

Fri, 20.10.2017–Sun, 05.08.2018

Open Codes. Living in Digital Worlds

ZKM_Atrium 8+9

**To understand the world we inhabit
To understand the world we live in
To understand the world that sustains us**

Today we live in a globalized world that is controlled and created by digital codes. From communication to transportation (of people, goods, and messages), everything is guided by codes. A new equation between mathematics and electronics has created a new tool-based world, erected by engineers, physicists, and programmers.

From the binary code (Leibniz) to Morse code, from cosmic code to the genetic code, we live in a world of codes. This exhibition, a collection of artworks and scientific works gives you the opportunity to understand this world. It will be a code-curated exhibition and demand new behavior from the visitors. The exhibition will be a mix of a laboratory and a lounge, a learning environment and a “Club Méditerranée”. Together with our visitors, we would like to try out new and perhaps unusual formats of education and learning, creating new approaches to knowledge in a relaxed and learning-stimulating atmosphere. Programming, learning with bots and other new technologies should not be a barrier anymore, but should give everyone the opportunity to understand the background to our digital world of today. Whether with free entrance to the exhibition, snacks and drinks in the museum, or public working space available to visitors - as an experiment in audience development, the exhibition will change the look and approach of museum exhibitions. The museum will be worthwhile for its visitors in the truest sense of the word.

Artworks and scientific works based on digital as well as on analog codes are presented in the exhibition. The works visualize and explain the complex dynamics of codes, and the way in which they are increasingly shaping the way we live and perceive the world. The exhibition analyzes the ingress of codes into our lives, and the structures of knowledge they generate. The works in the exhibition explore the physical and mathematical principles upon which codes are based and their material implementation in microchips, relays, and circuits. Codes increasingly determine the products we buy, the movies we watch, and they register every move we make anticipating our desires.

Press information

July 2017

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Exhibition

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In addition to the presentation of historical precursors of computer algorithms, which show the direct application of the binary code, other works deal with the current and future sociopolitical implications caused by codes.

Artists represented in the exhibition

Cerith Wyn Evans programmed chandeliers to send out flashing Morse signals. The Murano glass chandelier, which will be presented, is one of a series of about twenty the artist has created so far. It transmits excerpts from the book *Astrophotography: Stages of Photographic Development* (1987), edited by Siegfried Marx, in Morse code on a flat screen monitor controlled by computers.

What happens if human lives are lost due to the actions of a “bot” a set of algorithms? Can a bot be accused in a court of law and found guilty? Is it liable for its actions? **Helen Knowles** stages a trial of Superthunderbot, a machine learning agent, which is characterized by its capacity to adjust its algorithmic sequence independent of human supervision. Five individuals have died as a result of the algorithm’s actions by participating in unregulated clinical trials. Knowles’ work illustrates the fictitious trial of this intelligent algorithm, and raises the question of who is accountable for machine learning agents. (Helen Knowles: *The Trial of Superthunderbot*, 2016).

If a set of algorithms can be accused of murder it can also be put under a spell. **James Bridle**, a British artist living in Athens, sets a trap for a self-driving car with Mount Parnassus in the background. The photo shows a driverless vehicle sitting in the middle of a parking lot surrounded by a magic salt circle. An artificial mind would know that one of the most crucial rules of the road is never to cross a solid line with a dashed one on the far side, thus the vehicle is trapped in the pagan ritual. (James Bridle: *Autonomous Trap 001*, performance documentation, 2017).

Some applications of binary code, for example, the digitization of financial systems, unleash quite unexpected social phenomena. The artist collective **UBERMORGEN.COM** draws attention to the fact that Chinese coin mining has recently made the People’s Republic of China the world’s largest Bitcoin producer. Mining requires effort and it slowly makes new currency available at a rate resembling the rate at which commodities like gold, copper, diamonds, nickel, rare earths, silver, uranium, and zinc are mined from the ground. One of the reasons for the fast growth is the buildout of hydropower in the west of the country. (UBERMORGEN.COM: *Chinese Coin (Red Blood)*, Video installation, 2015).

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The collaborating partners of the exhibition include the Fraunhofer Institute, the FZI Forschungszentrum Informatik, the Akademie Schloss Solitude and the Karlsruher Institut für Technologie (KIT).

Artists and Scientists Include: Jean-Michel Alberola, Morehshin Allahyari, Isaac Asimov, Lisa Bergmann, Michael Bielicky, Patrick Borgeat, James Bridle, Ludger Brümmer, Can Büyükerberber, Emma Charles, Matthieu Cherubini, Arthur C. Clarke, Tyler Coburn, Max Cooper & Andy Lomas, Shane Cooper, Larry Cuba, Frederik De Wilde, Simon Denny, Götz Dipper, Constant Dullaart, Margret Eicher, Jonas Eltes, César Escudero Andaluz & Martín Nadal, Cerith Wyn Evans, Claire L. Evans, Harun Farocki, Thierry Fournier, Kristof Gavrielides, Jan Gerigk, Julia Gerlach, Julia Ghorayeb, Melanie Gilligan, Fabien Giraud & Raphaël Siboni, Manfred Hauffen, Daniel Heiss, Anton Himstedt, Yannick Hofmann, ICD/ITKE, Simon Ingram, Eduardo Kac, Helen Knowles, Beryl Korot, Anton Kossjanenko, Brigitte Kowanz, Marc Lee, Donna Legault, Jan Robert Leegte, Lawrence Lek, Armin Linke, Bernd Lintermann, Fei Liu, Christian Lölkes, Solimán López, Shawn Maximo, Tamara Mchedlidze, Rosa Menkman, Ben Miller, Chikashi Miyama, Andreas Müller Pohle, Jörn Müller-Quade, Greg Niemeyer, Helena Nikonole, Julian Palacz, Elizabeth Pich, Matthew Plummer-Fernandez, Julien Prévieux, Peter Reichard, Manfred Kraft & Michael Volkmer, Matthias Richter & Josef N. Patoprsty, Chandrasekhar Ramakrishnan, Betty Rieckmann, Robotlab, Curtis Roth, RYBN.ORG, saai | Südwestdeutsches Archiv für Architektur und Ingenieurbau, Chris Salter, Karin Sander, Karl Sims, Rasa Smite & Raitis Smits, Space Caviar, Barry Stone, Monica Studer & Christoph van den Berg, Jol Thomson, Suzanne Treister, UBERMORGEN, Ruben van de Ven, Harm van den Dorpel, Koen Vanmechelen, Danja Vasiliev, Ivar Veermäe, Nikolaus Völzow, ::vtol::, Clemens von Wedemeyer, Peter Weibel, Alex Wenger & Max-Gerd Retzlaff, Where Dogs Run, Dan Wilcox, Stephen Willats, Manfred Wolff-Plotteg & Wolfgang Maass, World-Information Institute.

The exhibition was designed by Peter Weibel and curated by Blanca Giménez, Yasemin Keskintepe, Livia Nolasco-Rózsás, Peter Weibel and Natalia Fuchs and Franz Pichler as external consultant.

Supporting Program

The exhibition *Open Codes. Living in digital worlds* is accompanied by an extensive supporting program including lectures, film screenings and symposia.

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In addition, the ZKM, in collaboration with the Council of Europe, is organizing the **4th Council of Europe Platform Exchange on Culture and Digitization** on Friday, October 20th, 2017, on the subject of **Empowering Democracy through Culture: Digital Tools for Culturally Competent Citizens**.

On Thursday, November 2nd, 2017, the ZKM will hold the **panel discussion Digital Sovereignty** in collaboration with the Fraunhofer Institute for Optronics, Systems Engineering and Image Analysis, the FZI Research Center for Computer Science and the Karlsruhe Institute of Technology (KIT) at the ZKM_Media Theater. Prominent representatives of science, economy and politics will discuss the sensitivity of digital traces in today's society.

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