Perceptual-responsive environments: sense and sensibility in Japanese media artist Seiko Mikami’s installations

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Abstract
In Japan, the interwoven systems of communication, transport, and information and the commercially-industry culturally compressed spaces of the metropolises, like Tokyo, have created super-density as new cultural form of the present. In this respect, the installation works by Seiko Mikami respond to quotidian experience with high density and lack of individual space. In her interactive installations, we are targeted by programmed multisensors and robotic devices, which invite us to engage in close encounter with the measuring and moving tools of the installation. In this human-machine-interrelationship, which is set out for multiple participants, we will also achieve a sense of each other via technology. The technological environment becomes a perceptual space, which instigates awareness and self-awareness of our own.

Keywords: interactivity; participation; perception; digital technology; digital media; Japanese media arts

Since the emergence of new media arts with computers in the digital era, the presence of technically elaborate works and applications from Japan has become noticeable at media and computer festivals, which have arisen parallel to the technological development; most prominently at the Ars Electronica founded in Linz, Austria in 1979, the International Symposium on Electronic Art (ISEA) staged from 1990 onward in various countries, as well as at SIGGRAPH, the American conference and trade fair for computer graphics and interactive technology. The growing variety of creative-aesthetic explorations into the capacities of computers and the development of interactive and virtual media forms have fuelled media-theoretical discussion on the relationship

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of aesthetics and technology. But even, when Japanese examples do attract notice in wide-ranging discussions about, for instance, interactive-virtual media forms, and on the aesthetic potential of the new technologies, acquaintance with them in the Western dominated discourses of the general media debate is restricted to singular positions, and there is hardly any consideration about the cultural context from which they arise.

The growing interest in digital applications and, associated with it, in networked information and communication technologies, has meanwhile produced a plethora of monographs and collections, journal editions, and online publications, which hardly anybody can keep track of any longer. They contain commentary on all conceivable facets of the virulent exchanges on the interaction of media, humans, and machines. However, their provenance is predominantly American-European though this is not outspokenly mentioned or critically reflected by the authors. Interestingly enough, it is precisely where scholars are investigating aesthetic-technical connections across the globe and on worldwide scale that the discourse on media and on communications theory actually stems from one-sided views and shows very little consideration of the cultural horizons belonging to the actual examples and works of media technology and media aesthetics under discussion. That is because a generalized Western perspective applies in most cases, and it is one that is almost taken for granted and receives scarcely any justification and even less argumentation to locate it in relation to global developments in media. Such a perspective in a discourse critiquing media is astonishing in its neglect of cultural positioning and disregard of the media-cultural contexts in which technological-aesthetic developments emerge and from where they disseminate and transcend borders.

From a transcultural viewpoint, neither the Japanese contributions to electronic-digital culture nor the subsequent Korean ones gain sufficient attention in the international debate—and that despite the fact that their multifaceted spectrum of hardware and software, right up to digital media art, computer animation, interactive installations, and hybrid, which are real-virtual, media environments, make them highly influential in many areas of development in information and communications technology. As a result, there is not much comparative analysis of media culture, which connects technological developments and aesthetic concepts between the Western and Asia-Pacific spheres. As guideline for this article, I find it equally important to avoid another kind of imbalance and to refrain from consideration of what might be typically Japanese about Japanese media arts. It is not my aim to investigate and speculate on ethnographic peculiarities but contribute to a more balanced discussion of Japanese media arts by using a comparative approach. This would allow to counter-balance the widely ignored cultural context and appropriately acknowledge the production context as a non-neglectable factor that has impact on the recognition that the media arts from Japan achieve in the international development.

What is needed here are more precise outlining of technological onset and the connectedness between arts, science, and technology in Japan. Here, a further index of the blind spot in the discourse appears from the technological perspective. Its rationale lies in the industrially oriented presentations, where the Japanese were present too with computer-graphic innovations and examples from computer art, for example, at the annual conference and exhibition, SIGGRAPH in the USA. It is appropriate to say that, in many respects, they precede the development of specific media forums demonstrating the aesthetic-technical state-of-the-art. However, the state-of-affairs reveals an imbalance between the presence and the assessments in the discourse of the aesthetic-creative praxis with digital media in Japan. It has motivated my thinking on the need for widening the viewpoint toward a culturally critical perspective that has to be consciously aware of the positioning of the analytical perspective. To be clear, my interest to study media arts in Japan aims to acquire a more profound insight into its specific aesthetic and technological modes of production.

My field research, then, was conducted in a foreign cultural context, where I knew nothing about the language and its sign system. My point of view is necessarily from outside and equipped with a theoretical approach that is conceived in Western thinking. This, of course, produces distance and difference. The research findings benefit from specific possibilities to access knowledge and also to view the installations, preferably in Japan and when they travel internationally.
TECHNOLOGY AND MEDIA IN JAPAN

The media development in Japan initially derives from a close working context between technical-scientific research laboratories, the computer industry, the developers of programming and education and research in the disciplines of information science, and design, art and architecture. From an external perspective, it can be regarded as pioneering new connections between digital media art, national research laboratories, and the computer industry. In a historical view of globalization, the example of Japan demonstrates the entry of non-western technological developments into the world market, when Japan in 1965 with the firm of Sony introduced video equipment to the Western world. By international comparison, the engagement with computer media in Japan is characterized by the collaboration of developers, engineers, and artists, whereby media artists often have training in computer science and information theory. The common focus consists in differentiating the ways digital computers work from the functioning of other machines.

As a result, the conceptions of devices, computer applications, programming functions, the aesthetic construction of interactive, sensor-based, and virtual environments, and the use of robots and monitoring systems, such as Global Positioning System, are very tightly interwoven. Innovative experiments with interactive-virtual applications, the development and production of modular objects, which use, among other things, components with LEDs, robots, GPS, digital video, mobile telephones, sensors, and command systems from the commercial-industrial and military sector—to nominate only a few conspicuous initiatives—originate in a Japanese cultural space, the everyday life of which is extremely intensely permeated by these sorts of technologies and also by related ones. The above-named components are indeed, in themselves, present in the media sector around the world. However, Japan plays a leading role as far as the density of implementing these technologies in public and private space goes. In Japan, engineering and computer science have created a new way of dealing with technology in the everyday world. Overall, we can recognize a medial setting, which is strongly determined by the use of technology in public life. This ranges from life-size screens for video projecting animation, music, and advertising clips with competing sound levels and an intensive network of digital signs with acoustic signals in public space to private and muted use of personally configured mobile technologies employed for computer games, the exchange of emails and internet communication on the street, in cafés, bars, and restaurants as well as in traffic and transport systems. Precisely for that reason, use of cell phones is felt to be disturbing in the constricted spaces of the underground and in the regional and the Shinkansen high-speed trains and accordingly avoided—communication is much rather via silent texting.

The particular nature of such connections do in Japan occur in the narrowest of spaces and in high concentration. Here, the technological development offers a paradigmatic example of extreme compression, caused by variety without expansion. The super-density of communications, transport, and information in the commercially-industrially-culturally conjoined space of the metropoles, like Tokyo, creates the limits of the temporal-spatial compression, into a new cultural model. Koelbl describes Tokyo’s super-density as an example of this cultural form: “What seems at first as an extreme version of a city, successively reveals itself as the opposite, as not-city. In the end, there is the realization that, if super-density is to function at all, then only if it throws off anything supposedly urban, becoming a pure state of intensity, as we otherwise only know it from art, music, media.”1 Even if urban public space in shopping centers and transport systems is, mostly as an expression of the enterprise culture, saturated with densely packed vertical arrays of audiovisual information on LED screen ranged above and alongside each other, this super-dense electronic cultural space (which has established itself similarly in other Asian metropoles) does all the same allow other aspects of a culturally located understanding of aesthetics as an expression of the perceptual-bodily encounter with the real of the technology. In this respect, the installation works by Seiko Mikami respond to quotidian experience with high density and lack of individual space. In her interactive installations, we are targeted by programmed multisensors and robotic devices, which invite us to engage in close encounter with the measuring and moving tools of the installation. In this human-machine-interrelationship, which is set out for multiple
participants, we will also achieve a sense of each other via technology. The technological environment becomes a perceptual space, which instigates awareness and self-awareness of our own, and wherein the individual position and behavior is experienced in response to the digital codes, which are “behaving” responsive to us.

In Japan itself, the technological development has been established on an institutional level by founding research and education centers especially for media. Opening the IAMAS academy (International Academy of Media Arts and Sciences) in 1996 is an outstanding example of this and indicates how training in engineering science and in aesthetic and the arts is here conceived of as belonging to the same context. The process of institutionalizing new media in Japan brings about close links between computer technology, related applications, and artistic creativity. Japan's media developments figure in state-sponsored exhibitions, for instance, in the annual Japan Media Arts Festival, as much as in commercial ones, most importantly the exhibitions of the ICC, the Intercommunication Centre in Tokyo, founded in 1997 by the Japanese telecommunication concern, NTT. Links to industry become still clearer with the Digital Arts Festival staged by Panasonic with the support of the public service broadcaster, NHK Enterprises. The 2005 festival took “knowledge” as its motto and presented artistic-creative developments surrounding household electronics, mobile technology, and computer games. In this context, an artist-developer like Toshio Iwai collaborates with Nintendo and Yamaha in audiovisually interactive computer applications and instruments, and another one, like Denki Maywa creates art from devices and presents his electrical-digital toys and combined machines as if in his own firm, actually calling himself a “device artist” and only ever appearing in overalls; both demonstrate profound interconnections between artistic-creative and industrial research.

Another support for the promotion of media arts in Japan lies in the highly specialized centers for production and distribution. In this respect, the Yamaguchi Centre for Arts and Media (YCAM) focuses specially on the demands of rapidly developing media technologies and fosters the realizing and presenting of installations, environments, and performances. The YCAM has provided support for Seiko Mikami and her collaborators to research, produce, and exhibit her major installation pieces, “Gravicells” (2004 together with Sota Ichikawa) and “Desire of Codes” (2010 in the final, extended version and also shown at ICC, Tokyo in 2011). In addition, there are national, state-run research laboratories, like the National Institute of Advanced Industrial Science and Technology (AIST) in Tokyo, where research into computers, robots, and the internet also allows for aesthetic-creative projects. The result is that the media sector in Japan comprises several “generations” of developments and experiments on a spectrum from everyday electronics to advanced creative-artistic projects, which take shape in highly specialized production, education, and exhibition sites (YCAM, IAMAS, ICC) and in the industrial context. They map out a field, which does not have production conditions comparable to European support for artists. And, the field is also essentially different from the rapidly spreading exhibitions and festival business for electronic and digital media in Western countries. Growing recognition have become noticeable, then, in an enormous increase in media education at Japanese universities with combinations of film, art, information design, aesthetics, and computing.

**PERCEPTUAL ENVIRONMENTS**

In this picture of a cultural-technological horizon, creative practices in the aesthetic-artistic area come in for particular emphasis, when they actively demonstrate possibilities of how to sensitively experience the cityscapes and media spaces. The aesthetic-artistic productions are notably employing GPS, sensors, detectors, and robotic and search devices, which confirm the artists’ interest in making fixed positions in thinking and acting more fluid. Such intentions characterize a creative area of inventive interventions, which bank on specificity and experiment in aesthetic-technical compositions that are oriented toward dialogue with the computer-machine environment and with the other person via computer-media interaction. In the course of reflection on the overriding technological development, various fields of interaction, both in the sense of intervention and of invention, have been developed, which can count as examples of artistic-aesthetic models
of dialogue in an interconnected world. Their potential lies, on the one hand, in the location of aesthetic compositions, which connotes a more or less explicitly articulated relation to a developmental context in and against which the work has been conceived. On the other, situating the location links up to a way of participation, which connects the place of production and reception. The close connectedness sets the frame for experiencing difference and otherness for viewers and users who are approaching respectively entering such artistic works.

The aesthetic productivity mainly manifests in a state of tension when it evokes new, real experiences in digital, interactive, and participatory contexts, which are virtual and essentially non-contextual. The tension in the difference between the real and the digital environments exists not only in the perceptual environment of the artworks themselves but at the same time refers to fusion of difference that exists between irreconcilable patterns of thought and discourses, between ways of using everyday and aesthetic objects. In result, we can experience other forms of multiplicity and other multiple experiences of reality.

What is happening here will become clear when interactive-participatory references to measured space and position are presented in the aesthetics of the installation "Gravicells" by Seiko Mikami and Sota Ichikawa. They use locational data to visualize our spatial relationship to the surrounding area in terms of gravity. When entering the installation space, we are enabled to experience the artists' experiments with the laws of gravity and weightlessness by way of interacting with the projection of data that combine both, our position and the position of the location, in relation to the global positioning system. The aim here is not only to represent explorations into new possibilities of using everyday and aesthetic objects, but also to alter the relation between aesthetics and technology.

The purpose of this is to make alternatives to the culture industry's perfect, slick world of digital media available, and in doing that, a direct physical experientiality of ambiguities will become important. Today, the spatial category stands out medially and culturally as a central line of connection for quite different realizations of diversity in dynamic, participatory contexts. Further to the discussion of aesthetic-artistic practices in dialogue with the machine and in the fields of interactive participation, I wish to refer to Masaki Fujihata, another pioneer of computer animation and interactive media because he has described the cultural position of Japanese media in this respect:

I would like to think that media art was universal, but I don't think such a thing exists. [...] It's true that Japanese artists are seen as important in Europe too, and they are often surprised by that. But I often think that means nothing but that they are misunderstood. To be extreme, those artworks are only acceptable because the artists are Japanese. The Europeans enjoy Japanese artists because Japanese take approaches which Europeans never would, and the Europeans take it as a kind of radical childishness. At first glance they are 'new technology' and 'fun'. But when they are considered more seriously, they don't get the same attention. They see Japan as a country having crazy new technologies, which only they know how to maneuver.

In what follows, Fujihata in his own artistic works, finds expression for his interest in dealing with media and technology aesthetically and acts so radically, when he applies technology, for example, GPS to connect real spaces at different times, in forms tailored to the personal horizons of experience of a project team and its physical activity. That is, because in Fujihata's participatory field works, the technology offers a model that serves the artist in collaboration with the other participants to produce and perform a dialogue about the differences between realities perceived in different contexts. Another example gives Ryota Kuwakubo, a "device artist," who sets about modifications simplifying mobile technology and applications of devices as a counter to the networked world of video and computer games. He drastically reduces everyday devices like radio, telephones, and LED displays to their basic pattern of conveying information and misuses the initial functions of remote control and robotic devices for other kinds of perception.

The Japanese artist, Takuro Osaka, works in another field of perceptual environment as he engages with not only "real" experiences and with expanding the boundaries of physical space. In fact, he explores real zero gravity space and cooperates closely with physicists and Japanese
space research and astronauts. Osaka’s “space art”
moves into usually inaccessible space with experi-
ments in weightlessness when a Japanese astro-
naut in a space station actually performs the
artists’ creative idea and paints on drops of water
in zero gravity space, like being the artist.

Works by Seiko Mikami and Sota Ichikawa
differ from these dimensional extensions when
they use GPS positioning data to engage with the
laws of gravity on the spot. In their joint spatial
installation of “Gravicells”, they show new possi-
bilities by which visitors can interactively experi-
ce their own position in relation to gravitation
and to other visitors. Mikami and Ichikawa further
investigate such models of new realities via both
collaborative projects and individual ones. In
them, it is a matter of challenging perceptions
and physically experiencing the functions of digital
codes. The tools they use deviate decisively from
industrial standards, for instance, by disassem-
bling and differently reassembling existing technical
components. Mikami in her recent work
“Desire of Codes” constructs and reconstructs
monitoring instruments and changes their initial
functions with the added goal of revitalizing the
machine world and vision. In this way of interac-
tion with a technological world, we are made
aware of the mechanism of encounter with mon-
itoring and surveillance that we usually do not
notice much. A completely new structure demon-
strates possibilities for action and interaction in
the technological sphere and with cell-like struc-
tures of the digital environment.

INTERACTION AND PARTICIPATION

Seiko Mikami and Sota Ichikawa in their installa-
tion, “Gravicells” (Japan, Yamaguchi Center for
Arts and Media, 2004), which viewers can walk
into, work with a concept of interactivity that can
be felt in corporal experience. Here, the forces of
gravity, which is not visible, are translated into a
visual concept of deformed space that responds to
the visitor’s own gravity. This approach links
perception and participation and anticipates gravity
as if being dynamic and open to sensual
experience. The impression is possible through
using GPS data for determining the supposedly
“objective” position of the installation site in
relation to the participants’ “subjective” positional
data as they enter the ground area onto which the
captured data are projected. While immersed in
the space of the installation, the participants
perceive themselves audiovisually not only in
relation and actually in difference from earth
gravity but also in connection to other people
who move on a different position of the same
surface area. In particular, the direct physical
experience of gravity appears to be changeable,
because the accessible surface area of the floor
projection is equipped with special sensors, which
measure our position, weight, and speed of move-
ment. It is in this respect that each visitor becomes
an observable point in motion and, in turn,
oberves how other participants move.

The participants are registered by their posi-
tional data, together with the GPS position of the
location of the exhibition and in relation to the
earth’s movement. The collected data are then
projected into a mixed structure of locational data
coordinates. On this basis, the space of the
installation then seems to be subject to changes.
The artists explain the matter as follows: “In this
artwork, it is possible for us to develop a new
human sense through feeling gravity differently
than usual and having new perception of body.
The work provides a space with hypothetical
dynamics having the opposing forces of gravity
and resistance, through special devices and sen-
sors. Walking freely in the site, visitors are able to
feel gravity that they are seldom aware of, resist-
tance to it, and the effects caused by other
participants. All movements and changes made
by participating visitors are transformed into the
movements of directional sound, LED light and
geometrical images through the sensors, so that
the whole space develops or changes in this
interactive installation. Additionally, the position
of the exhibition space is simultaneously measured
by GPS, and with plural linked GPS satellites as
part of the work, it involves some observation
points outside the earth.”3 Nothing remains static
or stable in this data-based physical space of
perception.

A new, mixed space arises from our activity
in a confined interior space and from the
integrated external positions of the satellites. It
consists of LED light, of sound belonging to
position, and of graphic “imagery,” all displayed
in relational three dimensionally. That means, the
projection happens two-dimensional on the walk-
able floor area. However, the technical realisation
of three-dimensionality—which would need three-dimensional projectors—is already anticipated in the concept of the exhibition space because it has continuous line of projection at a height of about 2 m, which reminds the third dimension. In this variable space of interaction, the Cartesian coordinates for orientation are deformed through the experiences of contact with other spatial data, when other people move in the space, which meet and converge in the translocal but nevertheless real field of the data presentation.

The subjective interaction of ourselves with other selves on a defined field leads to distorting and deforming the objective GPS positional data that are measured and visualised. And, here too, deviations from the xy-coordinates express an almost personal sense of gravity (weight, movement, and speed) in the form of concentric circles that change and move in dialogue with the same kind of information from other participants. The floor that consists of cell-like grids has fixed sensors built into to detect the changes of position, weight, and speed of the visitors moving around. Special tubes filled with liquid are running underneath the floor that “sense” and measure the pressure of our weight when we walk above. The new space serves as a dialogic model that expresses the need for one’s own space and also the anxiety of getting too close to each other—something that reflects the quotidian experience of narrowness and density in the public spaces, the metro, and commuter trains in Japan, especially but not exclusively in Tokyo. The experience as such is, in fact, not a culturally specific one but certainly does correlate intersubjective values derived from the widely shared experience of lack of space in modern Japan and translates people’s responses to the high density of space into a new media form. It is novel because it differs essentially from the usual, scientific illustrations of spatial situations. What counts here, and comes to determine visual forms and generate sounds, is a network of circles, which constantly change their shape depending on the participants’ relative “weight.” The space we need to take is measured according to our physical weight, regardless of social, ethnic, and gender issues. Above all, the weight of encounters between people becomes measurable and perceivable, and goes together with a sharp grizzling soundscape, and can be experienced by the those involved and by others who move inside the same spatial area or even outside. Gravity, in conclusion, is applied as a variable, dynamic interface of perception in spatially confined environments, such as high density cityscapes of Japan metropolises.

Even if no one walks on the floor with all its sensors, the linear projection of coordinates
reconstitutes itself. The GPS measurements of the location’s positional data carry on running in real time, and these processes constantly furnish new data, in turn changing the way the installation itself functions. What becomes perceivable when we watch the installation area from outside its confinement, there is neither a determinable zero point nor a standstill. Instead, there are more or less complex relations ongoing, including earth movement and the interface tools’ own dynamics. This indeterminable interaction is what makes it at all possible to promote the gravity we cannot see to be the central, visual element in the artwork.

The media artist, Seiko Mikami, and the architect, Sota Ichikawa, in this interactive-perceptual installation explore the aesthetic and creative use of technology to make perceiving invisible phenomena possible. In their installation dealing with space, they go beyond commercial media products, where a prestructured area of application and experience and internal, machine processes are usually kept separate. These products do not display anything more than options between applications in interfaces directed toward us as users. By contrast, Mikami and Ichikawa are concerned with integrating our own subjective experience into a field of interaction that uses dialogue as the operational mode. By means of dynamic technical procedures, the field of “Gravicells” exhibits a fundamentally open structure, which allows various possibilities for acting, or respectively, for behavior and response. That is so because environmental data are captured from the physical world, and the perception of them relates to our bodies in the present situation. What is intended is a critical reflexion of our encounter and adaption with new media environments. Participants, viewers, and users make their own subjective-personal approaches to the interfaces and to other people present in the same “field.” They are invited and provoked to think more about the ways sensors, detectors, robots, and computers nowadays influence our perceptions and affect our behavior in private and public zones.

The interface is not something external, much rather it is anchored directly in the process of perception. In accordance with all other elements, the interface sustains in generating fluid, unstable, and surprising audiovisual expressions are not corresponding to standardized products. In contrast to the latter, the wider sphere of Japanese media art obviously launches an understanding of technical instruments that employs miniaturization and new construction of individual building blocks in disconnection to their intended purposes. They rather carry out new sorts of functions in completely different contexts. Seiko Mikami has stressed this idea of using an internal interface as necessary links to the surrounding machines: “My projects make the audience experience their own state of perceptions. These human data can express more complex real-time feedback (data which let the body pass). My project is made centering on saying ‘the interface itself exists inside us’. [...] The point is like ‘the between/intermedium’ of the information interchange of the perception, which takes place there itself of the body that appears in the relation, and space. Since it is such, I am making the work about ‘sense of sight’, ‘sense of hearing’, ‘sense of touch’ and ‘sense of gravity.’”
Perceptual-responsive environments

Source: See footnote 3.

Source: See footnote 3.
SENSING THE CODE

Seiko Mikami’s large-scale spatial installation “Desire of Codes” (Japan, YCAM, 2010, also exhibited at ICC, 2011) announces an ambiguity of sense and sensibility toward the computer world already in its title. The work consists of three parts and addresses our relationship to digitality. It equally poses the question of what sort of “inherent behavior” the computer codes might have, particularly when their capacity to measure and move takes on an organic character.

An array with an installation-wall packed with instruments creates a dialogue situation. On the wall of the installation space, Mikami mounted ninety devices that are equipped with search arms that have small LED pointers and with cameras and sensors to detect movement and sound of the visitors when they approach the wall. The whole structure is responsive and targeting the viewer, user, and visitor as if the technical apparatuses and the humans were different species entering into dialogue with each other. As the lights and the cameras follow the visitors’ movements in space, the resulting effect is that the devices, which are driven by audible motors, move their arms “searching for” individual visitors like a buzzing swarm of mosquitoes. In the process, the light-intensity varies along a scale from 0 to 10 in response to the activity of the user/visitor. Various measuring data are combined to create the responsive effect: movements are captured by light sensors, distances, and movement measured by ultrasound sensors and temperature/body warmth measured by infrared sensors.

Of particular interest here is how the use of the sensors diverges from the norm, as Mikami herself modified the individual devices into a new kind of...
multisensor device. The new self-built compound device is employed to measure other data from what in the original construction of the parts was anticipated. For example, the sound-sensor serves to estimate distance. Each of the combined sensors and the cameras do capture and measure independently, but they are networked together in a computer system and attuned to each other in a sort of “group behavior.” The combination of measured input data results in fine gradations of the responsive data environment and they enable this dynamic wall to act respectively interact with us just like another participant, which is alive. The audience for this “industrial invention” not only acts as an interface and has the difference but also the similarity between themselves and the machine to be presented to its eyes and ears via extremely miniaturized interfaces. Because the devices resemble the size of toys, they become almost flattering interfaces, which appear harmless and handsome and not like control and surveillance apparatuses.

Notably is the cultural aspect of reference to miniaturized computers, electronic toys, and gadgets, which have spread like insects through the private and public sectors in Japan and South-East Asia. In her work, Mikami makes us aware of a close and personal relationship between the human perception in general and the individual senses and how they are affected, on the other hand. She also draws our awareness to the humanoid behavior of increasingly small and smart robots and further machine devices that are equipped with sensory instruments to detect us, target our behavior and go after us. It is precisely the kind of interface that is built by Mikami herself and not using standardized mechanism, which evokes the experience of in-betweenness and makes us aware of our modes of perception in relation to the surrounding that is machine driven and operates by a chain of codes.

Mikami in the other two parts of the installation further explores her view of the desire of codes seen as a chain of behavior and response in correspondence to social behavior. Once we move away from the “wriggling” wall with its 90 units targeting at us, we find ourselves surrounded and equally targeted by huge, over-live size six robot arms that hang from the ceiling and reach into the space while they maneuver mechanical movements that remind of robot arms used in automobile industry. These search arms have been developed by Ryota Kuwakubo and have been disentangled from the initial purpose of machines constructing machines (such as robots building cars). The robot arms follow the task to express desire of codes by way of following and recording movements of the visitors. The arms are equipped with cameras and projectors and simultaneously project the recorded footage. “Through the looped feedback resulting from the search arms’ endlessly repeated input (filming) and output (projection), the visitor perceives reality as a repetition of voids.”

The footage data are also transmitted to the central database of the work where the installation’s light and soundscape is controlled.

In the third part of the installation, “Compound Eye,” Mikami further focuses the anthropocentric effect of the miniature mechanical arms of the “Wriggling Wall,” with their LED’s trained on us like searchlights. At first, the versatile wall intensifies the virtual-interactive situation of a dialogue with extremely sensitive black and white cameras, which make it possible to visually survey visitors in the relative darkness, even at minimal distance, and then to feed their image into the system of the Compound Eye projection with a time delay. “If you enter this white room 90 moving units of structures with built-in small sensitive cameras (0.0003lux) are placed across 15 m long white wall. Each device senses with insect-like wriggling movements the positions and movements of visitors, and turns toward detected persons in order to observe their actions. Round-shaped screen (61 hexagonal parts) that looks like an insect’s compound eye is installed in the back of the exhibition space. Visual data transmitted from each camera, along with footage recorded by surveillance cameras at various places around the world, are stored in a central database, and ultimately projected in complex images and sounds that are mixing elements of past and present onto the screen. This compound eye screen and the room’s sound system express a new reality in which fragmentary aspects of space and time are recombined, while the visitor’s position as a subject of expression and surveillance at once indicates the new appearance of human corporeality and desire.”

Projecting data in a hexagonal form of presentation, together with the associations attached to a
that is, when the installation is silent and no activity is triggered, then the desire of the codes can be heard non-interactive as if we were not there. What happens is that the collected audio data will be displayed in a dense collage mode where multiple inputs at various moments in time get overlaid and compressed. “Super-directive microphones are installed at several points in the exhibition area and I record every sound occurring in the space. Voices and other noises generated by visitors, as well as the artworks’ own mechanical sounds, are mixed on a recombined time axis to create the soundtrack for this installation. […] In this installation, you will faintly hear fragments of your own voice from a few minutes ago.”7

The installation work assumes difference, yet it reduces it to such an extent that an almost personal encounter does seem possible with multiple instruments functioning through sensors. This alerts us to the structural characteristics, which do exist in every hybrid interaction, yet which we are not meant to perceive in most cases of immersive effects. By contrast, here a critical-sensual awareness of medially linked environments has become possible via rapprochement and distance. This interplay in an in-between area re-acts like a circulation of perception, with recurring noises and with lights trained on viewers as if on intruders. In it, participants also experience the mechanism of permanent surveillance, as it is arrayed in technology and determines the everyday routines of life in all intensely structured cultures, for example Japan. Here, any action at all is immediately the object of surveillance and triggers an endless, incessant search for input-data.

Notes
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2. Fujihata, Masaki, ‘Semiotic Technologies and Media Art. A Discussion between Hidetaka Ishida and Masaki Fujihata’, in The Conquest of Imperfection. New Realities created with Images and Media (Fuku-shima: Center for Contemporary Graphic Art, 2006), 202f.
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