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2016

<https://doi.org/10.25969/mediarep/3333>

Veröffentlichungsversion / published version

Rezension / review

Empfohlene Zitierung / Suggested Citation:

Lee, Joo Yun: Ryoji Ikeda at ZKM. In: *NECSUS. European Journal of Media Studies*, Jg. 5 (2016), Nr. 1, S. 215–223. DOI: <https://doi.org/10.25969/mediarep/3333>.

Erstmalig hier erschienen / Initial publication here:

<https://www.necsus-ejms.org/test/ryoji-ikeda-zkm/>

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Ryoji Ikeda at ZKM

NECSUS 5 (1), Spring 2016: 215–223

URL: <https://necsus-ejms.org/ryoji-ikeda-zkm/>

Keywords: art, digital, exhibition, Ryoji Ikeda, ZKM

Under the title *The New Art Event in the Digital Age*, ZKM Center for Art and Media Karlsruhe's GLOBALE program hosted and presented 300 days of exhibitions, cultural, and education events (April 2015 to January 2016) celebrating the 300th birthday of the city of Karlsruhe.[1] Given the dedication of ZKM to art and media technology for almost two decades the events' overarching theme was not new. Alluding to the acknowledgment of 'post-' discourses in relation to digital media and the internet, GLOBALE shed light on the inextricable relation between 'globalization and digitalization.' It underscores that transnational economic, social, and cultural systems cross the globe under the strong influence of global capitalism consolidated with information technology and networks, while acknowledging local and regional socio-cultural specificities. One of the featured exhibitions, *Infosphere*, addressed a novel condition of human habitation in the global infosphere, which is rapidly forging new patterns and dynamics of everyday life entangled with information technology and networks and saturated with data. In this respect, as the prelude to *Infosphere*, ZKM presented Paris-based Japanese electronic composer and visual artist Ryoji Ikeda's solo exhibition *micro | macro*. [2] As its musical metaphor hinted, Ikeda's exhibition, curated by Peter Weibel, foreshadowed the special concern for a 'relation between media, data, and man', as epitomised by Ikeda's body of work, from the 21st century's future perfect perspective.[3]

Taking data as a recurring theme and material, Ikeda has delved into the 'multi-substance of data' that construct our social, political, and technological realities in different modes of media production including sonic albums, publication, audiovisual installations, performances, and site-specific public art. From the *datamatics* (2006-present) series onward Ikeda has explored the 'abstracted views of reality—data—are used to encode, understand and control the world', gaining recognition in contemporary art and electronic

music and also in the wider media culture.[4] In this respect the exhibition presented Ikeda's signature style of large-scale immersive audiovisual installations in which the layers of sonic and visual elements, the spatial and architectural structures, and the constantly streaming information comprise a palpating datascape. As Ikeda's work often juxtapose dichotomies such as finite and infinite, plus and minus, and micro and macro as inevitably intertwined, the dynamics of the micro and the macro was prominent throughout the exhibition in both theme and display. As signaled by the title *micro | macro* the exhibition showed Ikeda's unique exploration of sonic and visual data in a way that evokes the microscopic approach to matter in mathematics and theoretical physics while envisioning its effects at the macro level.

The exhibition (occupying the entire 7,000 square meters of ZKM atria 1 and 2) consisted of two projects that were interconnected and counterpointed: *the plank universe* (2015-present), commissioned by ZKM, along with *supersymmetry* (2014-present). Each work was presented in pairs according to the axis of micro and macro. The micro and macro versions of the *plank universe* were set up in two different modes of architectonic projections, transforming the minimal and industrial space of the ZKM atria (formerly a munitions factory) into a spectacular immersive datascape. A vast ground projection of the *plank universe* [micro] enabled viewers to walk around within the projection to perceive the pulsating flux of data, while the *plank universe* [macro], which was projected on an immense three-story tall screen, engendered a sublimity of the datascape which paralleled the vastness of the universe. Here, Ikeda's data-driven sound and image absorbed the presence of the technological interface and were registered by the viewers' bodies. Such data was constantly instantiated in time and space, transmitted as visual and sonic effects, turning Ikeda's work into 'sensible space'. In this way Ikeda's work is supported by media theorist Mark B.N. Hansen's diagnosis of the fundamental transformation in human experiences from agent-centered perceptions to an environmental sensibility in the complex entanglement of humans within networks of media technologies.[5]



Fig. 1: the planck universe [micro], 2015. Photo: Martin Wagenhan. © Ryoji Ikeda, courtesy of ZKM | Karlsruhe.

Once entering into well-tuned large-scale projection pieces viewers were enveloped by the reverberating and convulsing sound enhanced by droning, repetitive sequences of short notes or noise, and high-pitched whine that were meticulously synchronised with the visual and strobe effects. In *the plank universe [micro]* the flickering abstract data – reticular dot clouds, bar-code patterns, and data sequences, among others layered with white cross-hair – in white and tinged by rainbow light at some points were floating and flying at breakneck speed and bewildering intensity on an immense rectangle on the floor. Such a data deluge escalated the viewer's visceral embodiment by the combination of visual intricacies and hypnotic sound, intermittently released by the abrupt caesurae by whiteout and beeping sound. In this way Ikeda's sonic and visual variations of massive amounts of data epitomised the complexity and the infinite vastness of the infosphere. In the case of *the plank universe [macro]* data in white and red resembling the stars and nebulae rotated in three-dimensional grids. The following scene in graphics of blazing planets moved at high speed and then progressively abstracted into a language of data, unveiling our conception of the system of universe, determined by the logic of digital computation.



Fig. 2: the plank universe [macro], 2015. Photo: Martin Wagenhan. © Ryoji Ikeda, courtesy of ZKM | Karlsruhe.

Here the *plank Universe [micro | macro]*, straddling the microscopic and macroscopic datascape, was reminiscent of Charles and Ray Eames' well-known film *Powers of Ten* (1968), which showed the exploration of the inner space of human body and the outer space of the universe captured by the most advanced technology of that time.[6] While the camera eye in Eames' film progressed from outer space to close-up details of everyday life and into the human body, the enhanced capacity of digital computation of our time enabled Ikeda to capture the prodigious scale from 10–35 m to 1026 m – beyond human capacity of comprehension and imagination. However, the advanced technology does not necessarily lead to a better conception of the way in which data constructs and composes the world. Data is obscured and inaccessible as a corollary of the exponentially increasing velocity and quantity of processing; also, the seemingly transparent digital infrastructure by which data is produced, disseminated, and rearticulated is often subject to control by government agencies and major media firms. In this respect Ikeda's work, rather than contriving a novel way of data analysis, forges a new mode of sensible experience of data that is seemingly immaterial but constitutes layers of material realities. Hence Ikeda attempts to explore the unexplored dimensions of the infosphere, conjuring up a unique spatio-temporal situatedness in which information and data unmoored to human perception and recognition become 'sensible'. Ikeda's work forges a new mode of sensible experience of data, turning the speed and intensity of datascape – inevitable and ubiquitous in everyday life – into visually and acoustically perceivable phenomena.

In this regard Ikeda's conception of data as material that composes our world distinguishes his work from data visualisation or analysis as led by digital humanities and media industries. As media artist and theorist Mitchell Whitelaw pointed out, data and information – in spite of their close relation to each other – should be conceived differently, since 'data is the raw material of information, its substrate; information is the meaning derived from data in a particular context'.[7] In this respect Ikeda's artistic exploration of data (which is audible/in audible, visible/invisible, and material/immaterial substances) falls beyond the human capacity of comprehension. Ikeda's unique approach to data originates from his mathematical insight and musician's mastery of sonic material, exploring the tangent between music and mathematics and between science and art writ large. Thus, finding the shared ground between the scientific research of the basic building blocks of matter and his approach to the sonic matter, Ikeda com-



Fig. 3: supersymmetry [experience], audiovisual installation, 2014. © Ryoji Ikeda, photo by Ryuichi Maruo, courtesy of Yamaguchi Center for Arts and Media [YCAM].



Fig. 4: supersymmetry [experiment], 2014. © Ryoji Ikeda, photo by Ryuichi Maruo, courtesy of Yamaguchi Center for Arts and Media [YCAM].

municates and shares ideas with scientists in related fields. In this respect *supersymmetry*, the other pairs of work presented in this exhibition, were developed during Ikeda's residency at the European Organization for Nuclear Research (CERN) from 2014 to 2015 as the winner of the 2014 Prix Ars Electronica Collide@CERN.[8]

Ikeda's collaboration with scientists was intended to share or confirm the deepest aesthetics between art and science, but not to visualise or represent scientific theories. That is, Ikeda found interests from the phenomenon itself that the scientist has in mind, not its mere image or representation. In this respect what inspired Ikeda while at CERN was that contemporary theoretical physics revealed the different and emerging sense of nature, necessitating the revision and redefinition of its own fundamental concepts. Ikeda found that referring to particle physics, whether its substance is physical matter or bits of information, is not a matter of question at the subatomic scale. In this context, the microscopic approach to the building block of matter in particle physics was espoused by Ikeda's unique method of data composition predominant with sound. The small black dots or particles moving on a flickering light box in *supersymmetry [experiment]* remind us that substances in nature do not exist at fixed coordinates of position and speed but always have a continuous and infinite mixture of position. The bursts of noise precisely synchronised with visual patterns of moving particles showed Ikeda's mastery of producing and exploiting noise as sonic material which is tied to the material and sensual world while remaining transgressive and generative by nature.[9] Furthermore, in *supersymmetry [experience]*, Ikeda composes and decomposes sonic and visual material at the micro-level while envisioning how it resonates and interacts at a macro level. *supersymmetry*, an installation version of Ikeda's large scale audiovisual performance superposition (2012-present), was further developed by the inspiration from the experiments conducted at CERN to prove 'the existence of as-yet undiscovered *supersymmetry particle*', which would enable us to understand the invisible and unobservable matter that compose our world. Here, crossing the boundaries of pure science, digital computation, and art around the idea of new particles, Ikeda attempted to adopt the theatre's immersive experience in the exhibition space to conjure viewers' spatio-temporal experience of the 'extension of space-time symmetry'.[10] The pitch-dark space was broken by strobe light flying across the monitors, revealing a data path formed by 80 small monitors aligned perpendicularly. Walking down the path viewers experienced a plethora of data turned into visual stimuli, including strobe light colliding with convulsing sound at the edge of comprehensibility and perception.

As media artist and researcher Anna Munster asserts, 'novel art generates an experience, an aesthesia that proffers new sensibilities, so the possibility that other ways of sensing, relating and indeed living might thereby

emerge'.[11] Ikeda's works at the intersection of sound, data, and matter offer a new sensibility of our world entangled with increasingly enmeshed data. Ikeda decomposes, composes, and recomposes data; in a similar way he reduces sound and light to its elements and then reconstitutes them. As Ikeda states, 'my work is created by reducing sound, light and the world into sine waves, pixels and data... so that the world could be viewed once more at a different resolution'.[12] In doing so, revealing that the underlying logic of nature is analogous to the determining logic of abstract digital computation that shapes the infosphere, Ikeda's works acknowledge that the dichotomy between the two natures – the physical world and the world of information, or atmosphere and infosphere – can be blurred. In this sense, in such immersive audiovisual installations irreducibly contingent to the presence of viewers, realigning their ears and eyes with bodies, the matrix of visual materials is not meant to be decoded nor interpreted. Rather, turning the velocity and intensity of the datascape (inevitable and ubiquitous in everyday life) into the fully sensible, Ikeda's exhibition *micro | macro* invokes the viewer's imagination of data flow and its system as typically opaque, inaccessible, and controlled.

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Notes

- [1] ZKM, under the stewardship of Dr. Peter Weibel, has long been dedicated to supporting art and research at the intersection between art and media technology and to generating discourses on the sociopolitical, economic, and cultural impacts of new media and technology. See the website of the ZKM GLOBALE program: <http://zkm.de/en/globale> (accessed on 15 March 2016).
- [2] See the website for Ryoji Ikeda's exhibition *micro | macro* at ZKM from 21 June to 9 August 2015: <http://zkm.de/en/publication/ryoji-ikeda-micro-macro>(accessed on 15 March 2016).
- [3] 'Response by Peter Weibel to the article by Jonathan Jones in: *The Guardian*, April, 23, 2015', posted on the ZKM blog <http://blog.zkm.de/en/allgemein/isnt-time-stopped-expecting-critics/> (accessed on 15 March 2016).
- [4] Press release for Ryoji Ikeda's exhibition *datamatics* at the YCAM, Yamaguchi Center for Arts and Media in 2008: http://special.ycam.jp/datamatics/dl/datamatics_release_en.pdf(accessed on 15 March 2016).
- [5] Hansen 2015, p. 5.
- [6] Eames' film *Powers of Ten* (1968), based on the book *Cosmic View: The Universe in Forty Jumps* (1957) by Kees Boeke, was initially produced for the Commission on College Physics. An updated and more developed version was produced in 1977: 'The film captured the domestic space of a picnic spread with a man sleeping beside a woman in a park in Chicago out into the atmosphere, and then back down inside the body through the skin of the man's wrist to microscopic cells and to the atomic level.' See Colomina 2001.
- [7] Whitelaw 2008: <http://eleven.fibreculturejournal.org/fcj-067-art-against-information-case-studies-in-data-practice> (accessed on 15 March 2016).
- [8] *Prix Ars Electronica Collide@CERN*, an international competition for digital artists, is given to promising artists who work at the intersection between art and science and advanced technology. The prize has been awarded every year since 2001. <http://www.aec.at/prix/en/collide/>(accessed on 15 March 2016)
- [9] Dyson 2014, p. 149.
- [10] <http://special.ycam.jp/supersymmetry/en/interview/> (accessed on 15 March 2016).
- [11] Munster 2013, p. 10.
- [12] Asada & Ikeda 2009, p 118.