Electronic Superhighway (2016-1966)

29 Jan - 15 May 2016
Large print labels and interpretation
Gallery 8

From left, clockwise

Front Room

Rafael Lozano-Hemmer
(b. 1967, Mexico City, Mexico)

Surface Tension
1992
Plasma screen, computerised surveillance system, custom-made software

Courtesy the artist and Carroll/Fletcher, London

Nam June Paik
(b. 1932, Seoul, Korea; d. 2006, Miami, USA)

Internet Dream
1994
Video sculpture

Courtesy ZKM Center for Art and Media Karlsruhe.

Dubbed the 'Father of Video Art', Paik created videos, sculptures, installations, performances and television productions and was part of the experimental group Fluxus along with composer John Cage and artist George Maciunas, among others. Internet Dream consists of a video-wall of 52 monitors that form a large unified shifting collage of electronically processed images, originally commissioned by the German television broadcaster RTL for its Cologne headquarters. Paik believed that the medium of television could elicit viewer participation, as well as foster intercultural understanding. The work's title demonstrates Paik's interest in what was then the relatively new medium of the Internet and the possibilities it offered. The title of this exhibition, Electronic Superhighway, is borrowed from a term Paik coined in relation to the potential of telecommunication systems in 1974.

Jill Magid
(b. 1973, Bridgeport, CT, USA)

Surveillance Shoe
2000
Video
6 mins.

Courtesy the artist and
Galerie Untilthen Paris

Continuing on this journey back in time, the potential of networked technology is explored in one of the first ever major interactive art installations, *Lorna* (1979–82) by Lynn Hershman Leeson. Here the artist presents a fictional female character that stays indoors all day watching TV, anticipating the mediated culture of virtual avatars.

The gallery includes Nam June Paik's major installation *Internet Dream* (1994), a video-wall of 52 monitors displaying electronically processed images forming a kaleidoscopic composite. It carries on from an earlier work, *Good Morning, Mr. Orwell* (1984), which consisted of a multi-national television collaboration involving artists from Laurie Anderson to John Cage, broadcast to 25 million viewers worldwide. We also find work by Roy Ascott, who initiated the first global computer fairytale in the manner of a collaborative 'exquisite corpse' in 1983, and Allan Kaprow's work for live television broadcast, *Hello*, connecting multiple sites internationally in 1969.
Artists such as Vera Molnar, Frieder Nake and Stan VanDerBeek experimented with computer programmes to create abstract and geometrical works during the 1960s and 70s, including Manfred Mohr who produced early plotter drawings.

The exhibition concludes with artefacts and documentation recording the formation of Experiments in Art and Technology (E.A.T.) in New York in 1966–67. A series of performances over nine evenings – from artists such as Robert Rauschenberg, John Cage and Yvonne Rainer working together with engineers from American telecommunications company Bell Laboratories – it was one of the first major collaborations between the industrial technology sector and the arts.

Olia Lialina
(b. 1971, Moscow, Russia)

My Boyfriend Came Back from the War
1996
Net project and installation
http://myboyfriendcamebackfromth.ewar.ru

Courtesy the artist

Middle Room

From left, clockwise

Vuk Ćosić
(b. 1966, Belgrade, Serbia)

ASCII History of Moving Images
Hello; Ben Hur; Casablanca; Monroe; Taxi Driver; The Third Man; The Birds; Deep Throat
1998
Video
15.17 mins.

Courtesy the artist

Judith Barry
(b. 1954, Columbus, OH, USA)

Space Invaders
1981-1982
Video installation
5.36 mins.

Courtesy the artist and Rosamund Felsen Gallery, LA

Barry works across video, performance, architecture, installation, photography and criticism. Whilst at art school in the 1970s she worked at computer manufacturer Atari testing video games, a formative period for her practice. She states: '*Space Invaders* is a science fantasy that maps the terrain of what might have been regarded, in the 1960s, as a 'global village'. It features the giant video screen of the disco, the home television and the video arcade game. But, this global community has grown so powerful that its inhabitants want to carry their own worlds with them. When that happens, what becomes of the present'... Worlds collide and pretty soon 'everyone is a star!'... Just like Andy Warhol predicted, but now it is for longer than 15 mins!'

Roy Ascott
(b. 1934, Bath, UK)

La Plissure du Texte
1983
Composite image on monitor, Texas Instrument 45 data terminal and original print out

Courtesy the artist

Artist and theorist Roy Ascott has worked across a variety of disciplines charting the impact of telecommunications and digital networks on consciousness. Utilizing modern communications networks, his 'Telematic art' envisaged the potential to transform the viewer from a passive consumer into an active participator. The ground-breaking new media work *La Plissure du Texte* (The Pleating of Text), was created through collaboration with colleagues across the world. Compiled in the manner of an 'exquisite corpse', each participant was assigned an archetypal fairy-tale character and Ascott began the project with the lines 'Once upon a time…'.

This display includes the original print-out of the collaborative text, alongside the Texas Instrument 45 data terminal used to produce it. Commissioned for the exhibition *Electra: Electricity and Electronics in the Art of the XXth Century* at the Musée d'art moderne de la ville de Paris in 1983, the project alludes to Roland Barthes' *Le Plaisir du Texte* (*The Pleasure of the Text*),1973, a discourse on authorship and semantic layering.

Eduardo Kac
(b. 1962, Rio de Janeiro,
Brazil)

Reabracadabra
1985
Tesão (Horny)
1985
Animations on Minitels

Courtesy the artist and
England & Co. Gallery,
London

Allan Kaprow
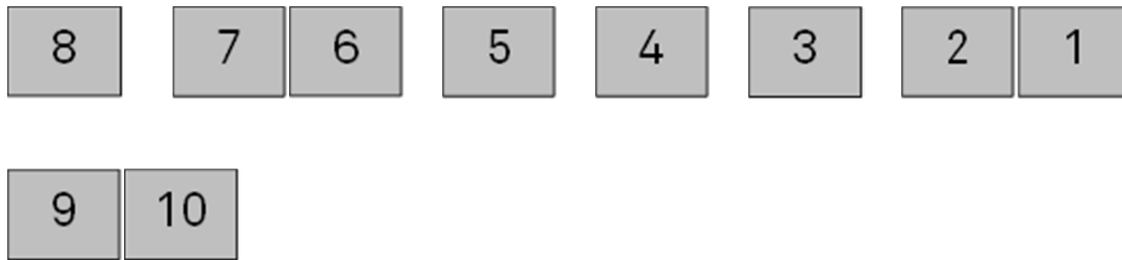(b. 1927, Atlantic City, NJ,
USA; d. 2006, Encinitas, CA,
USA)

Hello
1969
Video with audio
4.23 mins.

Courtesy Allan Kaprow Estate
and Hauser & Wirth and
WGBH Media Library &
Archives

| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |

| 9 | 10 |

1-2. Lillian F. Schwartz
(b. 1927, Cincinnati, OH, USA)
UFOs, 1971
DVD with audio
Music by Emmanuel Ghent
3 mins.

Googolplex, 1972
DVD with audio
5. 30 mins.
Courtesy the artist

3. Nancy Holt and Richard Serra
(b. 1938, Worcester, MA, USA; d. 2014, New York City, NY,
USA; b.1939, San Francisco, CA, USA)
Boomerang, 1974
Video with audio
10 mins.
Courtesy MoMA | The Circulating Film & Video Library

4. Lawrence Weiner
(b. 1942, The Bronx, NY, USA)
Blue Moon Over, 2001
Video with audio
5.14 mins.
Courtesy Electronic Arts Intermix (E.A.I.), New York

5. Steina and Woody Vasulka
(b. 1937, Brno, Czechoslovakia;   b. 1940,
Reykjavik, Iceland)
Studies, 1970
Video with audio
21.53 mins.
Courtesy Electronic Arts Intermix (E.A.I.), New York

6. Bureau of Inverse Technology (B.I.T.)
(Est. 1992, Melbourne, Australia)
Suicide Box
1996
Single channel video; colour SVHS
13 mins.
Courtesy the artists

7. CTG (Computer Technique Group)
(Est. 1966, Tokyo, Japan)
Computer Movie No. 2, 1969
16 mm film transferred to video with audio
8 mins.
Courtesy Electronic Arts Intermix (E.A.I.), New York

8. Gary Hill
(b. 1951, Santa Monica, CA, USA)
Electronic Linguistics, 1978
Video with audio
3.39 mins.
Courtesy DNA, Berlin

9. Lynn Hershman Leeson
(b. 1941, Cleveland, OH, USA)
Seduction of a Cyborg, 1994
DVD with audio
6.48 mins.
ZKM Center for Art and Media Karlsruhe

10. Nam June Paik
(b. 1932, Seoul, Korea;
d. 2006, Miami, FL, USA)
Good Morning, Mr. Orwell, 1983
Video with audio
38 mins.
Courtesy Electronic Arts Intermix (E.A.I.), New York

Tony Longson
(b. 1948, Stockport, UK)

Square Tonal Drawing
1986
Screen-print on plexiglass

Courtesy the artist

Lynn Hershman Leeson
(b. 1941, Cleveland, USA)

Lorna
1979-82
Mixed media installation with interactive DVD
Courtesy of the artist and Vilma Gold, London

Acclaimed filmmaker and artist Hershman Leeson's work explores the relationship between humans and machines. Lorna was one of the first installations to employ laser-disc technology. The participant is offered the opportunity to select a fate for its central protagonist, Lorna, and to interact with the piece through the use of a remote control and a domestic television set – an important object in Lorna's life and her only window to the world. The interactive video element is placed within the setting of a 1970s apartment belonging to the agoraphobic character. Viewers are invited to find logic in a labyrinth of scenes and unravel Lorna's story, anticipating virtual avatars and computer gaming.

Video art emerged during the late 1960s and early 70s as a result of developments in consumer technology, making equipment more widely available outside of the sphere of corporate broadcasting. Artists represented in this section have pushed the possibilities of the medium, for example Steina and Woody Vasulka with their sequence of visual experiments *Studies* (1970). Lillian F. Schwartz was one of the first artists to experiment with early computers in the production of animations and videos, while the work of the Japanese collective CTG (Computer Technique Group), whose work was aligned with the principles of Pop Art, manipulated images through geometric transformations. Richard Serra and Nancy Holt's *Boomerang* (1974) shows Holt as she speaks and hears her electronically delayed words and Gary Hill's *Electronic Linguistics* (1978) explores the process of recording and imaging language and sound. Another work included here is Nam June Paik's *Good Morning, Mr. Orwell* (1984), where Paik broadcasted live and pre-recorded material from a number of satellite-linked television studios in New York, West Germany, South Korea and Paris on New Year's Day.

During the 1990s and early 2000s, artists continued to employ video to merge narrative and documentary approaches. Lynn Hershman Leeson's *Seduction of a Cyborg* (1994) is a poetic allegory about technology's invasion of a human body, while Bureau of Inverse Technology (B.I.T.) record and analyse social activity from the Golden Gate Bridge, San Francisco, infamously known as a site for committing suicide.

Last Room

From left, clockwise

Roy Ascott
(b. 1934, Bath, UK)

Change Painting
1968
Five glass panes and wooden frame

Courtesy England & Co.
Gallery, London

Vera Molnar
(b. 1924, Budapest, Hungary)

Interruptions
1969

Structure of Squares
1974

Plotter drawings

Victoria and Albert Museum,
London.
Purchased with the
assistance of the Art Fund.

Frieder Nake
(b. 1938, Stuttgart, Germany)

Quadrate werden rot
1966
Plotter drawing

Walk-Through-Raster
Vancouver Version
1972
Screen-print on paper after
computer generated drawing

Victoria and Albert Museum,
London
Given by the American
Friends of the V&A through
the generosity of Patric
Prince

Ulla Wiggen
(b. 1942, Stockholm, Sweden)

Hybrid Men Monolitisk
1967
Acrylic on wood and paper

Teckning I
1967
Ink on paper

Private Collection.

Ulla Wiggen
(b. 1942, Stockholm, Sweden)

TRASK
1967

Den röda Tv:n
1967

Acrylic on board
Courtesy Moderna Museet, Stockholm

Noted for a number of paintings produced between 1963 and 1969 that depict the inner workings of electronic devices, Ulla Wiggen explores the convergence of realism and abstraction found in machines. Her painting TRASK (1967) draws on the first Swedish electronic computer, BESK, programmed by Gunnar Hellström in 1965. TRASK was also included in the landmark exhibition Cybernetic Serendipity at the ICA, London in 1968. In addition, Wiggen performed in Öyvind Fahlström's Kisses Sweeter than Wine in New York in 1966 as part of E.A.T.'s '9 Evenings: Theatre and Engineering'. While Wiggen continues to paint, she has been working as a psychotherapist since the late 1970s –a trajectory that continues her fascination with inner, cognitive processes, even if these are no longer those of digital and analogue machines.

Documentary footage of '9 Evenings: Theatre and Engineering', New York,1966

Directed by Alfons Schilling
16mm converted to DVD
20 mins.

The Daniel Langlois Foundation Collection of the Cinémathèque québécoise, Montreal, CA

Peter Sedgely
(b. 1934, Bath, UK)

Corona
1970
PVA and pigment on canvas with kinetic lights

Courtesy Arts Council Collection; gift of the Arnolfini
Collection Trust, 2001

Light Pulse No. 3
1968
Acrylic on linen with kinetic lights

Courtesy The Redfern Gallery, London

These works by Peter Sedgley are examples of experiments
with light, colour, and kinetics. Each canvas is painted with a
series of concentric circles of different colours that are
enhanced by changing lights, in a sequence which produces
a series of radical transformations and kinetic effects.
Sedgley was a pioneer of Op art, a movement in painting that
began in the 1960s that drew from physiology to colour
theory, to create optical effects using geometrical shapes. In
1968 Sedgley and fellow op-artist Bridget Riley co-founded
SPACE, the oldest artist's studio space in London, which now
also operates a centre for the exploration of art and
technology.

Cybernetic Serendipity

Exhibition poster
1968
Designed by Franciszka
Themerson

Courtesy Gregor Muir

Stan

Manfred Mohr
(b. 1938, Pforzheim,
Germany)

P-26-Q
1970

P-159
1974

P-120-B1
1972

P-186E
1975

Plotter drawings on paper
(continues on next page)

All courtesy the artist and
Carroll/Fletcher, London

Hiroshi Kawano
(b. 1925, Fushun, China; d.
2012, Kobe, Japan)

Untitled (Red tree)
1972
Screen-print from computer-
generated image; Lithograph
statement

Victoria and Albert Museum,
London
Given by the Computer Arts
Society, supported by System
Simulation Ltd., London

Vera Molnar
(b. 1924, Budapest, Hungary)

Homage à Béla Bartók
1978
Silkscreen print after plotter
drawing

Victoria and Albert Museum

Early computer-generated art

The works included in this section raise important questions of art-making in the age of digital technology, particularly concerning authorship. Their individual practices opened up possibilities for further artistic and philosophical explorations of emerging digital technologies and advanced the possibilities of abstraction.

During the 1960s and 1970s a number of artists experimented with computers and plotters in the creation of imagery. Originally a painter and jazz musician, Manfred Mohr used digital algorithms to produce minimal and conceptual paintings and drawings. Meanwhile, Vera Molnar applied a systematic approach to art making - what she called a 'Machine Imaginaire' -which was remarkably similar to that of a computer processor. Frieder Nake is a mathematician and artist whose experiments have driven his theories around human-computer interaction, hypertext, digital media, aesthetics and the changing nature of visual communication. Hiroshi Kawano's experiments with computing questioned the basic principles and assumptions of aesthetics, and explored the boundaries of digital artistic production.

Display Cases:

Experiments in Art and Technology (E.A.T.)

Experiments in Art and Technology was an interdisciplinary group that advocated collaboration between visual artists, programmers, engineers and other specialists from U.S. telecommunications company Bell Laboratories. Artists involved with the group included John Cage, Jasper Johns, Yvonne Rainer and Andy Warhol, among many others. The collaboration was initiated in 1966 during the seminal '9 Evenings: Theatre and Engineering' a series of innovative performances at the 69th Regiment Armory, New York. E.A.T. was officially formed in 1967 by engineers Billy Klüver and Fred Waldhauer and artists Robert Rauschenberg and Robert Whitman. The performances still resonate today as forerunners of an evolving relationship between the fields of art and technology. E.A.T. initiated projects that expanded the traditional role of the artist and was an early manifestation of contemporary interdisciplinary art practice.

Among the items on display are an original copy of the E.A.T. newsletter, and a list of its aims drafted by Klüver and Rauschenberg. Also on view is a pair of modified tennis rackets that Rauschenberg conceived for use in the performance Open Score in 1966, alongside an archival photograph of the event by Peter Moore.

The Blue Edge Notched Card for Engineer Members enabled each artist to select who to collaborate with based on particular areas of expertise through E.A.T.'s 'Artist-Engineer Matching Program'. One of the engineers, Fred Waldhauer, developed the Proportional Control System for the 9 Evenings festival. This instrument, which is also exhibited here, acted as an interface to trigger speakers, motors and projectors operated via an electronic signal.

Experiments in Art and Technology (E.A.T.)
(Est. 1967)

Tennis rackets for Open Score, 1966

E.A.T. News – Vol. 1, No. 2 (June 1, 1967), 1967

Blue Edge Notched Card for Engineer Members, 1969

Proportional Control Unit, 1966

E.A.T. Aims, 1967

The Daniel Langlois Foundation Collection of the Cinémathèque québécoise, Montreal, CA

9 Evenings: Theatre and Engineering, 69th Regiment Armory, New York, N.Y., United States, October 17 1966 (5th evening), 1966

Photo: Robert R. McElroy Robert R. McElroy/Getty Images

Peter Moore
Performance view of Robert Rauschenberg's 'Open Score' at
9 Evenings: Theatre and Engineering , New York City, 1966

Photo: Peter Moore © Barbara Moore/Licensed by VAGA,
New York

Cybernetic Serendipity

Cybernetic Serendipity was a landmark exhibition curated by
Jasia Reichardt (Director of Whitechapel Gallery from 1974 to
1976) at the Institute of Contemporary Arts, London (ICA) in
1968. Noted as being the first UK exhibition devoted to the
relationship between the arts and new technology, it
included the work of over 130 international practitioners
including composers, engineers, artists, mathematicians
and poets. The exhibition explored the intersection between
artists' involvement with science, and scientists'
involvement with the arts. The term cybernetics refers to the
study of mechanical and technological systems along with
biological, cognitive, and social systems. Cybernetic
Serendipity, both ground-breaking and popular, welcomed
nearly 60,000 visitors. The exhibition including the poster
and catalogue cover was designed by Franciszka Themerson,
a Polish-born artist, filmmaker, illustrator and designer.

Cybernetic Serendipity exhibition catalogue
1968
Studio International
Cover design by Franciszka Themerson

Courtesy Gregor Muir

Cybernetic Serendipity Music
1968
Vinyl sleeve cover from Peter Zinovieff's
January Tensions music score, 1968

Courtesy the Institute of Contemporary Arts, London (ICA)

Facsimile of Cybernetic Serendipity exhibition catalogue
1968

Gordon Pask, Colloquy of Mobiles
1968
Installation view

Photograph courtesy Jasia Reichardt

Cybernetic Serendipity - The Magazine of the Institute of Contemporary Arts
September 1968, no. 6
1968
Magazine

Courtesy the Institute of Contemporary Arts, London (ICA)

Please return this large print to the gallery assistant.

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