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Abigail Winograd is an independent curator and writer. Most recently, she was the Transhistorical Curatorial Fellow at the Frans Hals Museum in Haarlem where she organized *A Global Table: Still Life, Colonialism, and Contemporary Art* (2017). In the same year, she curated *Abstract Experiments: Latin American Art on Paper after 1950* (2017) for the Art Institute of Chicago. She was the Research Associate for Kerry James: *Mastry* (2016) at the MCA Chicago where she also organized *Unbound: Contemporary Art after Frida Kahlo* (2014) and *Zachary Cahill: Snow* (2014) as the Marjorie Susman Curatorial Fellow. She also served as a graduate curatorial fellow at the Hirshhorn Museum and Sculpture Garden in Washington, D.C. where she assisted Senior Curator Valerie Fletcher with *Suprasensorial: Experiments in Light, Color, and Space* (2012). She earned a PhD in art history, at the University of Texas at Austin. In Austin, she was graduate curatorial fellow at the Blanton Museum of Art where she organized *Manuel Álvarez Bravo and His Contemporaries* (2010), *Surrealist Prints from Europe to the Americas* (2009), and *Tracing Time: Luis Camnitzer, José Cuillermo Castillo, Liliana Porter* (2008). Winograd has additional degrees from the University of Wisconsin, Madison, and Northwestern University. She is the recipient of several fellowships, has contributed to museum catalogs, published academic articles, presented papers in the US, Europe, and South America, and contributed to publications such as *Bomb, Mousse, Frieze, and Artforum*.

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DUŠAN BAROK
ABIGAIL WINOGRAD

TIMELINE OF EVENTS: BETWEEN EASTERN EUROPE AND LATIN AMERICA

1941

Czech artist Zdeněk Pešánek publishes his book *Kinetismus* in Prague, prepared as a practical guide for light-kinetic art, edited by Josef Vydra, the former director of the School of Arts and Crafts in Bratislava.

1944

Uruguayan artist **JOAQUÍN TORRES-GARCÍA** (IMAGE P. 165) publishes a compilation of lectures and original drawings, *El Universalismo Constructivo: Contribución a la unificación del Arte y la Cultura de América*, with Editorial Poseidón in Buenos Aires.

Arturo is published in Buenos Aires. The magazine marks the foundational moment of Concrete Art in Argentina. Carmelo Arden Quin, Rhod Rothfuss, Cyula Kosice, Tomás Maldonado, Lidy Prati, and poet Edgard Bailey edit the magazine. It also marks the founding of the two artist groups in Argentina devoted to abstraction: *Asociación Arte Concreto-Invencción* (Maldonado, Manuel Espinosa, Prati, Enio Iommi, Alfredo Hlito, and Raúl Lozza) and *Arte Madi* (Kosice, Rothfuss, Quin).



Kosice makes **RÖYI** ^(IMAGE P.XX), an articulated sculpture out of wood intended to be manipulated by viewers.

Hungarian artist and theorist György Kepes's *The Language of Vision* is published in Chicago. It is translated into German in 1944; Italian in 1971, and Hungarian in 1979.

In November and December, Galerie Denise René holds its inaugural exhibition of Hungarian artist Victor Vasarely's early "optical" figurative designs for the advertising and fashion industry, marking the emergence of "constructive art."

1945 Maurice Merleau-Ponty publishes *La phénoménologie de la perception* in Paris. Translations include Spanish, 1945; English, 1962; Italian, 1965; German, 1966; Dutch, 1977; and Polish, 1988.

Art critic Mário Pedrosa returns to Brazil from his exile in the United States.

1946 Manifesto Bianco, written by Lucio Fontana's students at the Academia Altamira (founded the same year), is published in Buenos Aires. Fontana's name does not appear in the document.

Cyula Kosice, Rhod Rothfuss, and Carmelo Arden Quin publish the Madi Manifesto.

1947 László Moholy-Nagy's *Vision in Motion* is published in Chicago. It is translated into Hungarian in 1996.

Lucio Fontana returns to Milan from his wartime exile in his native Argentina, writes the Primo Manifesto dello Spazialismo, signed by Fontana, Beniamino Joppolo, Giorgio Kaiserlian, and Milena Milani.

Argentinian artist Cyula Kosice's "Escultura Madi" appears in the first issue of the magazine *Arte Madi Universal*. The article outlines the nature of

Madi sculpture. It also contains the foundations of his *Hydrospatial City* project.

1948

American mathematician Norbert Wiener publishes his groundbreaking *Cybernetics* simultaneously in Paris and New York. Translations include Italian, 1953; Russian, 1958; Czech, 1960; Romanian, 1966; German, 1968; Polish, 1971; and Serbo-Croatian, 1972.

The future members of the Yugoslavian collective EXAT 51 (Experimental Atelier 51) Ivan Picelj, Vjenceslav Richter, Aleksandar Srnec, Vladimir Kristl, among others, build upon the heritage of geometrical abstraction in designing exhibition pavilions and their interiors in Zagreb, Vienna, Stockholm, Paris, Hannover, and Chicago. Hungarian-born Nicolas Schöffer, who moved to Paris in 1936, develops the theory of "spatiodynamism."

Kosice creates *Mobile Articulated Sculpture*, a transformable sculpture made from metal bands used to reinforce leather handbags; intended to be touched and moved by the viewer, it defies the idea of sculpture as a static monument.

American artist Alexander Calder exhibits at the Museum of Modern Art in Rio de Janeiro and the Museum of Modern Art in São Paulo. The introduction to the catalog is written by Jean-Paul Sartre.

1949

Fontana creates his first spatial environment, *Spatial Environment in Black Light*, for the gallery Naviglio in Milan, in which he hangs neon lights from the ceiling in a dark exhibition space.

Mira Schendel immigrates to Brazil from Italy.

1950

Wiener's book *The Human Use of Human Beings: Cybernetics and Society*, published in London and Boston, further popularizes cybernetics. Translations include French, 1952; German, 1952; Rus-

sian, 1958; Polish, 1960; Czech, 1963; Serbo-Croatian, 1964; Italian, 1966; and Estonian, 1969.

Venezuelan artist Jesús Rafael Soto moves to Paris and forms the group *Los Disidentes* with other Venezuelan artists living in Paris including Alejandro Otero, Narciso Debourg, Mateo Manaure, Pascual Navarro, Luis Cueva Moreno, Carlos González Bogen, Perán Erminy, Rubén Núñez, Dora Hersen, Aimée Battistini, and J.R. Cuillent Pérez.

1951

EXAT 51 presents its manifesto in Zagreb, subscribing to the methods and principles of non-figurative art and calling for a synthesis of all visual arts.

Victor Vasarely creates his first *Photographisme* works, and exhibits them at Galerie Denise René.

In October, the *1st São Paulo Biennial* is organized by Lourival Gomes Machado. Brazil is represented by Almir Mavignier, Abraham Palatnik, and Ivan Serpa; Swiss artist Max Bill wins the prize for sculpture; Palatnik receives a special mention.

1952

The exhibition *Ruptura* is held at the Museum of Modern Art in São Paulo. The seven artists included in the exhibition—Anatol Wladyslaw, Leopoldo Haar, Lothar Charoux, Kazmer Féjer, Geraldo de Barros, Luiz Sacilotto and Waldemar Cordeiro—go on to officially form Grupo Ruptura and publish the Ruptura Manifesto in the same year. Members of Grupo Ruptura rejected realist and naturalistic painting in favor of geometric abstraction.

In Paris, Schöffer presents a series in which the viewer can manually rotate parts of the work.

Venezuelan architect Carlos Raúl Villanueva designs the project for the University City of Caracas, including the work of Soto, Alexander Cal-

der, Antoine Pevsner, Victor Vasarely, Hans Arp, Fernand Leger, Alejandro Otero, and others. Soto creates his first kinetic sculptures.

1953

German born, Venezuelan artist Gego (Gertrude Coldschmidt) moves from Caracas to the coastal city of Tarmas. It is there she begins experimenting with the formal elements of line in drawings on paper.

The 2nd São Paulo Biennial is organized by Sérgio Milliet; Calder wins the Biennial Prize.

1954

The first exhibition of Grupo Frente opens in Rio at the Galerie IBEU. Grupo Frente was started by Ivan Serpa, an influential teacher at the Museum of Modern Art in Rio. The artists associated with Grupo Frente include Aluisio Carvão, Carlos Val, Décio Vieira, João José da Silva Costa, Lygia Clark, Lygia Pape, and Hélio Oiticica; all were Serpa's students.

Schendel's first solo exhibition, *Mira: Exposição de Pinturas*, is held at Museum of Modern Art in São Paulo.

Rudolf Arnheim, a German-born theorist and psychologist of perception, publishes *Art and Visual Perception: A Psychology of the Creative Eye* in London. Translated into Italian (1962), German (1965), Serbocroatian (1971), Russian (1974), Polish (1978), Romanian (1979), Hungarian (1979).

1955

In April, the exhibition **LE MOUVEMENT** (IMAGE P.XX) opens at Galerie Denise René in Paris, with kinetic works by Parisian immigrant artists Yaacov Agam, Pol Bury, Soto, Jean Tinguely, and Vasarely, prepared in collaboration with Swedish curator Pontus Hulten. The presence of Marcel Duchamp's *Rotary Demispheres* and Calder's mobiles provide historical lineage, extended by Vasarely's inclusion of Futurists, Naum Gabo, Viking

Eggeling, and László Moholy-Nagy, among others, in his accompanying text.

In August, at the *1st Avant-garde Art Festival* in Marseille, Schöffer presents his first cybernetic autonomous sculpture *CYSP I* on the roof terrace of Le Corbusier's Cité Radieuse. Accompanied by a ballet performance, the work combines kinetic sculpture with bodily motion.

Documenta 1, curated by Arnold Bode, takes place in Kassel, Germany; Galerie Denise René participates with Josef Albers, Calder, Fernand Léger, and Vasarely.

Merleau-Ponty publishes *Les aventures de la dialectique* in Paris, translated to English at the same time; Spanish in 1955; German, 1968.

1956

EXAT 51 disbands.

Cyörgy Kepes publishes *The New Landscape in Art and Science* in Chicago; published in German, 1956.

Cego begins moving her investigation of line off of paper and into three-dimensional space.

The Chilean collective Grupo Rectángulo (Custavo Poblete, Ramón Vergara Crez, Matilde Pérez, Elsa Bolívar, Ximena Cristi, Maruja Pinedo, and Uwe Grumann) organizes its first exhibition. The accompanying catalog contains a manifesto in Spanish. Initially, the members pursue a constructivist approach, before becoming increasingly optical by 1960.

1957

Schöffer begins exploring "luminodynamism" by integrating light, music, and film in his sculptures.

Polish artist Andrzej Pawłowski creates his first *Kineforms*, projecting dynamic and abstract

shapes of objects onto boards through distorting lenses.

Brazilian poet and critic Haroldo de Campos publishes *Da fenomenologia da composição à matemática da composição* in Rio, making the position of the São Paulo concrete poets clear; provokes a response from the Rio critics; clarifies the rupture between Rio and São Paulo.

Oiticica begins his *Metasquemmas*.

Cego begins making environmental sculptures.

1958

Expo '58 in Brussels inspires many young artists to work with new materials such as glass, mirror, aluminium, concrete, plastics, and light. Pawłowski receives a medal for his film version of *Kineforms*. Soto designs a mural for the exhibition.

Kosice incorporates air, water, and electric light into his kinetic sculptures.

Czech Jiří Novák begins creating mobile objects powered by wind, water, and electromotors. Some of them would be mounted in public space, especially across Prague.

Polish artists Wojciech Fangor and Stanisław Zamecznik hold the exhibition **A STUDY OF SPACE** (IMAGE P.XX) at the New Culture Salon in Warsaw, consisting of vertical color planes arranged in various configurations, aiming to "convey spatial interrelations between pictures" and activate the viewer to transform static elements into a spatial continuum. **FANGOR** (IMAGE P.XX) would continue making "circles," "waves," and "amoeboid" paintings until 1973.

Vasarely has a solo show at the National Museum of Fine Arts in Buenos Aires.



Hélio Oiticica, Jerônimo de Mangueira wearing *P 05 Parangolé cape 02*, 1964

1959

The Neoconcrete Manifesto, written by Brazilian critic Ferreira Gullar, is published in the *Jornal do Brasil* on the occasion of the *1ª Exposição Neoconcreta* at the Museum of Modern Art in Rio. The manifesto was signed by the artists in the exhibition: Franz Weissman, Amílcar de Castro, Lygia Clark, Lygia Pape, Reynald Jardim, and Theo Spanudis. The exhibition shifts away from concrete art.

Gullar's treatise "**THEORY OF THE NON-OBJECT**" (IMAGE P.XX) appears in *Jornal do Brasil*.

Oiticica transitions to three-dimensional works, denounces all his works made before 1959.

Polish architect Oskar Hansen publishes his "**ON OPEN FORM**" (IMAGE P.XX) in *Przegląd Kulturalny* and presents it at the CIAM Congress in Otterlo; that same year he creates, in collaboration with his wife Zofia Hansen and Lech Tomaszewski, the Polish Pavilion at the International Fair in São Paulo.

Polish artist Zbigniew Costomski presents his first *Optical Objects* at his graduation exhibition at the Warsaw Academy of Fine Arts; the series would continue into the 1970s.

Slovak artist **MILAN DOBEŠ** (IMAGE P.XX) begins creating lumino-kinetic objects and environments with curved mirrors, filters and lenses producing dynamic light structures.

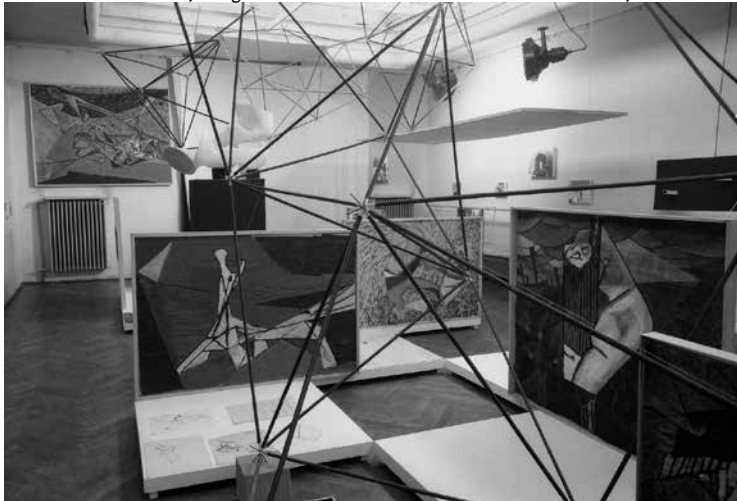
Brazilian artist Lygia Clark begins her series *Bichos* (Critters) comprised of hinged aluminum plates intended to be manipulated by the viewer.

In January and February, the Croatian artists Ivan Picelj, Aleksandar Srncic, and Vojin Bakić exhibit together at Galerie Denise René in Paris.

From July to October, Schöffer and Vasarely participate in *Documenta 2* in Kassel.



Oskar Hansen, design of solo exhibition at Salon Po Prostu in Warsaw, 1957



Oskar Hansen, together with Zofia Hansen and Lech Tomaszewski, design of Polish Pavilion in São Paulo, 1959

CARLOS CRUZ-DIEZ ^(IMAGE P.XX) creates his first *Physichromie*.

Lygia Pape produces *Livro da Criação* (Book of Creation). The story of creation is told through abstract, geometric forms. Consisting of fifteen unbound cardboard pages with no clear order, viewers are invited to create their own narrative.

1960

Argentinian artist Julio Le Parc makes his first mobiles, and begins using light.

Merleau-Ponty publishes *L'Oeil et l'Esprit* in Paris; translated to Spanish, 1964; German, 1967.

Movens, a multi-authored book published in Wiesbaden, contains the first chronology of kinetic art.

Oiticicia makes *Penetraveis*, and publishes "Color, Time, Structure" in the *Jornal do Brasil*, where he rejects two-dimensionality.

Soto wins the National Prize of Venezuela.

Croatian artist Julije Knifer paints his first *meander*, a serpentine line on a field in black and white, which he would continue painting exclusively until his death.

In April, Kosice holds a solo exhibition of his hydraulic sculptures at Galerie Denise René.

From May to June, *Kinetic Art*, the first comprehensive museum show of kinetic sculpture, is held at the Museum of Decorative Arts in Zürich.

In July, the Hungarian-born French artist Vera Molnár (moved to Paris in 1947) and theorist François Molnár cofound the Centre de Recherche d'Art Visuel with Horacio Garcia-Rossi, Julio Le Parc, Francisco Sobrino, François Morellet, Joel Stein, and Jean-Pierre Yvaral—a group immediately preceding Croupe de Re-



Ivan Picejl, poster for *First New Tendencies*, 1961



Exhibition view—*First New Tendencies*, 1961. Works from left: Alberto Biasi, *Optically Dynamic Surface* (1961); Manfredo Massironi, *Object 1 and 2* (1961); Alberto Biasi, *Ocular* (1960)

1961

cherche d'Art Visuel (GRAV). The Molnárs split from the group over ideas of collective production when GRAV is founded.

Oiticica makes *Penetrable-PN1*. His first penetrable piece.

Polish artist Henryk Stażewski exhibits, for the first time, his series of **WHITE RELIEFS** (IMAGE P.XX) at Crooked Wheel Gallery in Warsaw; the exhibition brings into view the problem of the series and of the complementarity of the individual paintings.

Czech artist Václav Jíra begins creating mechanical machines made of found material, performing often comical or absurd movement, with some machines drawing or painting. He would create dozens machines until the early 1970s, when he turned to gestural painting.

In March and April, the *Bewogen beweging (Moving Movement)* exhibition is on display at the Stedelijk Museum in Amsterdam; it later travels to Moderna Museet, Stockholm, and Louisiana Museum of Modern Art, Humlebæk, Denmark.

In August and September, Zagreb's Gallery of Contemporary Art hosts the first of what would become a series of five international exhibitions and a number of symposia held under the banner of New **TENDENCIES** (IMAGE P.XX). Initiated by the artists **ALMIR MAVIGNIER** (IMAGE P.XX) and Ivan Picejl, and critics and historians Božo Bek, Matko Meštrović, Radoslav Putar, and Boris Kelenen, Zagreb and Paris would become centers of a network united in its opposition to the ideas of individual genius and unique creative gestures associated with Abstract Expressionism and art informel.

Lygia Clark exhibits her *Critters* at the *6th São Paulo Biennial* and wins the National Prize for Sculpture.

1962

The Prometheus research institute (SKB Prometei) is founded by Bulat M. Galejev in Kazan. The group builds upon the synaesthetic work of composer Alexander Scriabin and combines light projections with music. They go on to develop several music-light instruments, including *Prometheus-1* (1962), to conduct the Soviet premiere of Scriabin's "Prometheus"; *Prometheus-2* (1963), to perform visuals to music by Scriabin, Modest Mussorgsky, Nikolai Rimsky-Korsakov, Igor Stravinsky, and Färit Yarullin; and *Crystal* (1966), to perform visuals to compositions by Scriabin, Pierre Boulez, Alexander Nemin, and Claude Debussy.

Croatian artist Aleksandar Srnc begins his lumino-kinetic research, which results in works in aluminum, stainless steel, and brass, with reflecting and rotating surfaces.

In April, in its catalogue statement, CRAV subscribes to the term "New Tendency" (Nouvelle Tendence) and places it in the lineage of concrete art, constructivism, and "with a certain sympathy" to Tachism and neo-Dada.

Le Parc begins creating environments and experimenting with participatory work.

Lygia Clark participates in the Venice Biennial.

Dvizhenie (Movement) is founded by Lev Nusberg in Moscow. The group's members include Anatoly Krivchikov, Tatyana Kalinkina, Vyacheslav Shcherbakov, Rimma Zanevskaya-Sapgir, Viktor Stepanov, Mikhail Dorokhov, Francisco Infante, and Vladimir Galkin.

1963

Vojin Bakić begins creating a series of sculptures made of stainless steel, in which the sculptural mass is reduced to concave-convex surfaces that reflect light sources in its immediate surroundings (sunlight, bulbs, reflectors).

Croatian architect Vjenceslav Richter begins creating his "system sculptures."

Slovenian Slavko Tihec begins creating kinetic works.

In August and September, the exhibition *New Tendencies 2* is held in Zagreb. It presents a coherent international movement characterized by the "scientification of art," preprogrammed and kinetic art, and new technical media as a means of researching visual perception based on the Gestalt theory.

CRAV publish their manifesto "**ENOUGH WITH THE MYSTIFICATIONS**" (IMAGE P.XX) on the occasion of the 3rd Paris Biennale.

1964

Czech artist Radoslav Kratina moves to creating *variables*, transformable objects made of mostly wooden, serially arranged elements.

From April to May, the comprehensive show *Nouvelle tendance* is exhibited at the Musée des arts décoratifs in the Louvre in Paris. The exhibition also shows works by Bridget Riley and Lily Greenham, which would soon become classified as Op art. William C. Seitz visits the show in preparation for the forthcoming *Responsive Eye* (1965).

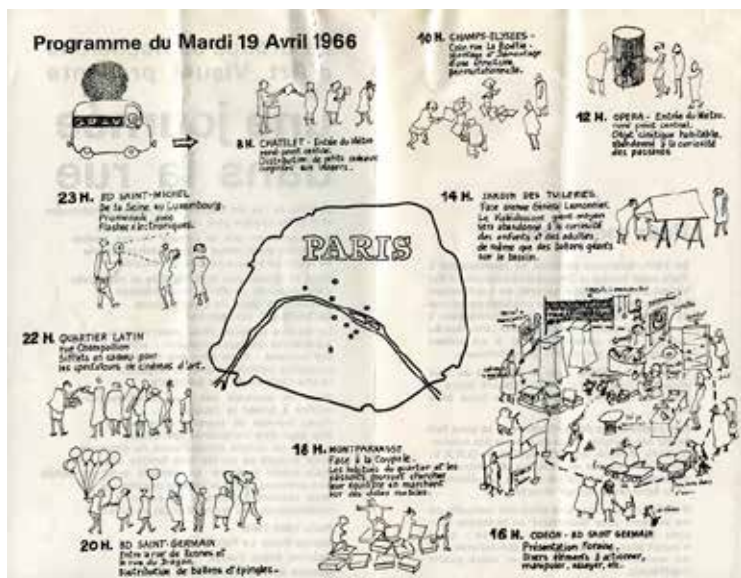
From June to October, Schöffer participates in the "Light and Movement" section of *Documenta 3* in Kassel. Vasarely's works are shown as well.

In September, the *2nd Osieki Open Air* is held, called the "International Meeting of Artists and Theoreticians of Art"; Edward Krasiński creates a spatial painting **SPEAR OF THE ATOMIC AGE** (IMAGE P.XX), which he hangs in an open space between trees.

In October, a survey article in *Time* magazine popularizes the term "Op art" ahead of *The Responsive Eye* show, citing Vasarely and Albers as founders of the new movement.



GRAV, 3rd Paris Biennale, 1963



GRAV, pamphlet for Day in the Street, Paris, 1966

From December to February the following year, *Mouvement 2* is exhibited at Galerie Denise René.

Opening of *Signals Gallery* in London; it published a journal that had ten issues, several dedicated to single artists including Clark, Cruz-Diez, and Soto.

Oiticica begins attending the Escola de Samba da Mangueira in Rio, shortly thereafter produces his first **PARANGOLE** (IMAGE P.XX), and in November he writes *Bases fundamentais para uma definição do Parangolé*.

The *Festival of South American Kinetic Art* is held at Signals, and includes Sergio Camargo, Soto, Arthur-Luis Piza, Palatnik, Otero, Kosice, Le Parc, Antonio Asis, Navarro Viera, Vigas, Francisco Sobrino, Mateo Manaure, Vardeneça, Boto, Cruz-Diez, and Tomasello.

Schendel begins her series **MONOTYPES** (IMAGE P.XX).

1965

The group Syntéza is founded, bringing together young Czech artists of kinetic and Op art tendencies. The group calls for the synthesis of kinetism with fine arts, architecture, design, music, film, theater, and poetry, and would come to be best known for its kinetic ballet performances.

Works by Russian artist Ernst Neizvestny and Dvizhenie are exhibited at the Klub Viola in Prague.

Polish artist Ludmiła Popiel begins painting the cycle *Labyrinths*.

Croatian artist Juraj Dobrović begins creating serigraphs making use of geometric patterns and vibrant color schemes that play with visual perception.



Henryk Stażewski, the artist's studio, Y



Henryk Stażewski, the artist's studio, Y

From February to April, the blockbuster show *The Responsive Eye* curated by William C. Seitz at New York's MoMA features works by Henryk Berlewski (Polish), Wojciech Fangor (Polish), Julian Stańczak (Polish-American), Vasarely Picelj, Šutej, Cruz-Diez, Horacio Carci-Rossi, Cego, Le Parc, Mavignier, and Luis Tomasello. With attendance over 180,000 people, the exhibition greatly popularizes kinetic and Op art. It travels to St. Louis, Seattle, Pasadena, and Baltimore.

From May to June, the Russian group Dvizhenie holds the kinetic exhibition *Performance of Kinetic Art* in Leningrad, featuring large-scale kinetic installations by Nusberg, **FRANCISCO INFANTE** (IMAGE P.XX), and Viacheslav Koleichuk, among others.

In July, the inauguration of the *1st Biennale of Spatial Forms* in Elbląg takes place, with the participation of over fifty artists, mostly Polish. It was organized and sponsored by Zamech Mechanical Works. The first prize was awarded to Jerzy Jarnuszkiewicz for his **SIGNPOST COMPOSITION** (IMAGE P.XX).

From July to September, the show *Light and Movement*, curated by Harald Szeemann, is exhibited at Kunsthalle Bern. The show travels to Brussels and Baden-Baden.

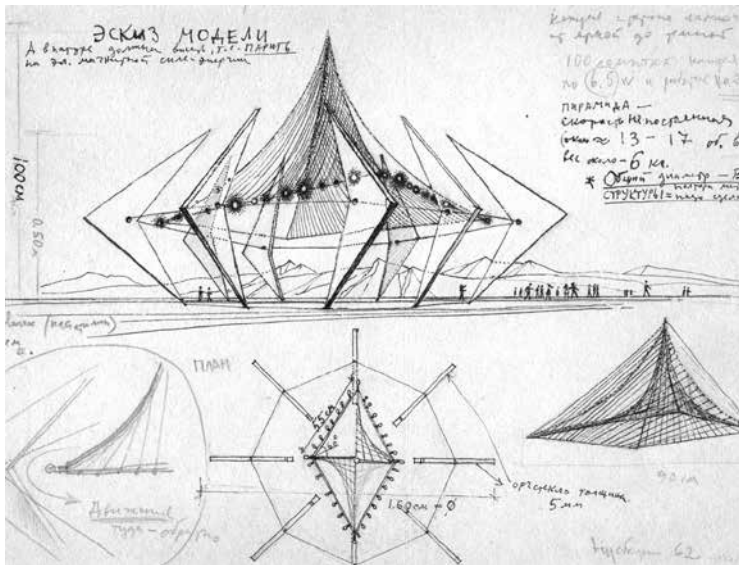
In August and September, at the *3rd Osieki Open Air* exhibition, Jan Ziemiński presents his first *Internal Painting* constructed of two concave surfaces hung in a space, facing each other.

In August and September, the exhibition **NEW TENDENCY 3** (IMAGE P.XX) is held in Zagreb, focusing on visual perception research and cybernetics.

From September to November, Vasarely, Costomski, and Richter participate in the *8th São Paulo Biennial* in Brazil. Vasarely has a special hall with thirty-eight works; Costomski shows eleven of his **OPTICAL OBJECTS** (IMAGE P.XX).



Dvizhenie, unnamed project, n.d.



Lev Nusberg, unnamed project sketch, 1962

1966

Richard L. Gregory's bestseller *Eye and Brain: The Psychology of Seeing* is published in London, providing artists with a repertory of phenomena of visual illusions and explaining the basic phenomena of visual perception. It is translated into German, French, and Italian in 1966, Russian in 1970, and Polish in 1971.

Frank Popper defends his dissertation, in which he investigates the emergence of both virtual and real movement in the visual arts, at the Sorbonne. The following year it appears as a book entitled *Naissance de l'art cinétique*. It becomes the most detailed study of kinetic art to date.

Stażewski's "**STATEMENT**" (IMAGE P.XX) on motion in painting, appearing in the exhibition catalog *Wystawa Prac Henryka Stażewskiego*, is published in Warsaw.

From May to June, Dvizhenie holds the *Exhibition as Performance of Kinetic Art* at the House of Culture of the Institute for Nuclear Research in Moscow, featuring six kinetic performances of Nusberg's *Metamorphoses*, bringing together kinetic objects, light-color effects, mime, experimental music, and poetic texts. The group also presents its **MANIFESTO OF RUSSIAN KINETICISTS** (IMAGE P.XX), outlining three principles: movement, synthesis, and symmetry.

In August, at the *1st Symposium of Artists and Scientists* entitled "Art in a Changing World" at Zakłady Azotowe (Chemical Plant) in Puławy, Ryszard Winiarski receives the main prize for his paintings produced according to probability theory, a method outlined in his diploma thesis defended that year.

From September to December, Frank Popper organizes a seminal exhibition of light-kinetic art, *Kunst-Licht-Kunst*, at Stedelijk Van Abbemuseum in Eindhoven. Among others, Dvizhenie participates.



Constantin Flondor, Pedagogical Curricula *Nature as Partner*, Făget, with the Students of the Timișoara Art High School, 1976



Constantin Flondor, Pedagogical Curricula *Nature as Partner*, Făget, with the Students of the Timișoara Art High School, 1976

Le Parc wins the Grand Prize for Painting at the *Venice Biennale*.

CRAV **ORGANIZES A DAY OF ACTIONS** ^(IMAGE P.XX) on the streets of Paris.

Schendel starts working with rice paper to make **DROQUINHAS** ^(IMAGE P.XX) ("little drugs") and *Trezinhos* ("little trains").

The 1st *Salvador Biennial* has a special section devoted to Lygia Clark.

1967

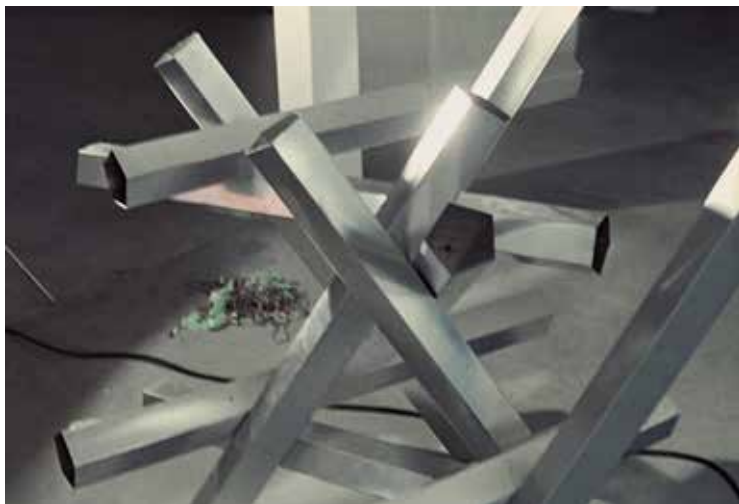
Robho magazine begins publishing in Paris. *Robho*, edited by Jean Clay and Julien Blaine, seeks to highlight cultural resistance to the spread of American-style capitalism. It features the work of many Latin American artists, including Soto, Le Parc, and Clark. The magazine is designed by Carlos Cruz-Diez.

Polish artist Jan Chwałczyk starts his *Light Reproductions* series and Zbigniew Costomski displays his *Optical Objects* as an environment in Warsaw's Foksal Gallery.

The Symposium of Visual Art "Złote Grono" in Zielona Góra is entirely devoted to the issues of space, while the 2nd *Elbląg Biennale* becomes institutionalized and has a more intimate character than the first iteration, with only eight artists invited to take part.

From May to August, Frank Popper organizes another seminal exhibition of light-kinetic art, *Lumière et mouvement: art cinématique à Paris* at Musée d'Art Moderne de la Ville in Paris.

In November, Dvizhenie designs a monumental **LUMINO-KINETIC PROJECT** ^(IMAGE P.XX) for the fiftieth anniversary of the October Revolution in Leningrad.



Doru Tulcan, *Stungari*, 1975



Constantin Flondor, *Pentagona*, 1974

From September to January (1968), Jerzy Januszkiewicz and Ryszard Winiarski participate in the *9th São Paulo Biennial*.

In December and January (1968), the exhibition *Light-Movement-Space* is organized by Jerzy Ludwiński and Mariusz Hermansdorfer at the Museum of Architecture in Wrocław.

Jesús Raphael Soto makes his first *Penetrable* for a May exhibition at Galerie Denise René.

Organized by Frederico Morais, *Nove Objetividade Brasileira* at the Museum of Modern Art in Rio includes a manifesto signed by several artists; Morais argues that the Brazilian avant-garde is defined by a tendency towards collectivity, objects that break the frame, spectator involvement, political/social engagement, and questions of anti-art.

1968

Czech Jan Wojnar begins creating the series *Sand-glass Poems*, objects consisting of white powders (salt, sugar, silica sand) contained in glass boxes with black relief bottoms, to be manipulated by the viewer.

Jerzy Rosołowicz begins creating a series of works featuring lenses on wooden, metal, and glass surfaces (*Spherical Reliefs*, 1968; *Neutronics*, 1969–77).

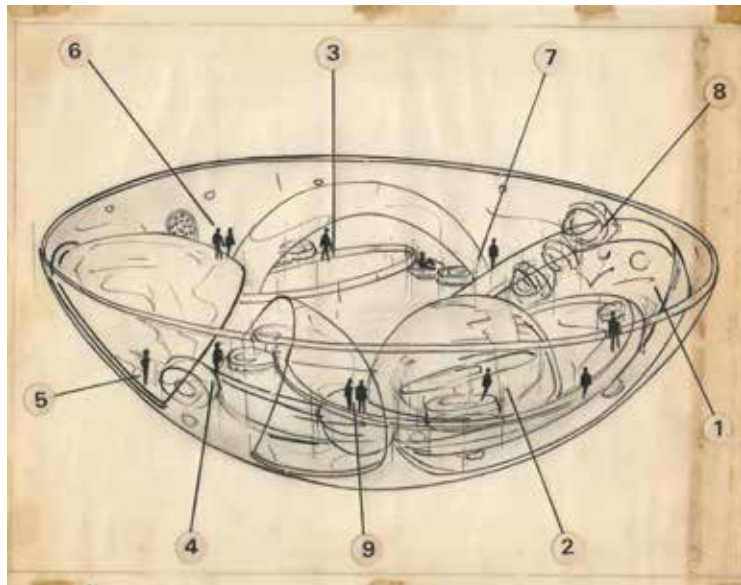
Ryszard Winiarski begins creating kinetic works.

Spatial-Musical Composition, the first sound installation in Poland, is prepared by architect Teresa Kelm, composer Zygmunt Krauze, and sculptor Henryk Morel for Galeria Współczesna in Warsaw.

The exhibition *5 Young Artists from Timișoara* (Diet Sayler, Ștefan Bertalan, Constantin Flondor, Roman Cotoșman, Molnár Zoltán) at Galeria Kallinderu, Bucharest, shows abstract-constructivist art in Romania for the first time.



Cyula Kosice, *Hydrospatial City Project*, 1971



Cyula Kosice, *unnamed sketch*, n.d.

Lygia Pape stages *Divisor* on the streets of Rio de Janeiro. Participants are invited to occupy holes in a forty-square-meter sheet of white canvas and walk through the city.

In May and June, the exhibition *Cinétisme, spectacle, environnement*, organised by Frank Popper at the Maison de la culture in Grenoble, features works by Dobeš, Kowalski, Schöffner, and Vasarely, among others.

From June to October, Dobeš, Fontana, Kosice, Nusberg, Sykora, and Vasarely present works at *Documenta 4* in Kassel, curated by Arnold Bode. A number of New Tendencies artists also make an appearance (Kosice, Castellani, Cerstner, Mari, Mavignier, Morellet, and Uecker). Enzo Mari and Le Parc withdraw, sending a letter stating that institutions sanctify and mystify art.

In December and January (1969), Syntéza holds an exhibition at the Theatre of Music in Prague, performing the kinetic ballet piece *Spirála*, presenting films, kinetic and luminodynamic objects, paintings, and drawings. Soon the group is forced to disband; Stanislav Zippe would continue creating kinetic works for decades to come.

The Cultural Olympiad in Mexico, in the frame of The Route of Friendship, a sculptural initiative organized by German born, Mexican artist Mathias Coeritz, is held. Three artists from Eastern Europe create their works in public space: Pierre Székely from Hungary, Miloš Chlupáč from Czechoslovakia, and **GRZEGORZ KOWALSKI** (IM-AGE P.XX) from Poland.

Colombian artist Feliza Bursztyn begins incorporating motors into her scrap-metal sculptures.

The *34th Venice Biennial* opens despite student protests. Many artists withdraw in solidarity with the protestors; Schöffner is awarded the

Grand Prize for Sculpture; the special exhibition *Linea della ricerca: dall'informale alle nuove strutture* includes works by Calder, Duchamp, Fontana, Malevich, and Soto; *Stimolazione percettiva, Analisi del Verder* includes work by Soto, Le Parc, Albers, Man Ray, Munari, Fontana, and Schendel; Schendel (*Graphic Object*) and Clark represent Brazil with Mary Viera and two non-kinetic artists.

On November 15, CRAV splits up.

1969

Dobeš receives the first award at the *1st Montevideo Biennial of Outdoor Sculpture*, Uruguay, for his wind-powered kinetic sculpture mounted next to a highway.

From April to June, the first edition of *Constructivist Biennial* is exhibited in Nuremberg, West Germany, entitled *Constructivist Art: Elements and Principles*. It features a large number of artists from the East: 1+1+1, Dobeš, Dvizhenie, Costomski, Picelj, Radović, Richter, Schöffner, Srnec, Šutej, Stażewski, Sýkora, Urbásek, and Winiarski, among others.

The group 1+1+1 (Ștefan Bertalan, Constantin Flondor, and Roman Cotoșman) represents Romania at the *Constructivist Biennial* in Nuremberg. Roman Cotoșman refuses to return to Romania and asks for political asylum, after which the group incorporates new members (mathematician Lucian Codreanu among others) and adopts a new name: **SIGMA** (IMAGE P.XX).

From May to August, the *4th New Tendencies* exhibition in Zagreb introduces the use of computers and information theory in visual research.

Oiticica has a **SOLO EXHIBITION** (IMAGE P.XX) at the Whitechapel Gallery in London, curated by Guy Brett. Oiticica is the resident artist at Sussex University, Brighton, from 1969 to 1970.

Cego begins making **RETICULÁREAS** (IMAGE P.XX). The first is presented at the Museum of Fine Arts in Caracas.

Lygia Clark, Hélio Oiticica, and Mathias Coeritz participate in the *1st International Tactile Sculpture Symposium* in California.

The *10th São Paulo Biennial* opens. Many artists, including Clark, Oiticica, Sérgio Camargo, and Rubens Cerchman, and critics boycott the exhibition to protest the repressive conditions imposed by the reigning military dictatorship in Brazil. Mira Schendel exhibits *Still Waves of Probability*. Bakić, Dobeš, Jiří Novák, Vasarely and Winiarski participate.

Cruz-Diez installs *Labrynth for a Public Place* in Paris.

1970

In May, Henryk Stażewski presents his cosmic composition **9 RAYS OF LIGHT IN THE SKY** (IMAGE P.XX) at the artistic symposium Wrocław '70.

SIGMA group starts a **PROGRESSIVE PEDAGOGICAL** (IMAGE P.XX) programme at Timișoara Art School. The program is based on experimentation, research and creativity and rejects the habitual hierarchies between educator and artist, teacher and student, institutional space and informal space, etc. Outlining their ideas, Constantin Flondor and Ștefan Bertalan publish, respectively, **"THE HARMONY OF CREATION-EDUCATION"** (IMAGE P.XX) and **"FRAGMENTS OF A POTENTIAL PROGRAMME"** (IMAGE P.XX) in issue no. 8 of the Bucharest-based magazine *Arta*.

Under the directorship of Ryszard Stanisławski, the Muzeum Sztuki in Łódź reconstructs the lineage of constructivist tendencies in Polish art and acquires a number of multiples from the Galerie Denise René circle (Le Parc, Schöffner, Boto, Vasarely, Bill, Soto, and Morellet).



Carlos Cruz-Diez, *Chromatic Environment*, ceiling, door, and floor of Torre ABA's main hall Caracas, Venezuela, 1975

1971

Francisco Infante, Nonna Coryunova, and Valery Osipov establish the Author Working Group (ARCO) in Moscow with the prerogative to create artificial systems analogous to natural phenomenon. In September, together with the Moscow Studio of Electronic Music, they create the kinetic space "Light and Sound" for the International Industrial Exhibition "Chemistry 70."

In November, another wind-powered kinetic sculpture by Dobeš is mounted in Olavarría, near Buenos Aires, Argentina.

From December to February, Fangor has a survey show of thirty-seven works at the Cuggenheim Museum in New York.

Oiticica receives a Cuggenheim grant, enabling him to move to New York, where he will remain until 1978.

Diet Saylor presents *Kinetic Room* in Pitești, two enterable kinetic spaces with music by John Cage and J.S. Bach.

From April to August, the *2nd Constructivist Biennial* in Nuremberg features Sýkora, Winiarski, and others.

From September to November, Šutej and Richter participate in the *11th São Paulo Biennial*.

Lev Nusberg and Dvizhenie conduct a series of kinetic games "Aliens in the Forest" in the Chertanovo area, Moscow.

Kosice presents the first iteration of *The Hydrospatial City* at Galeria Boninno in Buenos Aires. The project is accompanied by his **HYDROSPATIAL CITY MANIFESTO** (IMAGE P.XX).

Robho magazine shuts down.

65

PART III

1972

From June to October, Šutej, Picelj, and Dobrović, among others, take part in the *Graphic Art Today* exhibition at the *Venice Biennale*.

In October, Lygia Clark is invited to run a course on Cestural Communication at the Paris-Sorbonne University.

1973

In February, at the Hamburg Opera, Schöffers premieres *Kyldex 1*, an opera-ballet that features five dancing cybernetic autonomous sculptures, created in collaboration with composer Pierre Henry and choreographer Alwin Nikolais.

From June to July, the exhibition *New Tendencies 5*, the last in the series, is held in Zagreb. Besides continuing its focus on constructive and computer art, the introduction of a new non-constructivist section, Conceptualism, shows that the movement needs to be revitalized on new foundations.

In October and November, Dobrović, Knifer, and Richter participate in the *12th São Paulo Biennial*.

In December, Warsaw's Foksal Gallery presents Polish artist Krzysztof Wodiczko's *Vehicle*, a platform with wheels moving half the speed of a person walking on it, pointing to the utopian visions of progress through engineering.