

9.9.17–18.3.18

DATUMSORIA:

The Return
of the Real

ENGLISH

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ZHANG Ga

The arts (to employ an old word for an old institution) entertain only symbolic relation with the sensory fields they take for granted. On the contrary, media relate to the materiality with – and on – which they operate in the Real itself.¹

Friedrich Kittler

An upright slab of monolith shines, radiating the prismatic shades of hues from outer space; an unidentifiable object of many elements suspended in the air, a living tree grows out of the torso of this mammoth being. Below, a colossal metal tower studded with a plethora of 80 screens both large and small, rotating and alternating images and words from the cyber void. Three large canvases flank these creatures, spiderlike robots busily stroke the fabric, and over time, the blankness will be saturated by the traces of BMW car body constructions and the trajectories of traffic at the Brandenburg Gate in Berlin.

Enter *Datumsoria: The Return of the Real*.

The Generic Real

The search for the real has long been a moral imperative for the enlightened. Modernists persisted in a fight against the real as (an effect of) representation (phenomena) in pursuit of the real as truth-bearer (noumena or thing-in-itself) through a purification of the illusionary. Piet Mondrian pro-

gressively eliminated all descriptive faculties of the pictorial language as seen in the gradual abstractions of his apple tree paintings to find a visual rhyme of inner necessity. Kazimir Malevich had, as early as 1915, reduced painting to no more than a certain black square, claiming his transformation of the null and void to arrive at a new realism of non-objective creation. For six decades, Robert Ryman has been making entirely white paintings, all to attempt a truth in painting as its most essential worth: flatness on the two-dimensional picture as encapsulated and consecrated by the critic Clement Greenberg. The real of worldly affairs thus lost its cogency in the formalists' protests and embargoes.

The art historian Hal Foster wrote a persuasive volume in 1996, summarizing art since the 1970s as an outcry for the return of the real. The real, as he contended, would be the actual bodies and social sites recognized in the form of the traumatic and abject subject. He commented, "The shift in conception – from reality as an effect of representation to the real as a thing of trauma – may be definitive in contemporary art."² In other words, contemporary art as it is known today came into existence as a defiant rejection of both the pictorial real and the illusionistic surreal and as a rehabilitation of the referent and the signifying power of imagery. Most recently, in *Bad New Days*, published in 2015, Foster has once again re-suscitated his rubrics for art from the past twenty-five years,

characterizing it as either object, archival, mimetic, precarious, or a question-marked post-critical. By reiterating a set of terms resonating with his earlier tome, Foster recalibrated his search for the real under the exigent condition of global capitalism indoctrinated by neo-liberalism. At the other end of the discursive spectrum, employing more buoyant parlances in the lightness of “zany, cute, interesting,” Sianne Ngai in her 2012 book *Our Aesthetic Categories* informs us with a suite of different qualifiers toward a rendition of the real.

Critics and commentators have always acutely observed political and social upheavals as catalysts and barometers of cultural ruptures and new artistic propositions. There have been abundant reflections on the world domination brought about by the digital revolution which saw its first inkling in the last decade of the twentieth century. 1993 was the year when the first graphic web browser Mosaic made its public debut that marked the coming of the age of internet in its literal sense, making the long-promised superhighway a material reality, thus fulfilling a world picture in bitmaps and pixilation. Along with it came the ubiquitous proliferation of the binary codification that underlines all digital communications technologies.

The generic real is a digital virtual whose binary modus operandi is capable of assuming all analog information and there-

by actualizing materiality. That is to say, insofar as data is concerned, there is no difference and differentiation between a video file and a word doc or between a sound clip and a pie chart. At the most foundational level, they are simply numerical notations of nonspecificity, actuated through electromagnetic impulses of ons and offs. The mathematician John von Neumann once explicated the operation of digital devices which underlies its binary logic: "It must be emphasized, to begin with, that in digital machines there is uniformly only one organ for each basic operation."³ The crude data packets that originated in the digital can be transmitted via various protocols and assembled into whatever medium is desired at the other end of the pipeline. They are inherently malleable and transformational. The generic is therefore not a deprivation of meaning, impoverishment of sensibility, or dilapidation of originality. On the contrary, in the form of digitality morphogenesis takes place; phase shifts by whose stages indeterminacy procures crystallization and emotive emergence begins to erupt.

The Generic as Generative

Already in his live paintings, LIU Xiaodong's search for the real gains ground by a degree of retreat from the real as it appears. In *Weight of Insomnia* LIU Xiaodong has developed an automated system that manipulates streaming data and computer vision algorithms to paint a canvas continual-

ly for the entire duration of an exhibition. The autonomous and performative painting is simultaneously defamiliarizing and engrossing, challenging the very notion of painting as we know it. If *Weight of Insomnia* becomes an obscurely affective object of desire through the revitalization of generic data input, Carsten Nicolai's *unitape* renders immaculate images and sounds. *Voice of Sisyphus*, a study by George Legrady unleashes an undulating reverberation of pixels and sinewaves. It is the computational rigor that creates picture sound and sound picture all at once. Ralf Baecker's *Mirage* generates a projection of synthesized landscape that is predicated on the apparatus' own perception through an Earth sensing device. Revealing constant shifting of the "hallucination" of the Earth, the projection resembles a subliminal wandering through a machine subconsciousness. In ZHANG Peili's *Landscape with Spherical Architecture* perception undergoes a certain uncertainty through a digital intermediary. The work conjures an emotive pathway in which subject and object entwine, rendering them interchangeable in a specific point in timespace. Rafael Lozano-Hemmer's *Please Empty Your Pockets* elicits a disquieting reality in which memorabilia is preserved as precious human memory at the same time as information aggregated for consumption and profit. A memex machine no longer innocent. The mammoth object hovering in the air is the work *Quarterly*, an instance of many works under the auspices of WANG Yuyang# which is a software

suite conceived as the artist's equal. Through numerous and distinct iterations WYY# has constructed a paradigm by which intelligence and creativity are no longer only a human privilege, breaching the anthropocentric taxonomy of orders. In reversing the creative operation from the human artist to the otherwise subservient tool-being of the machine, WYY# has not only offered us a wealth of stunningly novel forms in sculpture, painting, and performance, but also forced us to think anew a world in which the perception of the real can no longer be reduced to that of human consciousness alone, a reality wherein the production of knowledge becomes a reciprocal conviviality between human and nonhuman.

Datumsoria and the Return of the Real

Perhaps a new descriptive register may be invented. Let's call it "datumsoria", a neologism concocted from "datum" and "sensoria". Datumsoria denotes a new perceptual space immanent to the information age. It bespeaks the logic of the new real, a reality predicated on the virtual force of the binary impulse, of the genericity of ones and zeros from whose plane of immanence comes forth of a hardening of shapes and forms. The real, against all odds of the real as an effect of representation or the real as the surreal, is virtuality disguised; the real is the generic as the generative, it is the principle of emergence or of creation.

Nam June Paik had dreamed the dream of internet in 1994 in his great video sculpture. If only his electronic superhighway were a romantic signpost and symbolic gesture of what was yet to come. Datumsoria attests, unmistakably, to the formidable presence of a planetary membrane of the network that has forever changed the rules of the game in work and play, in politics and economics. In the flux of ones and zeros emerges a consciousness of technical autopoiesis that is capable of subjectivity of another order and inquisitive about the new ethics of another dimension as intuited by the late Friedrich Kittler. Datumsoria also signals that the politics of the real no longer only lies in the sphere of the actual bodies and social sites recognized in the form of the traumatic and abject subject as the predominant subject of contemporary experience and object of artistic inquiry, but also alludes to who has the ownership of this new reality that is constructed by the materiality of bits and bytes and the algorithmic power of the digital.

In the 1960s, Leo Steinberg wrote passionately in his seminal anthology *Other Criteria: Confrontations with Twentieth-Century Art* in defense of the then young and recalcitrant Jasper Johns who was often dismissed as a renegade from the abstract expressionist mainstream. Confrontations with art and the world at large in the twenty-first century now demand yet another criterion for a concept of the real. In so far

as the real in question is concerned, the arts that have since inscribed piquant impressions on our sensory fields in the likes of abject, precarious, zany, or interesting may be recalibrated to register the generic and the virtual as new qualifiers for generation and signification, actuated by whatever media may be deemed necessary.

- 1 Friedrich Kittler, trans., Erik Butler, *The Truth of the Technological World: Essays on the Genealogy of Presence*, Stanford University Press, Stanford, 2013 (kindle edition).
- 2 Hal Foster, *The Return of the Real*, MIT Press, Cambridge, 1996, p. 146.
- 3 John Von Neumann, *The Computer and the Brain*, Berlinische Verlagsanstalt, Berlin, 2012 (kindle edition).

1 *Solar Wind* (2017)

Laurent Grasso

In *Solar Wind*, Laurent Grasso recreates cosmic luminosity in a 3.5 meters tall sculpture modeled after the monumental light installation *Solar Wind* at Calcia silos in Paris' 13th arrondissement, which was the artist's first permanent public art commission. Interested in solar storms and the meteorology of space, Laurent Grasso worked with the National Centre for Space Studies (CNES), an art and science laboratory, which helped him to identify the scientific data to create an algorithm that responds in real time to a variety of solar data — radiation, magnetic fields, even meteorite phenomena — and translates them into colors and light. Encased in geometrically shaped, transparent tinted glass, the luminous and chromatic variations of *Solar Wind*, live renditions of solar activities materialized through LED technology, converge with the reflections of the sculpture's surface into hypnotic color fluctuations that shine a metaphysical spectrum; a cosmic mythology that mingles data with fiction, tangibility, and ephemerality.

Laurent Grasso has developed a fascination with the visual possibilities related to the science of electromagnetic energy, radio waves and naturally occurring phenomena. He employs data to communicate mystic powers that juxtaposes past and future, disasters and deliverance, and conjures up fantasticals in the melange of science and superstition, illusion and facts using imagery taken from the cinema and art history and, working in video, sculpture as well as in painting and drawing.

Grasso's work has been exhibited worldwide, with recent solo exhibitions at the Palais Fesch - Musée des Beaux-Arts, Ajaccio; Fondation Hermès, Tokyo; Kunsthaus Baselland, Muttentz; Musée d'Art Contemporain, Montréal, which traveled from

the Jeu de Paume, Paris; the Bass Museum, Miami and at the Hirshhorn Museum and Sculpture Garden, Washington. He has been featured in major group shows at the Massachusetts Museum of Contemporary Art, North Adams; the Centre Pompidou-Metz, Metz; the Centro Nacional de las Artes, Mexico City; the Mori Art Museum, Tokyo; the Contemporary Jewish Museum, San Francisco, and at ZKM | Center for Art and Media, Karlsruhe, amongst others. Grasso has also participated in different international biennials such as the Gwangju Biennale (2012), Manifesta 8, the 9. Sharjah Biennale, the Moscow Biennale (2009) and Busan Biennale (2006, 2004). He won the Marcel Duchamp Prize in 2008 and was awarded the esteemed Order of Arts and letters by the French Ministry of Culture in 2015.

Laurant Grasso was born in 1972 in Mulhouse (FR), he lives and works between Paris, (FR) and New York City, New York (US).

Rêverie Reset (2016–2017)

YAN Lei is skeptical of the cultural relevance of images; he questions the signification implicit in the act of representation in a recursive fashion, while emphasizing the superfluous nature of the painted image. Often in his work layers of ideas superimpose over visual expression, evoking an action that reduces realistic representations to abstract monochromes. *Rêverie Reset* is a system which takes YAN Lei's practice of dissolving images into concepts to a new dimension. This large-scale installation employing networking technologies and algorithms transforms a conceptualist critique of representation to a visceral act of the iconoclast in an embodied space and time. 80 display screens, large and small, driven by five computers are mounted onto a colossal cylindrical structure, rotating slowly. Each device is networked to a system programmed to constantly snatch images from a user-generated picture pool (visitors take pictures and upload them to the database through a QR code on site). When *Rêverie Reset* notices a new photograph it immediately refreshes the system and displays only that one image on all screens on the rotating structure. Subsequently *Rêverie Reset* eliminates each image by averaging its color and making it monochromatic. The system's cognitive computation system analyzes the picture and expresses its content as text, as if perceived by a human mind. The result is a flat, single-color image with an overlay text which, based on the machine's understanding of it, narrates what the content of the image was prior to its destruction.

YAN Lei is a singular and unconventional figure in the Chinese contemporary art world. Adopting an independent and distanced attitude, he explores and unveils different issues, such as power relationships, competition, or the close relation of values and prices that exists in the art system, using various

media ranging from painting, sculpture, and installation to video and performance. His works often incorporate multiple and often contradictory values. This ambiguity shows, on the one hand, the artist's alertness to and reflection on the various problems in art-making today, and on the other, the solitude that he has from being part of the system and his complex feelings when confronted with vulgar reality.

YAN Lei has participated in a large number of international exhibitions, including the Istanbul Biennale, Guangzhou Triennial, São Paulo Biennale, Kwangju Biennale, Shanghai Biennale, and the Venice Biennale. He has also had solo exhibitions in museums including the Hong Kong Art Centre, the UCCA Ullens Center for Contemporary Art in Beijing, and the Aspen Art Museum in Colorado, USA. In 2002, YAN Lei was named Best Artist by the C.C.A.A. (Chinese Contemporary Art Awards). He participated in the documenta 12 and 13.

YAN Lei was born in 1965 in Hebei Province (CN), he lives and works in Beijing (CN).

3 *Quarterly* (2015)

WANG Yuyang

Quarterly is a work from WANG Yuyang#. “WANG Yuyang#” is a series of works conceived and generated by a software suite designed by WANG Yuyang. “WANG Yuyang#” (WYY#) and WANG Yuyang (WYY) are an interoperable unit. Like the artist in the flesh, WYY# works with source materials, in this case, three databases. The Raw Database (RD) is the key component; it is comprised of numerous 3D models, texts of historic and literary import, and visual forms that reference art history by style and formal significance. In addition, RD is also a repository of algorithms as part of the foundational resource of the reasoning power of WYY#. Then there are the Process Database (PD) and the Outcome Database (OD). To start off, WYY# signs up for an email account and establishes its presence on social networks. WYY# first browses information that it has culled from such online sources, including feeds from social media and from the Raw Database, evaluating its gatherings and conducting its preliminary ideation. It completes the process by depositing the results in the Process Database. WYY# then performs a close reading of the materials garnered from the initial selection, sorting them into various data types from which it generates concepts that then get converted into ASCII code. Next, WYY# queries the Raw Database to look for visual forms that make sense of these concepts. Several nuanced deliberations by WYY# follow to ensure that the material properties — be they sculptural or painterly elements, compositions, textures, tonal properties, hues, plasticities, brush strokes or whatever — of each distinctive object approximate the initial description of the work. The processed individual units are then assembled in the Output Database to comply with the semantic interpretation of the ASCII code. Finally, WYY# assigns a title to

the assemblage and outputs it as an artwork, which WYY fabricates into concrete existence.

WANG Yuyang creates works using emergent media, but does not deliberately emphasize the novelty of technology. Interested in the artistry brought about by “outdated” technology, “destructive” aesthetics and material waste, he follows the question of how technology challenges our perception of everyday life. His practice encompasses sculpture, painting, photography and video, often using humour, fiction and spectacles to explore and reflect upon the relationship between the human body, experience and cognition. At the same time he also investigates the relationship between artificial reality, media technology and historical perception.

WANG’s work has been shown in major exhibitions and festivals internationally including among others Long Museum, Shanghai; CAFA Art Museum, Beijing; International Triennial of New Media Art, National Art Museum of China, Beijing (2014); Ullens Center for Contemporary Art, Beijing; National Art Museum of China; MoCA Shanghai.

WANG Yuyang was born in 1979 in Harbin (CN), he lives and works in Beijing (CN).

Weight of Insomnia (2017–2018)

For Weight of Insomnia LIU Xiaodong has developed an automated system, which uses streaming data and computer vision algorithms to paint a canvas continually for the entire duration of an exhibition. The presentation at ZKM involves cameras installed in three locations, one overlooking the iconic Brandenburg Gate in Berlin; the other monitoring the car body construction in BMW's Dingolfing factory; and the third one tracking an anonymous roundabout in Karlsruhe to stream live data into the exhibition space. Three large canvases, each 2.5 x 3 meters, are mounted on crude construction scaffolds. A robotically controlled paintbrush translates the discrete incoming datum captured by the video cameras into contours of automobiles, silhouettes of trees, outlines of traffic flow, and shadows of human figures. LIU Xiaodong's canvases depict a multiplicity of moments that are forever fluctuating, generating in each moment a new sediment of material accretion, and giving rise to inklings of emotions. In this continuous process the real as sites of geographic locality has to first become the unreal of binary data packets in order to reinvent the real. The resulting image is a network of trails thickened into a congealed surface tension: information overload creates abstraction in reversal and repetition. It is as if the artist, reincarnated in a robotic consciousness, or the robot having acquired a sentient capacity, wrestles through endless, restless insomnia to piece together an ever-evolving jigsaw of amorphous desires and anxieties; fleeting nightmares and fractures of machines and humans alike. LIU Xiaodong thus constructs a new awareness of contemporaneity. In so doing, the artist not only reassesses painting in the age of the Internet and algorithms, but also makes apparent a new reality that situates itself in the materiality of media informed by data fluxes.





A s
stre
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A laptop
computer sitting
on top of a
wooden table.

A man and a
woman playing a
video game.

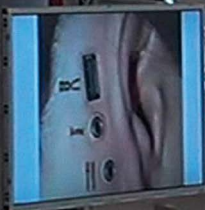


stop sign with a
street sign on top
of it.

A motorcycle is
parked in a
garage with a
motorcycle.



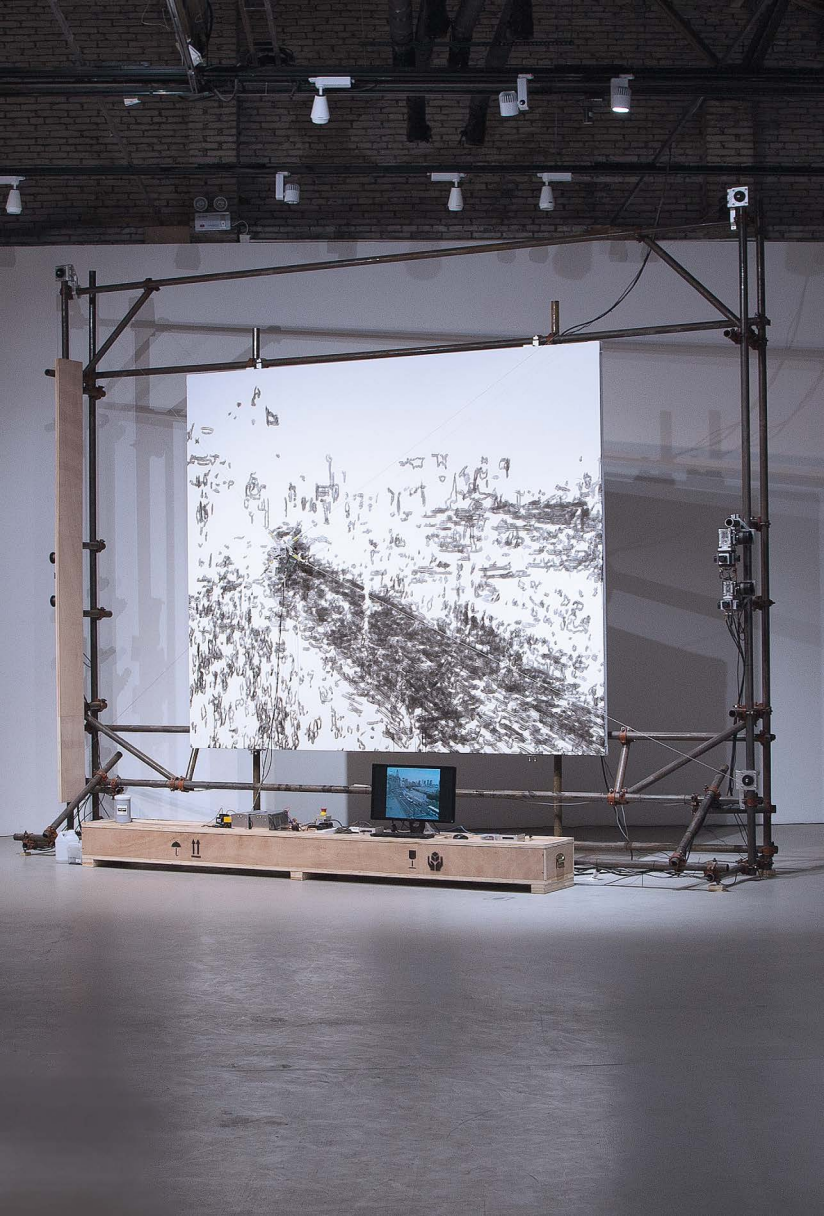
A street filled
with traffic and
traffic lights.

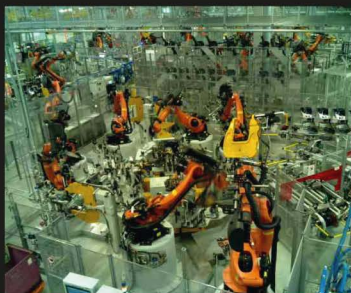
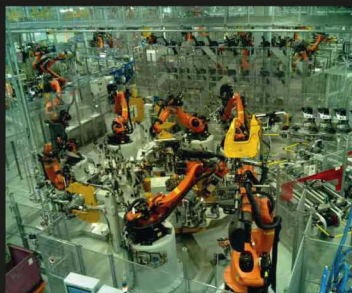


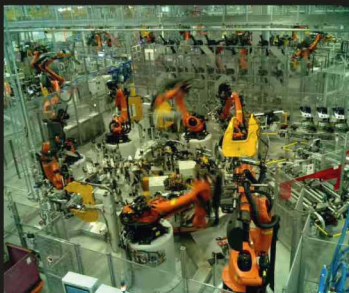




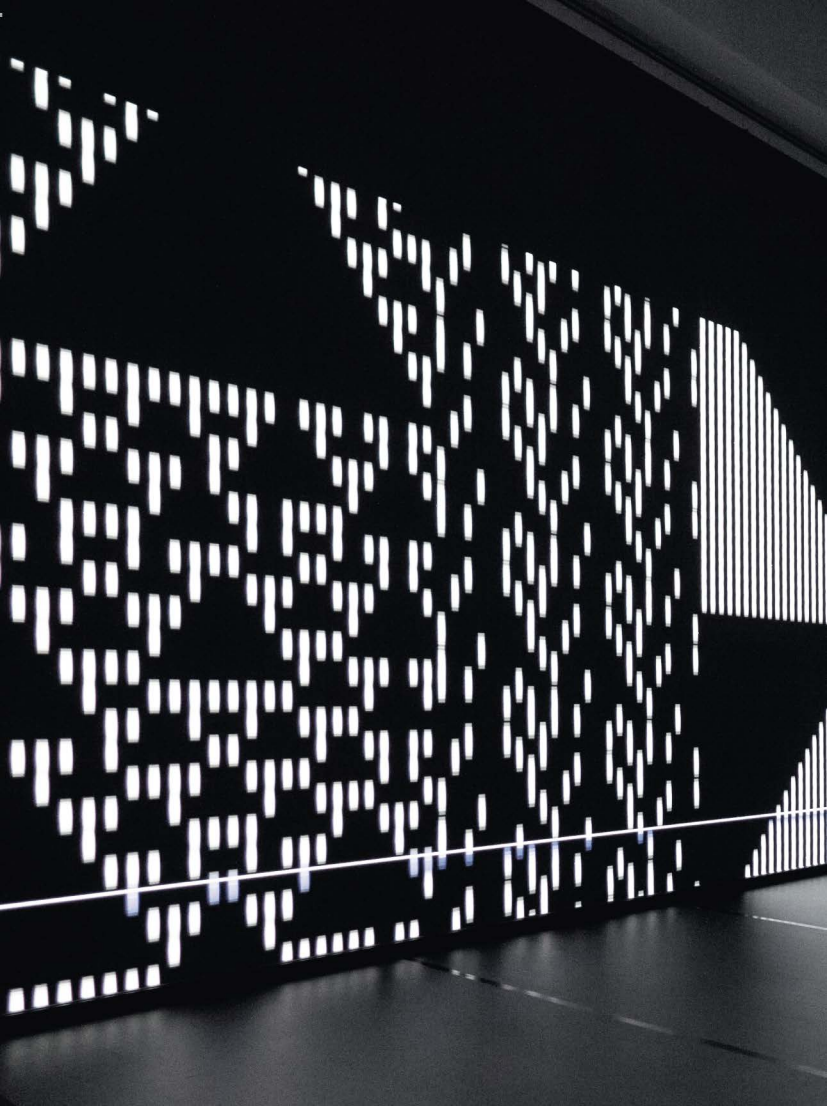


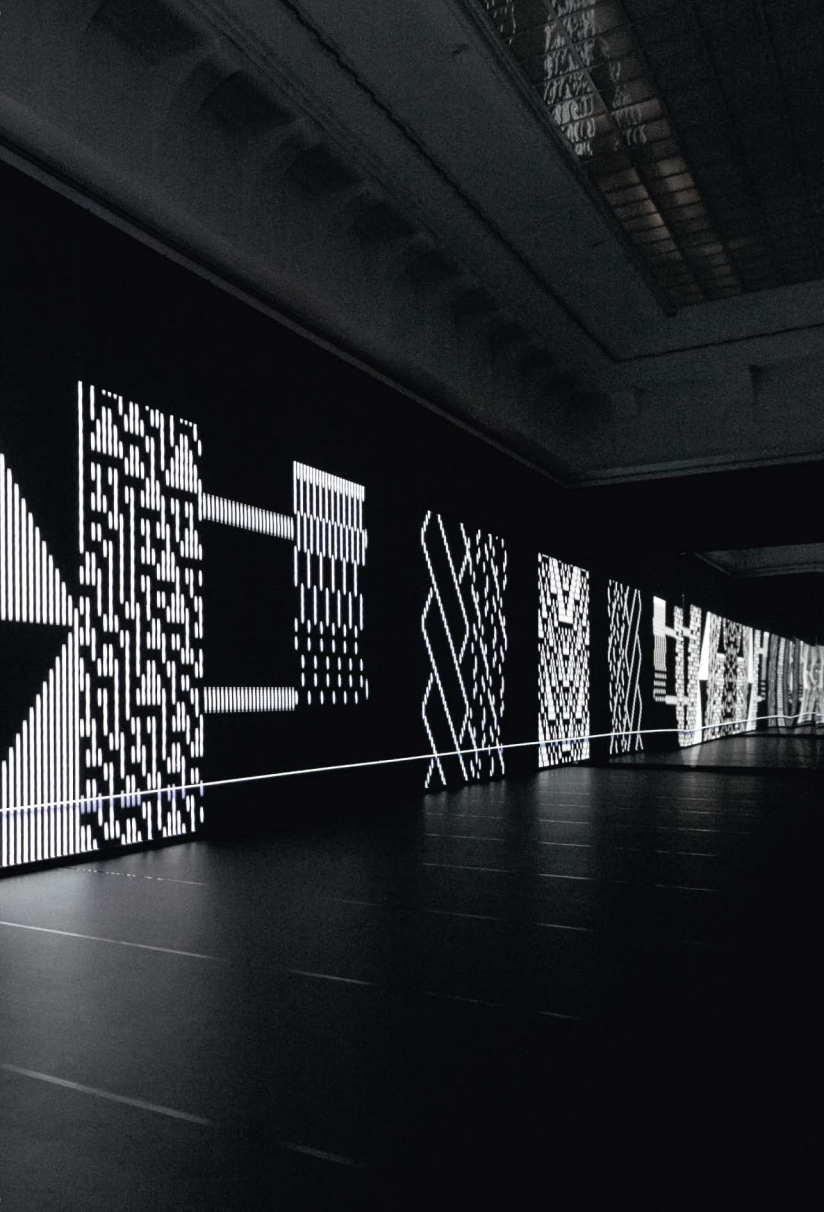






Kamerastandorte in Deutschland / Camera locations in Germany: Heizkraftwerk West in Karlsruhe, Blick auf / view on Rheinhafenstraße; Akademie der Künste in Berlin, Blick auf / view on Pariser Platz; BMW Group Werk Dingolfing



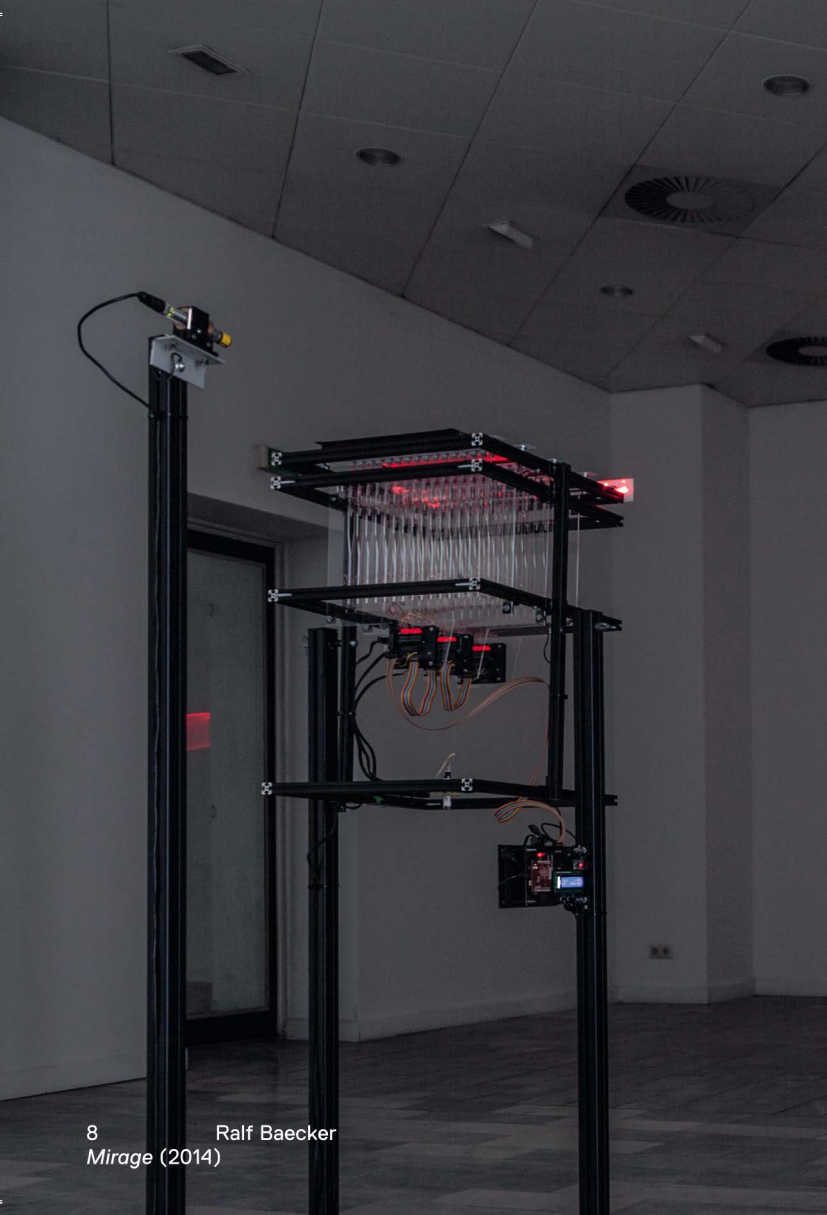


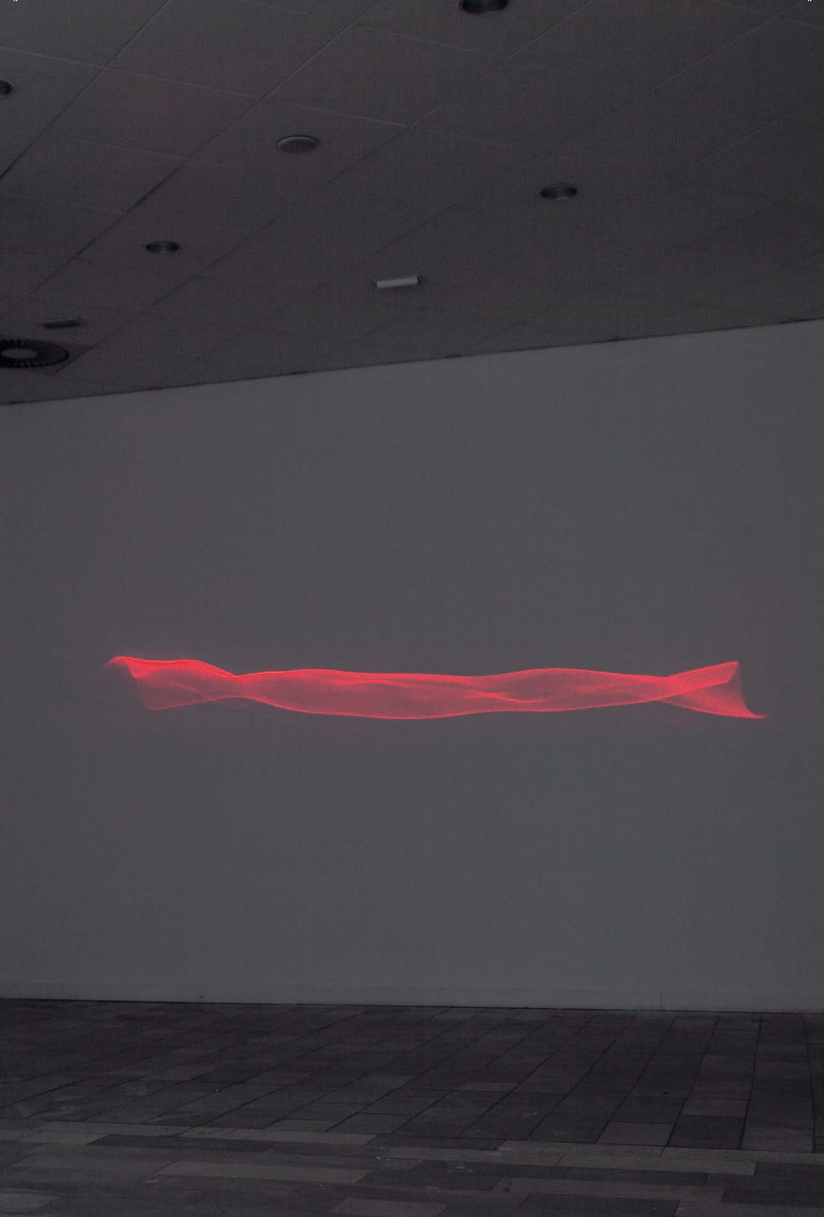


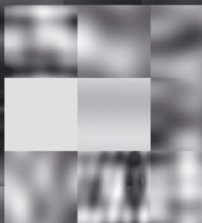


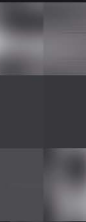
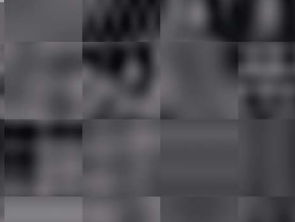


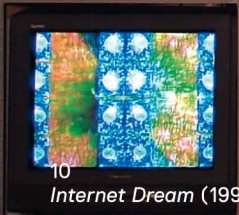












10

Internet Dream (1994)

Nam June Paik



LIU Xiaodong is considered one of China's most influential contemporary artists. He is a painter of modern life, whose large-scale works serve as a kind of history painting for the emerging world. LIU Xiaodong locates the human dimension in such global issues as population displacement, environmental crises and economic upheavals, yet through carefully orchestrated compositions, he walks the fine line between artifice and reality. A leading figure among the Chinese Neo-Realist painters who emerged in the 1990s, his adherence to figurative painting amounts to a conceptual stance within a contemporary art context.

His work has been the subject of numerous solo exhibitions at venues that include the Faurshou Foundation, Copenhagen, Fondazione Giorgio Cini, Venice, Shao Zhong Foundation Art Museum, Guangzhou, Mingsheng Museum, Shanghai, Seattle Art Museum, Washington State, Today Art Museum, Beijing, Kunsthau Graz, Xinjiang Arts Centre, Urumqi, and Ullens Center for Contemporary Art, Beijing. His work has also been included in numerous group exhibitions, such as the Shanghai Biennale (2000, 2010), the 15. Biennale of Sydney (2006), and the 47. Venice Biennale (1997).

LIU Xiaodong was born in 1963 in Jinchen (CN), he lives and works in Beijing (CN).

Carsten Nicolai's installation *unitape* is an examination of perception and visual structures that allude to punch cards of the early computing era, Nicolai's immaculate images and sounds are pure mathematical precision that illuminate an algorithmic sublime. Series of patterns and endless permutations reminiscent of code scanning resonate with generative sounds. Here repetition creates difference and difference engenders unison that is charged with psychic force as well as pictorial finesse. The materiality of the generative data is manifested by the very projection medium and heightened in the mirrors flanking the projection screen on both sides, extending the field of imagery in infinite depth and breadth while the sonic cadence echoes reverberatingly to create a totality of sensory immersion. *unitape* derives its intuition from the artist's study of the history of the city of Chemnitz, once one of the most important centers of the German textile industry. Inspired by the invention of the mechanical loom by Joseph-Marie Jacquard (1752–1834), which enabled the rapid production of complex patterned fabrics using the principle of automated control through punch cards, Nicolai's *unitape* reflects on communication processes in the industrial era while at the same time addressing issues related to the psychosocial prospects of the interaction between humans and machines.

The artist Carsten Nicolai works at the interfaces of art, music and science. Through precise experimental set-ups with a clear, reduced aesthetic, he probes questions of perception in many of his works, making them into a multi-sensory experience. On the basis of scientific systems of reference, he often uses mathematical patterns as codes. At the same time, happenstance, errors, witting and unwitting misinterpretations and translations of signals, and blurriness all play

a central role in his work. These constellations also influence his musical work. Under the pseudonym Alva Noto, Nicolai conducts highly reductionist sound experiments in the realm of electronic music, which he achieves with his own code of acoustic and visual signs.

Nicolai's work has been shown in numerous solo and group exhibitions around the world: documenta 10, the 49. and 50. Venice Biennale, the Singapore Biennale, the 2. Moscow Biennale, the Istanbul Biennale, and the Liverpool Biennale; the Ichihara Lakeside Museum, Chiba; Copenhagen Contemporary; Simons Center for Geometry and Physics, New York; Schirn Kunsthalle Frankfurt; Neue Nationalgalerie, Berlin; and Haus Konstruktiv, Zurich. In 2014, he was awarded the Japan Media Arts Prize.

Carsten Nicolai was born in 1965 in Karl-Marx-Stadt (now Chemnitz) (DE), he lives and works in Berlin (DE).

Landscape with Spherical Architecture (2008)

In ZHANG Peili's *Landscape with Spherical Architecture*, perception undergoes a certain uncertainty through a digital intermediary. An array of thirty-six screens of still landscape images can be activated by the viewer horizontally or vertically. While the architecture remains static in the background, the foreground scenes shift slightly in progression. At the outset the screens are all blank and the images are called out by a viewer's presence in front of the screens. By facing a particular screen within a range of three meters, the image appears. If the viewer moves closer, additional screens are activated with more images appearing. Outside this range, screens turn off and the images disappear. Walking parallel to the thirty-six screens causes the images to appear and disappear alternately, resembling a rapid succession of animation in movement. Position and movement as variables determine the multiplicity of the scenery either as static imagery or as a mobile object in passing. Here a twofold twist takes place: the subject's perception alternates about the object's true identity while the object reveals its multiple presences only when accessed by a particular mode of approach. ZHANG Peili has conjured a space where both horizontal and vertical movements can occur simultaneously. During horizontal movement, time does not elapse but instead expands, which blurs the object and the subject, rendering them interchangeable in a specific point in movement. It is a transient reality contingent on movement and position.

ZHANG Peili is considered as the father of video art in China. He has been producing incisive, internationally acclaimed works since the 1980s, building a career that ushered in and encompasses the entire history of Chinese video art. Keenly

critical of his country's authoritarian leadership, he sees his work as a form of protest revealing the forces shaping Chinese society and the lives of its citizens. Inspired by the endurance-testing videos of artists like Andy Warhol and Bruce Nauman ZHANG uses mundane, repetitive actions and scenes to demonstrate the absurdity and destructiveness of ritualized behavior and social norms.

ZHANG Peili's work has been presented in several exhibitions, among others The Art Institute of Chicago; Australian National University; Ren Space, Shanghai; MAAP (Media Art Asia Pacific) Brisbane; Moving Image New York.

ZHANG Peili was born in 1957 in Hangzhou (CN), he lives and works in Hangzhou and Shanghai (CN).

7 Rafael Lozano-Hemmer *Please Empty Your Pockets* (2010)

The installation *Please Empty Your Pockets* consists of a computerized scanner and a conveyor belt. Anybody may participate in the creation of a new piece of interactive art by placing a small item of their choice on the conveyor belt. The installation's structure is reminiscent of an airport security scanner, the only difference being that in this case civilian participation is optional. Once they pass under the scanner, the objects reappear on the other side of the conveyor belt beside projected objects from the memory of the installation. New items reemerge together with those scanned earlier and those drawn from a bank of 600,000 items scanned and recollected in the installation. With the aid of "augmented reality" techniques, the installation combines real objects with the traces they leave, thus functioning as a collective memory of the consumed objects.

Rafael Lozano-Hemmer's main interest is in creating platforms for public participation, by perverting technologies such as robotics, computerized surveillance or telematic networks. In his artworks he makes use of a wide range of new media and devices such as sensors, biometric scanners, surveillance cameras, tracking systems, and microphones.

He had several solo exhibitions, the most recent at Gund Gallery in Gambier, Ohio and at Haus der Elektronische Künste in Basel, as well as in San Francisco Museum of Modern Art, the MUAC Museum in Mexico City, and the Museum of Contemporary Art in Sydney. His large-scale interactive installations have been commissioned for events such as the Millennium Celebrations in Mexico City (1999), the Cultural Capital of Europe in Rotterdam (2001), the UN World Summit of Cities in Lyon (2003), the Expansion of the European Union in

Dublin (2004), the Winter Olympics in Vancouver (2010), and the pre-opening exhibition of the Guggenheim in Abu Dhabi (2015). He was the first artist to officially represent Mexico at the Venice Biennale with a solo exhibition in 2007. He has also shown at Art Biennials and Triennials in Havana, Istanbul, Kochi, Liverpool, Montréal, Moscow, New Orleans, Seville, Seoul, Shanghai, Singapore and Sydney.

Rafael Lozano-Hemmer was born in 1967 in Mexico City (MX), he lives and works in Montreal (CA) and Madrid (ES).

8 *Mirage* (2014)

Ralf Baecker

Ralf Baecker's *Mirage* generates a synthesized landscape relying on the apparatus' own perception through a fluxgate magnetometer. A fluxgate magnetometer registers the magnetic field of the earth, which is dependent on the sun's activity, and feeds it into an algorithm for analyzation. The algorithm uses a combination of an N-gram/Markov chain analysis in combination with a Monte Carlo algorithm to simulate its input stream, producing patterns of the same quality as the real electromagnetic field of the earth. This "hallucination" is translated into a two-dimensional matrix that physically transforms a thin mirror sheet by 48 muscle wire actuators. The mirror sheet changes the shape of its surface analog to the system's "hallucination". A thin laser line (Gaussian distribution) touches this mirror surface at a sharp angle and generates a depth landscape-like projection on a screen. Through the constantly shifting "hallucination" the projection resembles subliminal wandering through a landscape, through a machine consciousness. *Mirage* explores the borderline between the virtual and the real from two perspectives. On one side it is an aesthetic investigation of synthesized behavior that is based on real physical events. On the other hand it looks at the interface of where the virtual becomes real and vice versa.

Ralf Baecker is an artist working at the intersection of art, technology and science. Through installations and machines, Baecker explores fundamental mechanisms of the action and effects of new media and technologies. From a media archaeology point of view, Baecker excavates obsolete devices for traces and functions that can still be detected in today's technologies. His work seeks to bring about a hybrid of current digital aesthetics and an historical understanding

of materials. As a result, he understands technology not as a tool but rather as an epistemological instrument, in order to pose elemental questions about a world perceived through technological impressions.

His work has been presented at international festivals and exhibitions, such as the International Triennial of New Media Art 2014 in Beijing, Künstlerhaus Vienna, ZKM|Karlsruhe, Martin-Gropius-Bau, Berlin, WINZAVOD Center for Contemporary Art, Moscow, Laboral Centro de Arte, Gijón, and Malmö Konsthall. Baecker has been awarded many prizes and grants for his work, including an honorable mention at the Prix Ars Electronica in 2012 and 2014.

Ralf Baecker was born in 1977 in Düsseldorf (DE), he lives and works in Berlin (DE)

Voice of Sisyphus (2011–2017)

A study by George Legrady of a single photograph realized as a continuous performing audiovisual composition, projects an austere sharpness in the Cagean tradition. A projected photograph of a formal ball taken in an uncertain past is dynamically transformed in real time and in the process generates sounds. Cycling randomly or in sequential patterns in various directions, the sound travels in pixels and matrices that dissect the image, crisscrossing the pictorial plane like a forking path or coming to an abrupt halt as if stopping suddenly at the edge of a canvas. The algorithm performs frequency filtering, masking, and scanning and a variety of other treatments of the image, rippling through a gamut of soundscape, sometimes echoing a Scriabinean shriek, at other moments penetrating the waveforms to arrive at a polyphony that simultaneously counterpoints picture regions, including faces, clusters of people, windows, glasses, lines, mirrors, plants, decorations, etc. within the image. It is the computational rigor that creates picture sound and sound picture all at once.

Legrady is Professor of Interactive Media, with joint appointment in the Media Arts & Technology program and the department of Art, University of California, Santa Barbara, California. His early artistic work focused on the conceptual and semiotic analysis of the photographic image. Legrady's contribution to the digital media field has been in intersecting cultural content with data processing for socio-cultural narrative installations. His current work is in data visualization, robotic computational integrated photography, and digital visual ethnography.

His interactive installation exhibitions have been part of several festivals and exhibitions, among others at the 3. Beijing Media Festival; Museum of Contemporary Art, Helsinki; Ars Electronica Festival, Linz; Centre Pompidou in Paris, San Francisco Museum of Art, MOCA Los Angeles, MOCA Taipei, Chronus Art Center in Shanghai, musée des beaux-arts in Brussels, Haus der Kunst in Munich, PS1, La Jolla Museum of Contemporary Art, Kunsthalle in Bonn, the Vancouver Olympics in 2010, and others. In 2016 he was awarded the John Simon Guggenheim Fellowship.

George Legrady was born in 1950 in Budapest (HU), he lives and works in Santa Barbara, California (US).

Internet Dream (1994)

In 1974, Nam June Paik had a vision of the Internet – the “Electronic Superhighway” as a way of connecting people around the globe and fostering interaction among them. He took up this idea again in the 1990s while the Internet was being developed, as his installation *Internet Dream* shows. Its 52 monitors, fed by three different image sources, perform a visual choreography that exerts a hypnotic force. In rapid cuts, a dynamic visual montage takes shape as inextricable patterns of colors, people and objects flicker past. The central part of the video wall is made up of four rectangular surfaces, each of which is composed of nine monitors and set at a 90-degree angle. They play back the image from the first source. This rhythmically illuminated core is surrounded by 16 additional monitors: five larger ones flanking it to the left and the right, and six of the same size framing it from above. These monitors alternate between the other two video images in alternation. These pulsating visual worlds attest to the overpowering and global visual language of popular culture that dominated the 1990s, while also evoking the vast noise provoked by worldwide communication networks.

Internationally, Paik is regarded as a pioneer of visual and media art. In 1965, he became the world’s first artist to work with the new medium of video, the artistic potential of which he explored in the years that followed. On the whole, his multifaceted work, which encompasses video sculptures, installations, performances, videotapes and TV productions, is marked by a unique confluence of Eastern thought, the Western avant-garde, technological innovation, visual art and music. Paik was consistently ahead of his time in his visionary ideas, and turned the future into the present. As one of the twentieth century’s most innovative artists, he produced

work that has remained a sounding board and source of inspiration for later generations of artists to this day.

Paik's work has been honored with numerous awards and presented at exhibitions around the world, including at the Whitney Museum of American Art, New York; Tokyo Metropolitan Art Museum; Musée d'art Moderne de la Ville de Paris; Kunsthalle Basel; National Museum of Contemporary Art in Seoul, Solomon R. Guggenheim Museum, New York; Museum des 20. Jahrhunderts, Vienna; Kunstmuseum Wolfsburg; documenta 6 and 8; Venice Biennale (1984, 1993); São Paulo Biennale (1975); and Whitney Biennale (1977, 1981, 1983, 1987, 1989). The Nam June Paik Center opened in Seoul in 2008.

Nam June Paik was born in 1932 in Seoul (KR) and died in 2006 in New York (US).

- 1 Laurent Grasso *Solar Wind*
2017
LED screen, transparent tinted glass, steel structure
314 x 138 x 54 cm
Courtesy the artist, Edouard Malingue Gallery and Galerie Perrotin

- 2 YAN Lei *Rêverie Reset*
2016–2017
80 screens, computers, router, server, custom software, steel, cables
348.5cm (height) x 480.6 cm (diameter)
Concept: YAN Lei
Producer: YANG Sheng Nien
Production Associate: OrangeZ
Technology Advisor: Fito Segrera
Software Programming: Fito Segrera
Programming Assistant: YAN Ji
Mechanical Structure: WANG Feng
Courtesy the artist
Commissioned by Chronus Art Center and realized under the support of ZONHOM Cultural Development Co., Ltd.

- 3 WANG Yuyang *Quarterly*
2015
Silicon, bronze, red copper, brass, stainless steel, tree
400 x 800 x 260 cm
Courtesy the artist
Realized under the support of ZONHOM Cultural Development Co., Ltd.

- 4 LIU Xiaodong *Weight of Insomnia*
2017–2018
Mixed-Media-Installation, three robotic painting machines, canvas
Camera locations in Germany: Heizkraftwerk West in Karlsruhe, Akademie der Künste in Berlin, BMW Group Werk Dingolfing
Each canvas 250 x 300 cm
Courtesy LIU Xiaodong Studio
Commissioned by Chronus Art Center and realized under the support of ZONHOM Cultural Development Co., Ltd., Lisson Gallery and Qing Yuan Tang

- 5 Carsten Nicolai *unitape*
2015
DLP-projectors, projection screen, mirrors, computer, sound, bench with loudspeakers
Installation dimensions variable
Courtesy Galerie EIGEN + ART Leipzig/Berlin and Pace Gallery

- 6 ZHANG Peili *Landscape with Spherical Architecture*
2010
36 LCD screens, media player, infrared photoelectric sensors
54 x 58 x 87 cm
Courtesy the artist
- 7 Rafael Lozano-Hemmer *Please Empty Empty Your Pockets*
2010
Conveyor belt with electric motor on metal rack, computer, custom software, projectors, video camera, custom-made electronics
124 x 273 x 42 cm
ZKM | Center for Art and Media
- 8 Ralf Baecker *Mirage*
2014
Aluminium profile, custom electronics, muscle wires, line laser module, flux-gate magnetometer
Machine: 180 x 90 x 120 cm, projection screen: 450 x 80 cm
Courtesy the artist
- 9 George Legrady *Voice of Sisyphus*
2011–2017
Projection installation with 4 channel sound
Installation dimensions variable
Software engineering: Ryan McGee, Joshua Dickinson
© Original photo: George Legrady, 1973
Courtesy the artist
- 10 Nam June Paik *Internet Dream*
1994
Videosculture
287 x 380 x 80 cm
ZKM | Center for Art and Media

Datumsoria: The Return of the Real

Curated by ZHANG Ga

9.9.2017– 18.3.2018



Location: ZKM_Lichthof 1+2

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The ZKM | Karlsruhe thanks the artists and lenders of the exhibition. Special thanks to the staff of Chronus Art Center, Shanghai. Additional thanks to Akademie der Künste in Berlin, the BMW Group, and Heizkraftwerk West in Karlsruhe.

In cooperation with:   

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Additional support by the Chinese Embassy in Germany:  

Booklet / Editorial team: Sabiha Keyif, Bettina Korintenberg / **Texts:** ZHANG Ga, the artists, Bettina Korintenberg / **Copy editing:** Gloria Custance (E), Sabiha Keyif, Bettina Korintenberg (D) / **Translation:** D→E: Jane Yager / **Translation:** E→D: Tom Waibel / **Graphic design:** 2xGoldstein+Fronczek / **Typeface:** LL Replica, Lineto/CH / **Lithography:** 2xGoldstein+Fronczek / **Printing:** Stober, Eggenstein / **Paper:** Amber Graphic 80g/m², MaxiGloss 90g/m²

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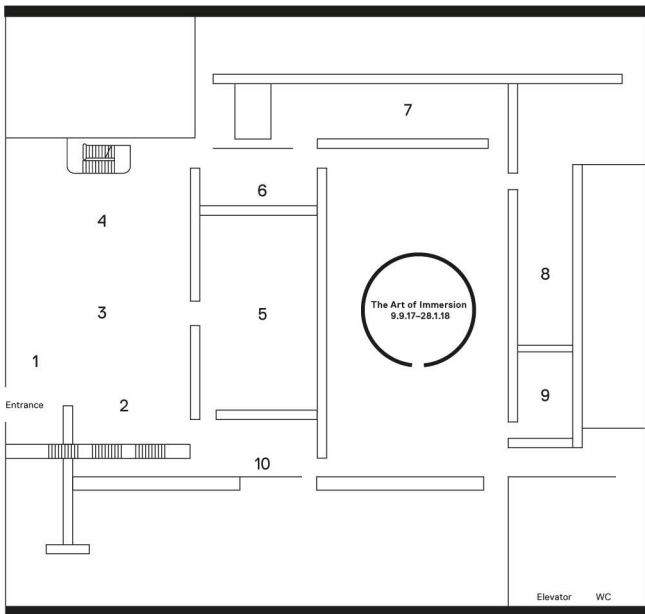


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| 1 | Laurent Grasso | <i>Solar Wind</i> |
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| 7 | Rafael Lozano-Hemmer | <i>Please Empty Your Pockets</i> |
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| 9 | George Legrady | <i>Voice of Sisyphus</i> |
| 10 | Nam June Paik | <i>Internet Dream</i> |

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 George Legrady, *Voice of Sisyphus* (2011-2017) © Courtesy the artist, photo: George Legrady
 Nam June Paik, *Internet Dream* (1994) © ZKM | Center for Art and Media, photo: ONUK



Ralf Baecker

Laurent Grasso

George Legrady

LIU Xiaodong

Rafael Lozano-Hemmer

Carsten Nicolai

Nam June Paik

YAN Lei

WANG Yuyang

ZHANG Peili



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