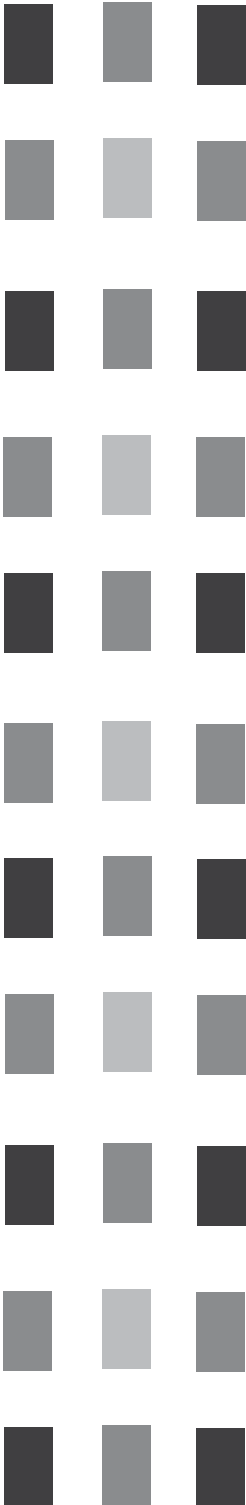


Describing the Ineffable: Le Corbusier, Le Poème Electronique and Montage

Açalya Kiyak



The fourth session in Weimar colloquium has been devoted to *Vision in Motion*, the last book of the Hungarian artist László Moholy-Nagy who was a teacher of Bauhaus in Weimar between 1923 and 1928.¹ *Vision in Motion*, which was published in 1947 shortly after Moholy-Nagy's death, is, in a way, a manifesto on the "theory of seeing" based on his notions of seeing, feeling and thinking in relationship. In my contribution to the colloquium session, I will discuss the importance of *Vision in Motion* on the architecture of the post-war period, in particular the Philips Pavilion which was designed for the Brussels World Fair of 1958 by Le Corbusier. I will describe how Le Corbusier – another expert in the theory of seeing – realized in the Philips Pavilion many of the goals of Moholy-Nagy's experiments and his theories found in *Vision in Motion*. Philips Pavilion was also the culmination of a life-long search of Le Corbusier in achieving a synthesis of the arts – architecture, painting, sculpture, film, and music.

The Philips Pavilion no longer stands. It was demolished at the end of the fair on January 30, 1959. Today only a few photographs, a recorded score, and some drawings of the pavilion remain. However, during the six months of the fair about two million people experienced the Philips Pavilion, "the strangest building at the fair," as Howard Taubman of *New York Times* wrote in 1958.² It is quite strange that there is very little information on the project within the publications on Le Corbusier. In his *Œuvre Complète*, in the 1952–57 volume, Le Corbusier devoted only two pages to the Philips Pavilion.³ The primary documentations of the building are a book edited by the graphic designer Jean Petit at the end of the exposition and the two articles published in 1958 in *Philips Technical Review*.⁴ More recently two substantial monographs on this "strange" building have been published.⁵

When the Philips Corporation invited Le Corbusier to design its pavilion for the Brussels World's Fair in 1956, almost two years before the fair, he was sixty-eight years old. He was at the peak of his career and quite busy with the design of the Governmental Center in Chandigarh in India, his largest realized project. The art director of Philips, Louis Kalff, who had seen his chapel at Ronchamp, believed that Le Corbusier could best demonstrate Philips' technology and vision. Based in Eindhoven, Holland, Philips Corporation is a Dutch electronics company specializing in everything from sound production to fluorescent lighting to X-ray technology. Instead of presenting their products, Philips intended to showcase sound and light effects to illustrate Philips's technical progress. Kalff wrote in *Philips Technical Review*: "The object ... is to demonstrate the capabilities of modern technology in some of Philips'

major fields of endeavor – illuminating, engineering, electro-acoustics, electronics, and automatic control techniques – and also to give an impression of the way in which these technical facilities may in the future be turned to artistic ends."⁶ The Philips Company proposed to equip the pavilion with the most modern electronic technologies and offered Le Corbusier the access to the most advanced technological means of the day. At the end, Le Corbusier, "the architect of the twentieth century," accepted their offer to build this small-scale and temporary building.

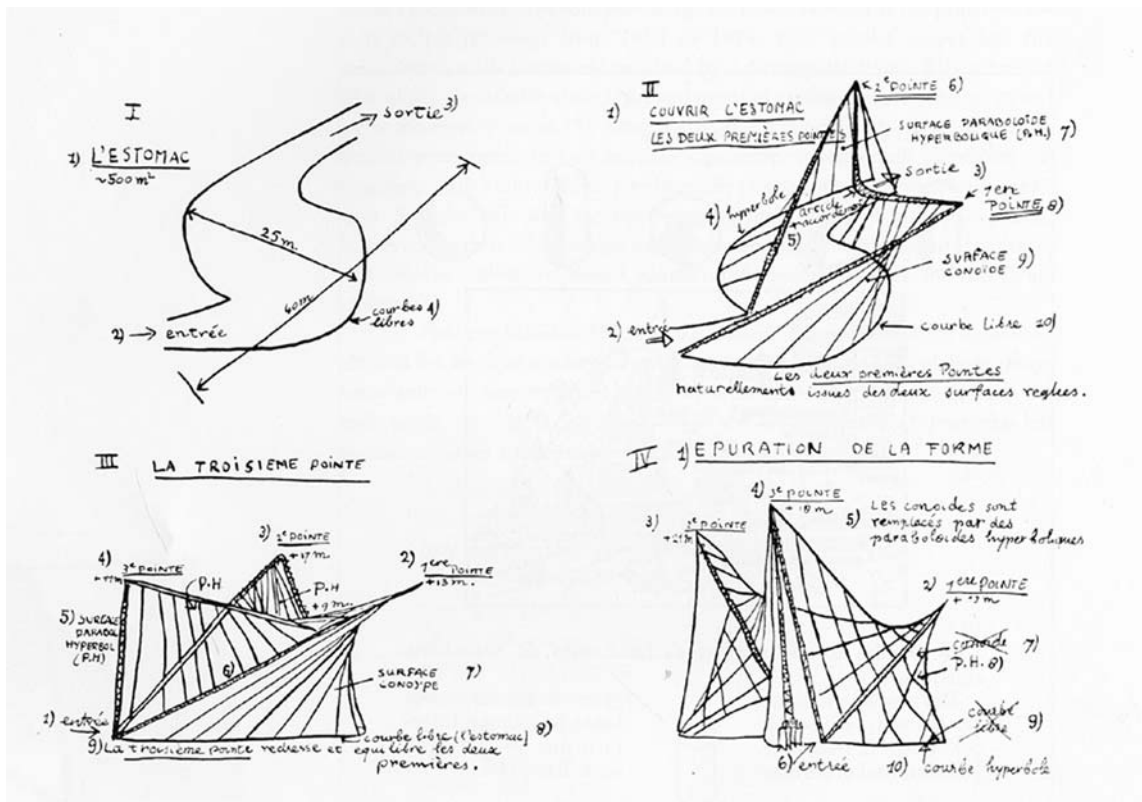
Architectural Stomach

From the very beginning Le Corbusier conceived the pavilion as an interior in which an electronic spectacle could be presented. He said: "I will not make a façade for Philips, but an electronic poem. Everything will happen inside: sound, light, color, rhythm ... Perhaps a scaffolding will be the pavilion's only exterior aspect."⁷ He designed the plan of the pavilion in the shape of a stomach, a digestive organ, capable of absorbing the public, five hundred people at a time. Every ten minutes, the pavilion "assimilated" five hundred spectators. And at the end of the spectacle, the spectators were "evacuated" automatically, possibly after having been "transformed." Spectators remained standing during the eight-minute spectacle. Thus, this allowed the audience to experience the spectacle from all points.

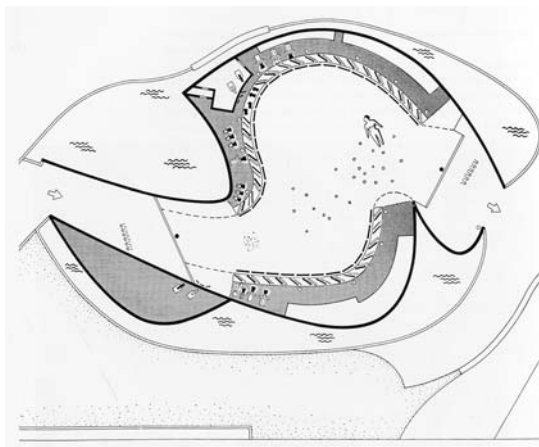
The Philips Pavilion was very different from a typical display of the company's products. The only exhibit in the pavilion was the spectacle,



1 | *The Philips Pavilion, World Exposition, Brussels, 1958*



2 | Conceptual sketches by Xenakis



3 | Plan of the pavilion showing the location of light and sound equipment

what Le Corbusier called the *Poème Électronique*. The elements of the *Poème Électronique* were music, artificial lighting, a black and white film, two dimensional shapes superimposed on the film by projectors, three-dimensional forms illuminated by ultraviolet light, and finally architecture. Le Corbusier was not alone in creating the *Poème Électronique*. He collaborated with filmmaker Philippe Agostini, graphic designer and editor Jean Petit, and composer Edgard Varèse. Le Corbusier left the design of the scaffolding to Iannis Xenakis who was an engineer working in Rue de Sèvres since

1951. Xenakis, now best known as a composer, translated Le Corbusier's sketches into hyperbolic parabolic forms, turned the stomach shaped plan into a shell structure. At the end of the construction of the pavilion, Le Corbusier and Xenakis argued over credit for its design; this was one of the tensions that resulted in Xenakis' leaving the firm a year later. From this point Xenakis devoted himself to composing and investigated the use of mathematics in composition; his music began to be widely appreciated.

Le Corbusier persuaded the Philips management to work with the French composer Edgard Varèse for the sound part of the poem. Varèse's eight minute score, his last completed work, remained as a key work in twentieth century music. Though the single-track recording remains today, the original consisted of three synchronized tracks, to be played on multiple amplifiers and loudspeakers in the Philips Pavilion. Varèse conceived and produced the musical score completely independent of the images and light effects. Though the way in which Varèse composed the contrasting sounds – machine like bells and sirens, human voices, noises, gongs – is similar to the way in which Le Corbusier assembled his contrasting images from various sources.

The black and white images were ranged in subject from prehistoric figures, tribal sculptures to science and technology. Le Corbusier's own work also appeared in the closing moments of the poem including his projects for Paris, skyscrapers for Algiers, the housing blocks at Marseilles, the High



4 | Image from Sequence 7, *Poème Electronique*

Court at Chandigarh – mostly his latest projects. The poem, which started in dark, ended with an image of baby looking through tomorrow symbolizing peace. The *Poème Électronique* was composed of static images. As Marc Treib points out this rapid succession of still images was similar with Fernand Leger's ten minute film, *Ballet Mécanique* created almost thirty years before the construction of the Philips Pavilion.⁸

Painting with Light

Artificial illumination, one of the areas where the Philips Company was and is still active, was celebrated as the most powerful element around the middle of the twentieth century. Moholy-Nagy regarded artificial lighting as "the new form of visual art." He hoped for a transition from pigments to electric lights. In fact, in *Vision in Motion* Moholy-Nagy had already mentioned some of the light effects that were used in the Philips Pavilion.

First, even though color film existed in 1958, all of the images in the *Poème Électronique* were black and white. Somewhat independent of black and white images, colors were projected by projectors situated behind the parapets. Not because as Moholy-Nagy believed, "colored film looks cheap and overdone;"⁹ but there was a functional reason to use black and white images: There were two projectors and both of them were equipped with colored filters; the beams from the two projectors crossing the space would have distorted the colors of both. This also allowed color to act as an independent plastic element.¹⁰ Color was employed for its own sake, with no significance other than color itself. Moholy-Nagy was also in favor of separating color from its illusionistic meaning and not using as a sign or symbol to represent an object. He wrote in *Vision in Motion*, "Freed from such content, the creation of colored shapes through light will probably lead to the abstract

cinematograph, the kinetic equivalent of the static color photograms."¹¹ Thus, Moholy-Nagy's color photograms were accomplished on the walls of the Pavilion by means of a filmstrip which had entirely opaque frames except for three holes through which shapes were projected.

In addition to these light effects, three-dimensional forms hung in the apexes of the shells in the pavilion were painted in such a way that they would fluoresce under ultraviolet light. Marc Treib asserted recently in his book entitled *Space Calculated in Seconds* that the Philips project can be viewed as "a prototype of virtual reality;" where lights, loudspeakers, film projections on curved surfaces, the objects hanging from the ceiling and the containing space itself were all virtual elements.¹² The montage of these elements transformed the pavilion into a 'virtual volume,' which was also Moholy-Nagy's vision of plastic creation.¹³

Plastic Projection

In Moholy-Nagy's eyes, any object with combined concave-convex surfaces was considered as a light modulator, "in order to catch, reflect and modulate light."¹⁴ Moholy explains this as "the specific need for a vision in motion." For him, this "free motion of forward and backward of surfaces prepared a new type of spatial perception." Distortion, endangering simultaneity of grasp and suggesting motion as opposed to the fixed perspective of the painter, was the new way of communication.¹⁵

The interior of the Philips Pavilion had a complex series of surfaces upon which to screen the images. The curved surfaces of the Philips Pavilion suggested the same plastic meaning of distortion, producing distorted images on the curving surfaces. It is peculiar that in *Vision in Motion*, Moholy-Nagy outlined a project of which resembled the curved surfaces of the Philips Pavilion: "The rectangular canvas, screen of our cinema is really only a mechanized easel painting, our conception of space and of the relations of space and light still absurdly primitive... Replace a single flat screen by concave or convex sections of differing size and shape that would form innumerable patterns by continual change of position."

Eisenstein and Le Corbusier

Le Corbusier's interest on film and montage dated back to the late 1920s. When Moholy-Nagy was experimenting with his Modulator, Le Corbusier went to Moscow where he met the Russian filmmaker Sergie Eisenstein in October 1928. On his request, Le Corbusier attended a private screening of Eisenstein's films. Expressing his affinity with the director and his ideas on film montage, he



5 | Le Corbusier, with Sergei Eisenstein (center) and Andrei Burov (right), Moscow, October 1928

gave Eisenstein a copy of his book *L'art Decorative d'Aujourd'hui* with the following dedication:

"To M. Eisenstein this dedication after *Potemkin* and *The Straight Line*.

I seem to think as M. Eisenstein does when he makes films...

With my deepest sympathy and highest regard."¹⁶

According to Eisenstein, the art of film montage lies in the arrangement of seemingly unrelated stills or shots in a certain sequence. It is this juxtaposition that film takes on a meaning beyond what would be derived from the linear narrative of an event. "Intellectual montage," he wrote, "is creating other meanings in the viewer's mind by the juxtaposition of the frames taken at different times and places."¹⁷ In Eisenstein's films meaning would not be inherent within any individual view, but instead derive from the context established by the preceding and succeeding shots. According to Eisenstein, an image of a scene or a sequence exists not as something fixed and readymade but something that arises, unfolds and finally assembled in the spectator's perception. He wrote, "Every spectator, in correspondence with his individuality, conditioned by the premises of his character, habits and social appurtenances creates an image."¹⁸

Thirty years after his meeting with Eisenstein, Le Corbusier had the chance to make his own first film. And beyond question the *Poème Électronique*, in its assembly of images, recalls Eisenstein's theory of 'intellectual montage.' Imagine how personal and individual the resulting images that arise in the mind of each spectator would be. Each spectator would create an image of his own; each would be unique, dissimilar and yet identical thematically.

Many questions remain that are impossible to answer now: What exactly did the spectator experience as they crossed through this architectural stomach? How did they become transformed? What was the emotional impact of this spectacle of sound, color and light upon the spectator? Did they really "see" the music or "hear" the pictures



6 | The Philips Pavilion, World Exposition, Brussels, 1958

simultaneously? It is difficult to understand how Le Corbusier drove into the spectator's consciousness and feelings in this virtual volume. However, what is clear is that in the minds of those who witnessed the spectacle the *Poème Électronique* evoked a totally different sense of meaning, and different sense of space.

When the Surfaces Become Ineffable

The essence of this kind of the experience of space lies in a concept introduced by Le Corbusier long ago. The short article, entitled *Ineffable space* opens his 1948 book of *New World of Space*.¹⁹ In fact, the original text, *L'Espace Indicible* is contained in the special 1946 issue of *L'Architecture d'Aujourd'hui*.²⁰ He republished the text again and again in both *The Modulor* (1950) (p. 30–32) and *Modulor 2* (1955) (p. 25–27). "I am not conscious of the miracle of faith," he wrote in conclusion of *Ineffable Space*, "but I often live that of ineffable space, the consummation of plastic emotion."²¹

Today, one can look at Le Corbusier's images, even listen to Varèse's score, divorced from its architectural setting, its lighting, its colors and over-projections; however, the intellectual montage of the elements of the *Poème Électronique* is something that can never be recreated. The Philips Pavilion is the culmination of Le Corbusier's search for "ineffable space." "A boundless depth opened up, effaced the walls, drove away contingent presences and accomplished the miracle;" the miracle of "ineffable space."²²

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Notes:

- 1 László Moholy-Nagy, *Vision in Motion*, Chicago 1947.
- 2 Howard Taubman, *Fairgoers Hear the Electronic Poem*, *New York Times* (July 8, 1958): 9.
- 3 See Le Corbusier, *Œuvre Complète: 1952–57*, Zurich 1961.
- 4 Jean Petit, *Le Poème Électronique*, Paris 1958, and *The Philips Pavilion at the 1958 Brussels World Fair*, *Philips Technical Review* 20 no. 1, 1958/59, 1–49.
- 5 Marc Treib, *Space Calculated in Seconds: The Philips Pavilion*, *Le Corbusier, Edgard Varèse*, Princeton, New Jersey 1996, and Alessandra Capanna, *Le Corbusier: Padiglione Philips, Bruxelles*, Torino 2000.
- 6 L. Kalf, *The Philips Pavilion at the 1958 Brussels World Fair*, *Philips Technical Review* 20 no. 1, 1958: 1.
- 7 Le Corbusier, in Petit, *Le Poème Electronique*, p. 23.
- 8 Marc Treib, 144.
- 9 Moholy-Nagy, 282.
- 10 Fernand Léger had suggested this long before, see Fernand Léger, *Functions of Painting*, trans. A. Anderson, ed. E. F. Fry, New York 1973.
- 11 Moholy-Nagy, 173.
- 12 Marc Treib, x.
- 13 Moholy-Nagy, 241.
- 14 *Ibid.*, 198.
- 15 *Ibid.*, 118.
- 16 *Le Corbusier* in Jean-Louis Cohen, *Le Corbusier and the Mystique of the USSR: Theories and Projects for Moscow, 1928–1936*, Princeton, N. J. 1992, 49.
- 17 Sergei Eisenstein, *Film Sense*, London 1943, 17.
- 18 *Ibid.*, 17.
- 19 Le Corbusier, *New World of Space*, New York 1948, 7–9.
- 20 Le Corbusier, *L'Espace Indicible*, in *L'Architecture d'Aujourd'hui*, January 1946, 9–10.
- 21 In *Modulor 2*, he writes in a footnote about the almost mystical experience of living "ineffable space" while working on his paintings in his studio. "One day," he writes "at a very precise moment I saw ineffable space come into being before my eyes: the wall, with its picture, lost its limits: became boundless. I put friends and visitors through the test. After the picture had been hung, I would suddenly take it away. There remained a little wall, two meters long: a wretched sort of wall. This fact gave food for thought," Le Corbusier, *Modulor 2*, Cambridge 1980, 27, n. 1.
- 22 Le Corbusier, *New World of Space*, p. 9.