the museum and installing the piece without breaking it. Boom! I did it by 6:59 p.m., and the jovial press watching the drama unfold gave me a round of applause. And, well, isn't the appreciation and triumph part of what we crave?

And what am I describing here? Is it craft? Is it performance? What I just described was a corporate project, but the experience—these emergencies common to theater, live TV, and galleries—informs and influences ad-hoc art installations and performance projects that I've initiated, or for which I've collaborated. There have been projects that are completely experimental. I've had the unique honor and pleasure of a seemingly strange mix of collaborators—a Nobel Prize winner in chemistry, a famous neurologist and author, a dance company, musicians of every persuasion from classic to rock, an interactive sound artist, and, of course, many visual artists and performers. Many of these projects have had unpredictable outcomes. And that aspect of being in the moment returns.

JO: There is always that moment of awe when you turn on lights—whether they are Christmas tree lights or a desk light—which I think is created from a combination of relief (they work) and the comfort in their power to change everything. I know that the collision of electrons and absorption into the atom is the energy that is given off as light, in neon lights; do you think humans feel that energy and that's why it is so powerful in changing one's mood?

KENNY: Ah, I just want to say, bingo, you got it! At one time I wanted to use the slogan, "I make light of matter." I have always been absorbed in the nature of matter and light, space-time, perception, cognition, language, and how it all fits together. When a high-powered electron microscope looks at an atom, all it sees are waves. That tells me that every object, every event is connected in some way. And, yes, we already know that light affects mood. There are Eastern philosophical constructs that associated specific colors with parts of the body and mind. While we don't directly acknowledge it, we have color-mind-mood deeply ingrained in Western culture. Are you blue today? He was seeing red. That person is green with envy. That person is yellow.

We feed electricity into the neon tube, which knocks electrons off of the atoms. The electrons bounce around and hit each other and the glass inner wall. Their energy is lost, and they recombine back into the atoms. But that energy being "lost" is the light being given off, and it is directly a function of the distance the electron falls, back into the atom. Different atoms have different distances and thus different vibrations. In that sense, they are like musical instruments with differently tuned strings. And so we see different colors. There is no solid boundary between the surface of my skin and the world around me, so I think it is a very direct interaction.

As a parallel I'll have to quote the late, great musician-philosopher Sun Ra, who said "Sound creates vibration. Vibration changes space. Therefore, music alters destiny." I know that seems very out there, but it's actually quite concrete, and I think the same is readily applied to light in all forms, whether directly emitted from a light source or reflected from the pigments in a painting.

JO: So in terms of electromagnetic fields, the connections to the human body expand—as you said, there are really no boundaries—like we "are" light matter? Thinking about cognition as opposed to mood, with the brain being an electric frequency, can you talk more about the energy and the capabilities to alter asymmetry and quickly produce balanced, symmetrical,

brain-wave patterns? Maybe I am asking about the speed of its effect, its power to balance us versus our power to trap it.

KENNY: It sounds like you are asking about the speed of thought and whether or not thought transcends what we believe to be the limitations of our physical existence. I equate cognition and mood in the sense that they are both ways that we process what is going on around and within us. Electromagnetic fields, gravity waves, time waves, and whatever else we will uncover are the underlying fields and forces that shape who we are and what we do. This is far more complex than something you can instantly observe. For example, it may be that the gravitational forces from how planets and stars are arranged affect not just the tides, but maybe even how chemical compounds form. As in art, symmetry and asymmetry in brain-wave patterns serve their functions. One brings unity. The other, differentiation. Lao-Tzu talked about this many centuries ago.

JO: Do you think neon will become more high-definition? Like the way technology progressed for film transfer? Do you think the original neon-light-making process is going to change?

KENNY: Great question. High-definition is ultimately about the accuracy of color. The original color TVs tended to blur color, and the technology got progressively better. This has happened with neon as well. The earliest colors were limited to the characteristic colors of illuminate gas and the color of whatever glass that filtered the colors. In the 1930s, phosphors were used that could convert the source gas color into other colors, and this was mostly dependent on the natural output of the phosphors. Variations were possible by blending the phosphors. While consistent colors were possible, this was more of an analogue situation. In the 1980s, rare earth phosphors that produced very specific wavelengths of red, blue, and green started to be mixed very precisely to obtain a high degree of control of color. In a sense, neon color became more digital. At the same time, solid state transformers were developed that were high-frequency. This has allowed more efficiency, in some cases many times greater than even LEDs. It has also allowed neon to be filmed at a very high speed, without flicker or noise.

The original process of making neon has actually not changed that much. We simply have more reliable equipment and more accurate ways to monitor processing. So, for example, for decades neon manufacturers placed a piece of newspaper on the tube so that when it charred at 451 degrees Fahrenheit, they knew the tube was sufficiently heated to clean impurities. Today, we use electronic thermocouples and infrared detectors to precisely monitor temperature. We can arrive at a cleaner tube since we can exceed this temperature to the point just below when the tube starts to soften. The same applies to our vacuum gauges as well as improvements to the basic equipment.

One thing that hasn't changed is the need for a skilled operator. I have seen tubes ruined using the most expensive setups, and I've seen extremely well-made tubes created from more vintage setups. I'm involved with the development of technology that will automate some key aspects of the process. ==