ACCEPTING THE MACHINE: A RESPONSE BY LILIANE LIJN TO THREE QUESTIONS FROM ARTS

Liliane Lijn interviewed by *Arts*
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Abstract

Celebrated techno-art pioneer Liliane Lijn—whose participation in the landmark 1970 London "Kinetics" exhibition at the newly opened Hayward Gallery was but a waypoint in a long and adventurous career, and whose work is represented in the collections of Bern's Kunstmuseum, MoMA, and Tate—has prepared this essay on the evolution of machine art in response to three questions from G.W. Smith and Juliette Bessette of *Arts*.

1. The Question of the Electric Motor

Arts: *As you know, Ms. Lijn, the thesis of our special issue is that a society which has now found itself afloat in a sea of technology must look back at the work of the techno-artists of the 1950s and '60s with renewed attention, and what we would like to focus on in this conversation is the apparently unlikely subject of the* electric motor. *And we use the ironic term "apparently," because even in the 1950s and '60s, the electric motor was at the heart of our civilization, powering our pumps and elevators and ventilation systems, and at this point in history—2018—we are, in truth, on the verge of the "golden age" of the electric motor, which will do no less than save our planet by replacing the internal combustion engines in hundreds of millions of automobiles! Even more to the point vis-a-vis this conversation, however, is the fact that you are among the earlier members of the second wave of 20th-century artists (Mellor 2005) to have*

employed the electric motor in their work, and apparently the first woman.

We must not forget, furthermore, that it was this second wave of artists who achieved for machine art its own first "golden age," albeit under the banner of kinetic art, culminating in the landmark Time *and* Life *magazine articles of 1966 (*Time *1966; Fincher 1966). Could you, therefore, Ms. Lijn, honor our readers by painting a picture, within this context, of your own use of electric motors in your historic 1962–65 series of "Poem Machines" ?*

Liliane Lijn: I should begin by stating that my *Poem Machines* were not the first works in which I used electric motors. From 1960 through 1963, I lived both in New York and in Paris, and, as is the case when one changes habitat, there comes with this constant movement a feeling of temporal discontinuity. I spent much of 1961 and 1962 in New York, and in 1961, I worked on a series of kinetic tableaux that I called *Reflection Tableaux* (1961), in which I used small electric motors to revolve Plexiglas cylinders on which I had injected acrylic lenses. These led to the more complex *Echo-Lights* (1962), for which I devised small projectors in which light passed through a turning lens illuminating acrylic lenses on the surface of thick Perspex blocks, creating reflections that appeared to double and triple themselves. In these early works, I imagined that I was capturing photons, particles of light.

Living in Paris from late 1958, I was able to experience a wide range of early kinetic art, as well as optical and pop art. In each area, there were artists who used movement. I did see Duchamp's spinning bicycle wheel and quite a few Calders, although the latter used air currents to induce motion. I don't think I have ever seen a work of Gabo's that uses an electric motor, and at the time, I had only seen illustrations of Tatlin's works and László Moholy-Nagy's wonderful *Light-Space Modulator* in books. I was present at the 1959 opening of Jean Tinguely's "Drawing Machines" at the Iris Clert Gallery, and saw numerous Pol Bury slow-motion works and a number of Takis's exhibitions and events, such as his *Fire Works* sculptures, shown on the square of Saint-Germain-des-Près. Takis's *Fire Works* sculptures did not use electric motors; instead, he used the explosions of the fireworks to spin the tops of his *Signals*. In New York, I saw electric motors used in Robert Rauschenberg's works, and Tinguely's self-destructive *Homage to New York* at MoMA certainly had any number of motors in its complex and very humorous structure. Like other materials, electric motors were available and already used by artists. I wasn't particularly drawn to their use by what I saw; that is, kinesis for and in itself did not particularly excite me.

I did not come from a particularly technical background. There were a number of artists in my family; aunts and cousins who were painters, my father's cousin Stefan Temerson was a filmmaker and both a writer and a publisher, another cousin was second violinist with the New York Philharmonic orchestra. My father had an import-export business of watches and was later one of the first agents for Japanese transistor radios and the earliest Walkmans, but he was more interested in design and had no idea how they worked.

As I said, my *Poem Machines* were not my first use of electric motors. I had always been fascinated by the movements of reflected light, and in the summer of 1960, on a boat with Takis from Venice to Greece, I was delighted by the droplets of water that formed on the porthole window of our cabin. The luminous drops of water would throw flares of light across the glass of the porthole as the air currents altered their form, new ones being splashed on the glass and then slowly or even quickly spread and erased. I wanted very much to try to create a work that would give the same sensation of luminosity and creation, evanescence, dissolution and renewal. Then, in the autumn, when I returned to New York, I found a way to work with acrylic monomer, a clear viscous liquid plastic that, at first, I splattered across a sheet of Perspex. Then I did the same using clear Perspex cylinders, painting the inside white. I wanted these to turn, to create a visual effect something like the water on the porthole. I think that may well have been the first time I used a small electric motor.

More interesting perhaps was the first time I had to take a motor apart. It was sometime in 1963. Takis and I were sharing the very small maid's room atelier on the sixth floor of a house in rue Saint-André-des-Arts. Takis was in New York and I had the studio to myself. I was preparing works for my first solo exhibition at La Librairie Anglaise on the Rue de Seine, and Takis's assistant Raymondos was helping me. I had designed a small projector with a turning lens to light the works I called *Echo-lights*. Raymondos was helping me make this, but for some reason, on that day he was not in a good mood. The small motor I was using did not work, and he started to take it apart. After a while, thinking that he would break the motor, I complained that he was too rough. This infuriated him, and dropping all the bits down on the workbench, he told me in his inarticulate French that if I didn't like the way he handled things, I could just do it myself. With this, he walked out. I found myself with a motor that was now just a pile of small gears and pins, all the inner workings that I had never really examined before. At first I despaired and cursed my own impatience, but then I started carefully looking at each bit and, as with a puzzle, began to get a sense of pleasure in discovering how each part functioned. Eventually, I put them all together and the motor worked again.

Most of my works in motion were spinning or rotating like planets; wind would have been possibly less reliable. Although in 1970, I designed *Whirling Wind Koan*, a huge outdoor wind-driven conical and slatted sculpture that would also supply a small town with electricity. I think the reason I used motors, as opposed to wind, in the *Poem Machines*, *Poemcons*, and *Liquid Reflections* was because I needed precise RPMs (rotations per minute).

Most of the first motors I used were bought secondhand. My earliest *Poem Machines*, like *Young Universe* and *Get Rid of Government Time* (1962), rotated extremely fast, so fast that the poems, the words, became blurred vibrations. I found that very exciting. As to the subject of whether they were left running or were viewer-activated when first exhibited in 1963, I am not entirely sure, but I think that for the first show of the *Poem Machines* I had them continuously spinning. As I've said, I was very excited by the energy that emanated from these verbal vibrations. I also remember that Nazli Nour was at first upset that people couldn't read her poems.

However, not all the *Poem Machines* had high-speed motors. There were some that revolved slowly enough to allow the text to be read and some that allowed the viewer to alter the speed. Most of my works at the time were made using secondhand drive systems. I was just beginning to work with motors, and at the time, I was interested in interactions between the work and the viewer. In 1965, I did buy a number of new record turntables and used these for the Poemcons that I began to make at that time. Since these vinyl turntables had four speeds, by moving a small switch left or right, the viewer could change the speed of rotation and observe the effect of this change on the words. I felt I was looking at the sound of the poems, *seeing sound*, as I wrote in my *Poem Machine* manifesto in 1968. Using record-player turntables also seemed conceptually fitting, since they played the sounds that had been physically transcribed on the vinyl surfaces, discs that then spun, sounds encoded in their fine concentric circles.

I am not sure whether there was a mystique about motorized art in the 1960s. On the whole, I would say kinetic art was distrusted by curators and art dealers, with only a very few enterprising gallerists, such as Denise René and Howard Wise, taking the bold and risky step of exhibiting art that was motorized. Movement implied change and disruption of the way things had been and were; demanded attention and care or maintenance. There was certainly a distinction between artists who created static works that depended on the movement of the viewer to create certain optical effects and artists who used mechanical means to introduce motion. The works of the former were usually spoken of as "op art" as opposed to the latter, "kinetic art." I don't think the

term “machine art” was used, except perhaps by E.A.T. (Experiments in Art and Technology) in the US. I may be very wrong here, because I am not adept at cataloguing groups and movements. I have never much liked the “kinetic” moniker.

2. An Unconsummated Marriage?

A: *With thanks, Ms. Lijn, for this marvelous recreation of the artistic milieu of the 1960s, we hope now, with your continued help, to penetrate even more deeply into the 20th-century use of the motor for artistic purposes—and we will begin with Alexander Calder. With a degree in mechanical engineering, Calder was the first to create, in the early 1930s, an entire series of motorized sculptures—but he more or less abruptly broke off these experiments to pursue the wind-driven mobile. The noted techno-art historian Jack Burnham has explained this remarkable turnabout by reference to the* determinism *of the machine (Burnham 1968)—that it must repeat, over and over, its series of movements—and thus the appeal to Calder of random wind currents; and indeed, when we look at the artists of your generation who began once again to employ the electric motor, we can see various stratagems for “softening” the relentless aspect of the machine. Tinguely, for example, built his motorized pieces from worn, discarded parts, and so there is no shortage of random movement; the more typical approach, as with Joël Stein, has been to depend on various optical effects; and even with your own work of the early 1960s, can we not say that the poetry aspect is to some extent a way of ameliorating the Sisyphean aspect of the machine? And if we accept this hypothesis—that machine artists have tended to focus, so to speak, on ways of “dressing up” the machine, or making it more “entertaining”—must we not also accept the corollary, that there has, as of yet, been no kinetic sculptor who has established a major reputation by building upon the native energy and precision and organization of the machine? Or, in other words, must we not accept the fact that the celebrated marriage between art and machine, said to have occurred at some point in the 20th century, has in truth never been consummated?*

LL: There is no point in “dressing up the machine.” The machine may be “deterministic,” but it is also a tool and not necessarily an end in itself. I can cite examples from different aspects of my own work to describe the way I have used or played with machines—not always motors—and, of course, here one would have to define the machine. I prefer to think of it in its largest and most open definition, as per Wikipedia: “A *machine* uses power to apply forces and control movement to perform an intended action” (Wikipedia 2018).

My *Poem Machines* (1962) were named "machines" as a provocation of the elite glass tower of poetry. Machines were dirty, noisy, and related to both industry and manual work, in contrast to the intellectual. Machines were thought of in opposition to the organic, natural, emotional context of poetry. I like machines and value the innovative thought and creativity that has gone into inventing and making them. It is almost unnecessary to agree with Marcel Duchamp that a turbine is an object of beauty. It is often the precision of the machine that creates its beauty; it is an absolute dictate of function with no frills. Even tools made for injection-molding toothpaste caps can be beautiful objects. Well before using motors, I collected odd bits of machinery thinking I would use these in my work. But when I made *Poem Machines*(1962), I was not interested in beauty, I was interested in energy, the power latent in words.

Another aspect of a work of mine that I mentioned earlier, *Echo-Lights* (1962), used motors, in projectors that I designed and made, to rotate lenses. In that way, I enabled the reflections of tiny lens-shaped plastic drops that I had formed on seven- to nine-centimeter-thick blocks of Perspex to appear to split and double or triple themselves. The motor, like one's heart, was important in the creation of the work but was not the aim or focus of attention. In *Liquid Reflections* (1967–1968), made some years later in 1967, the machine or mechanism—motorized turntable, transformer, spotlight—is concealed beneath the water containing a Perspex disc or thin drum, which sits upon it and is rotated and lit by it. One might say that the machine gives the work its life, but in this work, it sets in motion a combination of natural forces, centrifugal and centripetal, with the important addition of angular momentum due to a slight altering of the level of the disc, and finally unplanned changes wrought by atmospheric pressure. These varied forces, some due to the motorized rotation of the disc and others nonmechanical, cause the two clear Perspex balls to slide at random across the surface of the turning disc in slowly changing patterns. There is also a small amount of water inside the disc that condenses into lens-like droplets, creating patterns of points of reflected light and shadows, a lunar landscape magnified inside the clear balls as they glide across the surface of the disc.

In the 1980s, I began to create works that represented female archetypes or goddesses. Apparitions of feminine power and inner energy, *Woman of War* (1986) and *Lady of the Wild Things* (1983), are pure machine art come alive. They perform a six-minute drama that includes movement, sound, and light. They are interactive and automated. They both contain and are themselves machines. However, they do not appear to be machines; one could even say they do not appear "deterministic" or even repetitive, no more than a piece of theater or a film watched over and over might seem. They do not appear to be machines, because of their complexity and

because I have given my human voice to the *Woman of War*. The *Lady of the Wild Things* listens to that voice and transforms the sound into light, 250 LEDs flickering in red and green through a feathery pair of wings made of steel and PVC fibers, responding to the volume and pitch of my recorded voice.

There are further surprises, a sense of unpredictability that, combined with complexity, transforms the machine into something more organic. In making these larger-than-life figures, I wanted to combine animal, plant, mineral, and machine, drawing together our mythic past with an imagined future.

3. Looking to the Future

A: *And now, in closing, let us look to the future, in respect to which we will find no shortage of young artists who will tell us that the classical machine is passé and that we should now be focused on computer art, virtual art, database art, and so on. There is, however, a strong argument to be made for the idea that art must continue its engagement with said machine: first, there can be no doubt that the computer is itself a machine, and no less deterministic in its own way than, say, a steam locomotive—and so if art has not yet consummated its relationship with the classical machine, what hope can there be at present for a truly thoroughgoing computer art? And second, there is a quite powerful symbiotic relationship between the computer and the classical machine, as per the automated factory, the robot, and so on; i.e., there will be more, rather than fewer, machines in our future—and so an art that has not yet come to terms with even the classical machine will find itself less and less relevant. As an artist who has been engaged with the machine since 1962, what is your response to these arguments? Is it time to lay down our wrenches and screwdrivers—or is there more to be done?*

LL: It is quite evident that machines are even more thoroughly a part of our environment than ever before: driverless cars, satellites in space, drones, and a couple of new tools for artists, laser-cutting and 3D printing, not to mention the near-future advent of quantum computing. I believe that there are no rules in art, and for that reason, predictions of what may be considered art in the future seem a bit spurious to me. However, I see a strong tendency for collaborative art, whether between artists or across disciplines. Scientists are more interested now in opening their doors to other disciples, artists, composers, philosophers. In the last year, I have been asked to be part of a group called Universe 2.0, initiated by Professor Pierre Binétruy of the Centre for Astro-Particle Physics in Paris, who sadly passed away last April. He believed that

the recent detection of gravitational waves had begun a new paradigm in astronomy and human thought, and that this implied too great a change and could only be understood by an openness of thought, thus the necessity for cross-fertilization between disciplines.

In order to detect a minute deformation of space-time, on the order of 10^{-18} m, that was generated by two colliding black holes nearly 1.3 billion light years away, scientists must use larger and larger arrays of machines and instruments. On my recent visit to the Virgo European Gravitational Observatory in Pisa, the sight of these extraordinary machines, these tools that men and women have made collaboratively to see far into space-time, made me feel that perhaps artists could also pool their individual creativity and imagination to visualize an infinite inner universe.

Conflicts of Interest

The author declares no conflict of interest.

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