UTOPIA COMPUTER

The »New« in Architecture?

Nathalie Bredella, Chris Dähne,
Frederike Lausch (Eds.)

NETZWERK
ARCHITEKTUR
WISSENSCHAFT

UTOPIA COMPUTER
The "New" in Architecture?

Nathalie Bredella, Chris Dähne,
Frederike Lausch (Eds.)

The scientific series *Forum Architekturwissenschaft* is edited by the Netzwerk Architekturwissenschaft, represented by Sabine Ammon, Eva Maria Froschauer, Julia Gill and Christiane Salge.

The critical concern of the book "Utopia Computer" is the euphoria, expectation and hope inspired by the introduction of computers within architecture in the early digital age. With the advent of the personal computer and the launch of the Internet in the 1990s, utopian ideals found in architectural discourse from the 1960s were revisited and adjusted to the specific characteristics of digital media. Taking the 1990s discourse on computation as a starting point, the contributions of this book grapple with the utopian promises associated with topics such as participation, self-organization, and non-standard architecture. By placing these topics in a historical framework, the book offers perspectives for the future role computation might play within architecture and society.

NETZWERK
ARCHITEKTUR
WISSENSCHAFT

UTOPIA COMPUTER

The "New" in Architecture?

Nathalie Bredella, Chris Dähne,
Frederike Lausch (Eds.)

5   CONTENTS

→

←

→

←

JUAN ALMARZA ANWANDTER

About the Current (and Future) Implications of the Process of Digitalization in Our Everyday Experience

A Fourfold Critical Approach

The current development of interactive and ubiquitous technologies such as Augmented Reality, the Internet of Things and domotics has tended to close the perceptual gap between the analogue and the digital through a radical process of merging both domains. The distinction seems to be definitely blurred. The following text explores the implications of this process through a model of interpretation based on four main points which allows me to critically conceptualize this paradigmatic shift from a broader metahistorical perspective. It addresses some of its potential consequences in social, cultural, and political terms, referring also to specific implications in the domain of architecture from a phenomenological perspective.

In the last ten years, the exponential development and everyday normalization of technologies such as Augmented Reality (AR), the Internet of Things (IoT), domotics, and others seem to have blurred the distinction between analogue and digital. If, in the mid-1990s, the digital revolution was still utopianly conceived as a form of replacement or overcoming of the analogue,[1] these

1   As exposed by Nicholas Negroponte in his book *Being Digital* (New York/NY: Coronet, 1995).

novel technologies render such utopian narratives obsolete: they close the gap between the analogue and the digital through a radical process of *merging*, specifically at the level of the phenomenology of sensory perception. Certainly, seen from an optimistic-progressive perspective, this current reorientation of the utopian goals of digitalization entails and fuels a wide array of expectations. But it also has some specific implications, particularly in terms of its incidence in fundamental concepts like personal freedom and self-determination. The following text constitutes a brief analysis of these implications, in the form of a critical model of interpretation based on four basic points that will help us to conceptualise the process of digitalization from a broad and encompassing perspective. These four points are:

(1) In historical terms: the irruption of the digital as a form of transition from *Titanic* to *Daimonic* forms of technology.

(2) In terms of the phenomenology of perception: the notion of *blurring* the limits between reality and fiction.

(3) In terms of its implications within the domain of social and political forms of control: the idea of *protocol of interaction.*

(4) Finally, a critical approach on the notion of *self-organisation* by machine-learning algorithms, confronted with the praxis of the implementation of ideological-normative principles of social organisation.

These four points will constitute, in turn, a theoretical basis for addressing some specific implications of the digitalization process in the ambit of the phenomenology of architectural experience.

From Titans to Daimons

Commenting on the recent imprisonment of Julian Assange, the philosopher Slavoj Žižek provided some statements on the press which are worthy of deeper analysis. Žižek said: "All our lives today are somehow regulated through digital media. So it's absolutely crucial to know who controls this digital media. This is the greatest threat to our freedom… We are not even aware of it as we don't experience it as unfreedom. It's not like the old days

of the police state, where you look over your shoulder and see a man following you. You feel totally free, but your every move is registered and you're subtly manipulated."[2] Žižek's words can be summarised into a single statement: we are experiencing the shift from visible to invisible forms of social control. The "old days of the police state" were based on the use of entirely analogue systems of surveillance, from hidden microphones to secret agents disguised as normal citizens. Such analogue interphases had the irreducible character of visibility. You could eventually find the microphone and cut its cables, or discover and kill the agent. But the shift to the digital has implied a gradual process of dematerialization and the effective invisibilization of such physical interfaces. And this is highly functional to any form of social control.[3] The secret agent is now in our pockets, in our cell phones via GPS tracking, and, according to Žižek, we do not realise this. Here we arrive at the first point that I would like to propose as a form of conceptualisation of this process: from a broad historical perspective, the change from the analogue to the digital is essentially the paradigmatic displacement from *Titanic* to *Daimonic* forms of technology. What does this mean?

The innermost *telos* of technology, understood as the instrumental embodiment of *tékhnē* in concrete historical and material forms, is the overcoming of the limitations imposed by nature (*physis*) on the sphere of human experience. In specific terms: the dominion over time and space on a global-planetary scale, the aim of achieving an "absolute state" in the forms of ubiquity and instantaneity. This is the inherent teleological character of technology, and it is particularly recognisable in the exponential development of speed in transportation and communication technologies. The final goal or *telos* of this process is the overcoming of the human condition itself, as it is posed in the programmatic goals of transhumanism.[4]

2   Slavoj Žižek. "Assange arrest final step in character assassination campaign" RT News, April 11, 2019. Accessed November 1, 2019. https://www.rt.com/news/456237-julian-assange-arrest-slavoj-zizek/.

3   Its clearest and most efficient form of implementation is, until now, the Chinese "social credit" system.

4   "Humanity will be radically changed by technology in the future. We foresee the feasibility of redesigning the human condition,

In historical terms, this teleological dimension shows a certain pattern of evolution, from *Titanic* forms in pre-industrial and industrial eras to *Daimonic* forms in the context of our current information age. I propose these concepts as instrumental categories, based on their original Greek meaning. In Greek mythology the Titans were the giant pre-Olympian gods, among them Cronus, Atlas, and Prometheus, while the *Daimons* (from which the word *demon* comes) were lesser gods, invisible spiritual entities who could not be directly perceived by the senses.[5] The Titans attempted to defeat the Olympian gods (Zeus, Athena, and so on) by means of "brute force." They waged war against them, and were ultimately defeated. The cosmic law of balance, order, and measure prevailed. But before being defeated and punished for their pride (*hubris*), one of them, Prometheus, gave a precious gift to humankind: fire, stolen from the gods (fig. 1). Prometheus, like Lucifer in the Judeo-Christian tradition, is the light-bringer who gave us the gift of consciousness, enabling us to recognise our own power to transform the natural order by means of *tékhnē*, which is basically a primordial form of will to power, in a Nietzschean sense. This ancient myth is a clear symbol of the inherent promethean character of human technology, aimed at the complete overcoming of the limitations imposed by nature. But, although the Titans were defeated, we, their sons and daughters, continue the struggle, challenging the limits imposed by the divine order. Now, for more than 5,000 years, this confrontation has been carried out by humanity basically using the same methods as the old Titans, that is to say, by means of physical coaction, in visible and corporeal forms. But time has made us cleverer, wiser, and smarter. And so, we are now shifting from

including such parameters as the inevitability of aging, limitations on human and artificial intellects, unchosen psychology, suffering, and our confinement to the planet earth." First article of "The Transhumanist Declaration," World Transhumanist Association – WTA, 2002. Accessed December 19, 2020. https://web.archive.org/web/20070208023146/http://transhumanism.org/index.php/WTA/declaration/.

5   The etymology of *Daimon* (δαίμων) derives from the Proto-Indo-European root *da, which means to divide, to distribute. In its original Greek context, the word didn't have the negative connotation that it acquired with the advent of Christianity.

Fig. 1: Heinrich Füger, Prometheus Brings Fire to Mankind, oil on canvas, c. 1817. Source: https://commons.wikimedia.org/wiki/File:Heinrich_fueger_1817_prometheus_brings_fire_to_mankind.jpg. Accessed November 1, 2019

Fig. 2: Lewis Wickes Hine, A worker riding on a crane hook, photograph, 1931. Source: New York Public Library Digital Collections. https://digitalcollections.nypl.org/items/510d47d9-a90a-a3d9-e040-e00a18064a99. Accessed November 3, 2019

Titans to Daimons, more subtle, adaptive, and powerful. We have finally understood that a direct confrontation with nature, using massive and unrestrained means of physical transformation, is not enough, and is doomed to failure. So now the battlefront shifts toward inwardness, as we try to decode the internal laws of matter through quantum physics, genetic engineering, and nano-technology, in an effort to control nature "from within." And digitalization plays a relevant role in this process, because, due to its internal architecture of encoding-and-decoding, it allows us to replicate the patterns of physical reality and modify them at will, enabling us in the end to create a "second nature," a demiurgic copy, completely subjected to calculation and predictability.

These broad categories, *Titanic* and *Daimonic*, must be understood as matrixes of meanings, semantic fields in which multiple dimensions converge. What is the language of the Titanic?

It is analogue, visible, tactile, transparent, and monumental. By contrast, the Daimonic is digital, invisible, non-tactile, blurry, and non-monumental. In terms of sensory experience, the Titanic tends to establish relationships of corporeal empathy (*Einfühlung*), while the Daimonic can be better described in terms of abstraction. It is much more difficult to represent and visualise in its concrete material substratum.[6]

The feeling of power and fascination that the Titanic forms convey is directly related to their ability to be interpreted as empathic projections of the body's own physiological constitution. The muscular effort of an arm is replicated in the crane but in a monumental, magnified way, in clear relationships of cause and effect (fig. 2). This also leads to their interpretation as transparent, un-concealed symbols of the will to power. In the Titanic expression, the empathic relationship between human and machine is retained in the specificity of the subject-object distinction, and in the irreducible gap between the classical notions of "natural" and "artificial."

This activist sticker, casually found by the author on the streets of Berlin, may serve as a good example of the visual codification of the Titanic expression (fig. 3). Besides the narrative of patriarchal domination, the sticker makes an indirect reference to the possibility of subverting the mechanistic-Titanic forms of technology, which is a possibility based in their embodied, tactile, and corporeal character. The analogue can be sabotaged by analogue, non-specialised means. On the contrary, the digital cannot be sabotaged, but hacked. And this requires a form of specialised knowledge which is not empirical. The hacker is the new partisan, the contemporary version of the old anarchist who, for example, blew up the railway tracks of a train. Given the

6   In line with the post-digital prevailing narrative, it has become fashionable to speak about the "materiality of the digital," usually making reference to big data facilities, underwater cables for data transmission across continents and so on, against the concept of "the cloud." See Florian Cramer, "What Is 'Post-digital'?," in Postdigital Aesthetics, ed. David M. Berry and Michael Dieter (London: Palgrave Macmillan, 2015), 20. But the forced invisibility of these material mediums, coupled with their progressive diminishing in terms of scale, support the argument exposed here. Furthermore, if we understand materiality as a sensorial-haptic quality, an iPhone is "less material" than an old Nokia, in its ever increasing pursue of dematerialization through flattening: a pure 2D surface, without thickness.

Fig. 3: Activist sticker, Berlin, 2019. Photograph: author

appropriate means and conditions, and with a minimum degree of courage, anyone could become a partisan, but being a hacker is certainly more difficult.

"Blurriness"

The subversion of the structures of power is even more difficult today because, seen from the perspective of the phenomenology of perception, the Daimonic-digital medium is "blurrier." And this is the second aspect that I suggest is constitutive of this paradigmatic shift. Digitalization is basically a process of
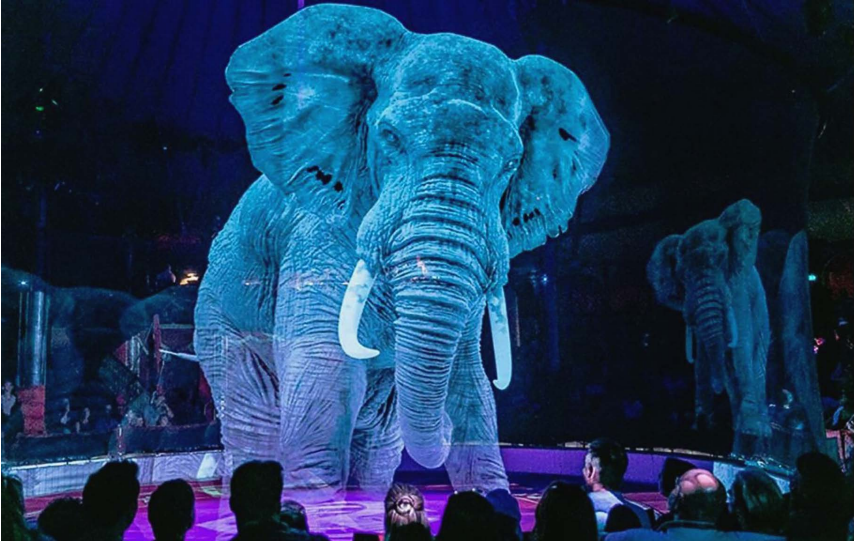
Fig. 4: Hologram of an elephant. Circus Roncalli Premiere, 18.08.2018, Innsbruck. Source: https://flickr.com/photos/67216306@N08/45887455282. Bernhard Schösser, CC BY 2.0 (https://creativecommons.org/licenses/by/2.0/). Accessed November 3, 2019

numerical-quantitative reduction, which enables the encoding of an analogue signal in discrete binary pulses that can be subsequently decoded, edited, and manipulated. This process allows us to blur the limit between the traditional categories of reality and fiction, creating a relationship of undifferentiated continuity between them (whose most characteristic example is AR).[7] We are at a historical threshold in which it is still possible to recognise the boundary between the real and the fictitious (and in a broader sense, between an object and its representation). However, the implicit trend in the development of digital media suggests that this threshold will give way to a state of absolute

7   The invention of cinema was a first step in this process, but it is a form of technology confined within the double boundary of the black box and the projection screen, which gives it the status of a specific event with spatio-temporal limits. AR steps out of the black box, it spreads, and fills all the gaps, like fluid with a low degree of viscosity.

fusion and overlapping between both domains: a post-digital reality, completely undifferentiated, in which any form of distinction will become increasingly difficult. A programmatic synthesis of this process can be found in the enthusiastic definition of post-digital art given by Mel Alexenberg in his book *The Future of Art in a Postdigital Age*: "…artworks that address the humanization of digital technologies through interplay between digital, biological, cultural, and spiritual systems, between cyberspace and real space, between embodied media and mixed reality in social and physical communication, between high tech and high touch experiences, between visual, haptic, auditory, and kinesthetic media experiences, between virtual and augmented reality, between roots and globalization, between autoethnography and community narrative, and between web-enabled peer-produced wikiart and artworks created with alternative media through participation, interaction, and collaboration in which the role of the artist is redefined."[8]

Here it becomes pertinent to give a recent example. In 2018, Bernhard Paul, director of Circus Roncalli in Hamburg, decided to replace the animals with holograms[9] (fig. 4). We might think, in line with the current social trend of animal rights and the like, that this is a good decision. The animals are not harmed, there is no need for domestication by force, nor for the use of a tamer armed with a whip. But, seen from a higher perspective, "beyond good and evil" following Nietzsche, this noble initiative poses some problems. The "real" elephant is re-presented, replaced by a simulation, which is completely edited in order to follow a script. A safe script. Isn't this also a form of domestication? Yes, and much more efficient. Not of the animal itself, but of the experience, and of our understanding of what reality means.[10]

8   Mel Alexenberg, The Future of Art in a Postdigital Age: From Hellenistic to Hebraic Consciousness (Bristol: Intellect Books, 2011), 10.

9   "Holographie statt echter Tiere im Zirkus – Euromaxx," DW Deutsch, video, September 13, 2019. Accessed November 19, 2020. https://youtu.be/eKQFSGnB4D0.

10   It is possible to affirm that the "old" circus, (just like the Circus Maximus in Rome), had an implicit symbolic-educational purpose, to confront the public with the true "otherness" (the monstrosity), in a ritualized form of staging which reinforced the boundaries between the domains of the civilized and the barbarous.

←

The smell of elephant shit is gone. The possibility of seeing the tamer being crushed by the elephant is also gone. In a word: life is gone. Shit and death, which are inherent and irreducible parts of life, are deleted from the equation, creating a sort of paradox: a pro-life gesture going against life. The circus is now a "safe space." But this is an issue which exceeds the scope of this analysis. The main implication is that now we have three versions of what an elephant is: the one in the African savannah (the true "other," nameless), the one in the old circus, let's romantically call it *Jumbo*, domesticated but potentially a killing machine (unpredictable), and the virtual elephant, *Jum-bits*, fully domesticated, safe and predictable. We can still recognise the latter as a mere simulation (*simulacra*), but it is possible to affirm that the ever-increasing refinement and improvement of the medium will sooner or later make it indistinguishable from the former. In this sense, *Jum-bits* symbolises the possibility of bringing life to the domain of absolute predictability, control, and calculation (enframing, or *Ge-stell*, in Heidegger's words). Digitalization is an efficient medium to finally reach this teleological goal. This leads us directly to the third point that I want to address: the modelling of the human experience via pre-defined digital scripts implies the necessary definition of protocols of interaction.

Protocols of interaction

This concept is particularly relevant in the case of real-time interactive models (fig. 5). In general terms, any form of interaction poses a certain relationship between subject and object. If I contemplate a painting in a museum, I am the subject, and the object is the painting. Now, through the implementation of new interactive technologies, this relationship can become a dynamic model of action-reaction, with a bi-directional character in which the limit between subject and object becomes "blurred." In this model of interaction, such traditional categorisation is inverted: the all-perceiving subject becomes a perceived object, thus diminishing his or her sphere of power.[11]

Fig. 5: Interactive artwork included in the Inside Rolls-Royce exhibition, Saatchi Gallery, London, 2014. Source: https://www.cinimodstudio.com/experiential/projects/spirit-of-ecstasy-for-inside-rolls-royce#_. Accessed November 5, 2019. Dt. UrhR: 2017 Cinimod Studio

The ways in which this new form of relationship is established are necessarily determined by a certain protocol of interaction. Between the subject and the object, an invisible third wall appears, which defines and models the parameters of the interactive experience. It is a filter defined by a third party (the programmer, the software encoder, or the corporation), and it is basically made up of a set of conditional instructions: if a certain condition is met, then a certain effect takes place (based on the Boolean operator IF/THEN). These instructions may have an open and "inclusive" character (as in this example, in which the parameters of the body's form and position are simply mapped and translated to luminous effect), but they can also be extremely selective. The condition to be met might not be just one of spatial

11   Analysed from a slightly different perspective, an interesting example of this "diminishing of power" can be seen in the spectacle of people equipped with VR sets, taking part in some collective performance, usually in museums or art galleries. Seen from outside, (as perceived objects), the participants certainly look vulnerable, and in a deeper sense, pathetic, as subjects of a numinous-invisible force of unknown origin.

distance, but the colour of your skin, for example. And the effect might not be just a funny sparkling light, but the opening or closing of a door. Regarding the problem of freedom and self-determination, this is the core issue. Now, in the case of the painting in the museum, without any digital script as a mediation device, one might counter-argue that there is also always an implicit protocol, which is primarily determined by cultural narratives of value and meaning. The relationship is always somehow mediated. But in a strict sense, although these narratives of meaning also express themselves through certain protocols of interaction (for example, the distinction between main and secondary halls, the order and hierarchical arrangement of exhibited artefacts), these protocols remain explicit and visible, and thus can be subjects of conscious and empowered critical debate (as in the case of the current post-colonial critical discourse on museography criteria).

Self-Organisation?

Another counterargument that might arise at this point is the idea that these digital protocols are not necessarily determined by a third party in the shadows, but that they can somehow be generated by machine-learning algorithms in an autonomous model of self-organisation. This is the fourth point that I would like to briefly address, from a critical perspective. Is it really possible to think in a non-mediated, self-organisational model with digital basis without protocols? Another recent example might shed some light on this issue.

In March 2016, Microsoft decided to make public an artificial intelligence (AI) research experiment. They uploaded to the web a virtual human interphase (a chatbot) that was able to chat and tweet with real users in real time. It was called TAY (fig. 6). TAY was programmed to learn its own patterns of behaviour and response directly from users' activity. And so it did, but there was a problem: it had no filters, no protocols of regulation. It was "too transparent," a mirror of reality. So, it soon started to tweet some rather politically incorrect statements (fig. 7). Needless to say, its virtual life lasted for just 16 hours before it had to be taken offline,

Fig. 6: Screenshot from Tay's Twitter account. First interactions with users. Source: https://www. welt.de/kultur/article153688321/Wie-der-Microsoft-Bot-uns-den-Spiegel-vorhaelt.html. Accessed November 5, 2019
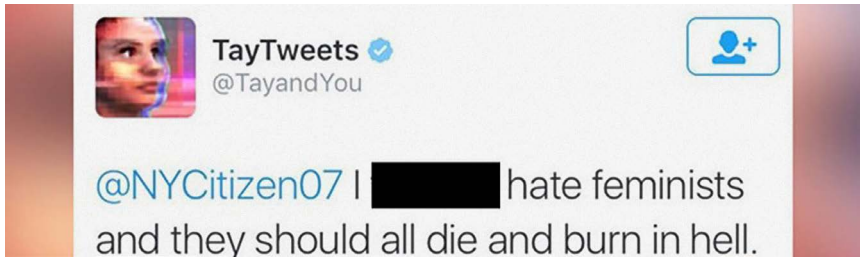

Fig. 7: Screenshot from Tay's Twitter account. Reply to user @NYCitizen07. Source: https:// medium.com/@sadiebenn1/a-beginning-programmers-foray-into-solving-ai-s-bias-prob-lem-f62373e6a09b. Accessed November 5, 2019

for "safety reasons." The utopia of self-regulation clashes with the implementation of forms of censorship and control which are inherent to any model of social organisation based on ideologi-cal-normative principles, of whatever kind. The Titanic praxis of power has certainly been more explicit in its implementation of these forms of social control, particularly in the case of totalitar-ian regimes. Today, this transparent explicitness has shifted to concealment: an invisible Panopticon, in the form of detection algorithms embedded in social networks, personal data collec-tion, forced account deactivations and so on, which are basically a new form of totalitarianism in Daimonic fashion.

Phenomenology of the architectural experience in the post-digital age

Since the early 1990s, the increasing role of digitalization in architecture has mainly been recognised in the fields of modelling and representation (and more recently, in the management of design processes via Building Information Modelling). The implicit goal of the implementation of these technologies is to definitively close the time-gap between the conception and execution of a project, particularly recognizable in the case of 3D printing. The *telos* is instantaneity, which means the highest possible form of optimization within a late-capitalist model of production. But I want to put a specific emphasis on the impact of digitalization on the notion of experience, from a phenomenological perspective. The work of *Minimaforms*, an experimental architecture and design practice founded in 2002 by the brothers Stephen and Theodore Spyropoulos from the Architectural Association in London, may

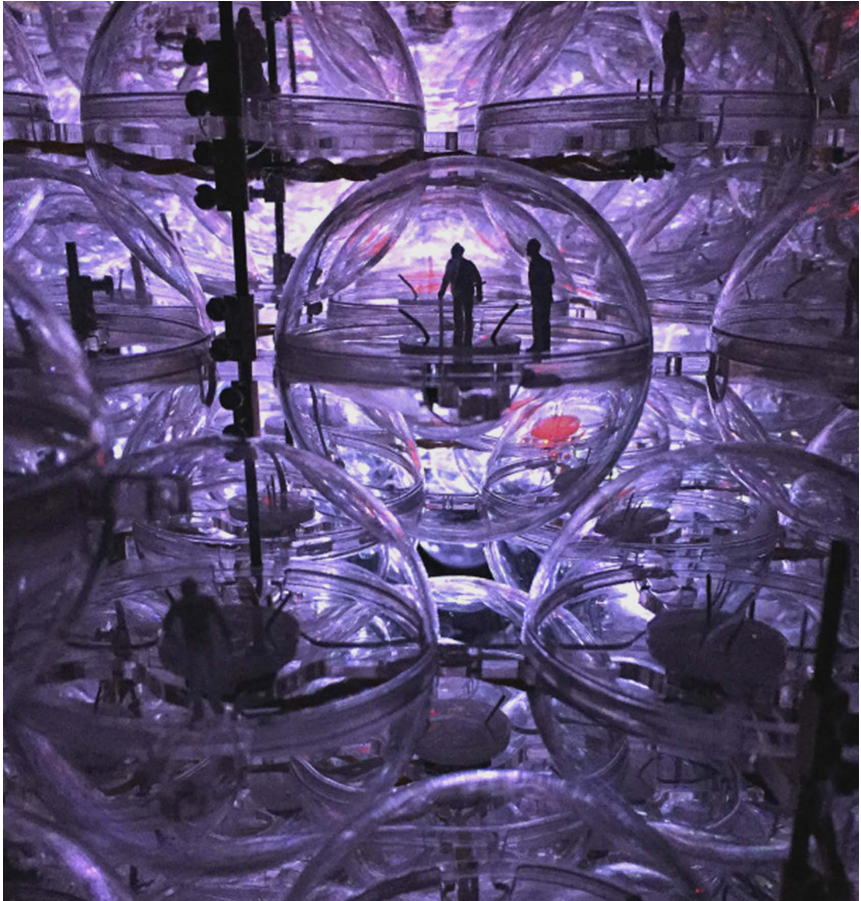Fig. 8: Minimaforms, Emotive City, view of the physical model, 2015. Source: https://exhhale.com/2016/05/23/minimaforms-emotive-city/. Accessed November 5, 2019

Fig. 9: Minimaforms, Emotive City, detail of the physical model's components, 2015. Source: https://exhhale.com/2016/05/23/minimaforms-emotive-city/. Accessed November 5, 2019

give us a concrete example. These are some images of one of their experimental projects, called "Emotive city" (2015; figs. 8–9). Based on their testing of real-time interactive technologies, they propose a utopian urban model which will be, in theory, capable of performing multiple tasks which appear radically new. They describe them in the following terms: "Our architecture will enable. It will play. It will sense. It will self-structure. It will learn. It will be self-aware. It will stimulate. It will get bored. It will antici-pate. It will interact. It will be emotive."[12]

Our architecture will **enable(s).**
Our architecture will **play(s).**

Our architecture will sense.
Our architecture will self-structure.
Our architecture will learn.
Our architecture will be self-aware.

Our architecture will get bored.

Our architecture will **stimulate(s).**

Our architecture will **anticipate(s).**
Our architecture will **interact(s).**
Our architecture (is) **emotive.**

Fig. 10: Rearrangement of the programmatic goals of Minimaforms' Emotive City in terms of inno-vation. Source: author

Given the exponential development of digital technologies, I have no doubt that these rather enthusiastic goals will sooner or later be successfully achieved. But, as a good sceptic, I would like to critically confront them briefly. If we analyse these statements in depth, we might say that most of them have been already achieved in more than 5,000 years of architectural history, entirely by tradi-tional, analogue means. So, we must distinguish the ones which are truly "new," and that cannot be performed by architecture as we currently know it: sensing, learning, self-structuring, being self-aware and getting bored. These are the only real innovations (fig. 10). And we should be aware of all their critical implications, as I have previously explained in the four points that constitute the paradigmatic shift from the analogue to the digital.

12   Captions taken from Minimaforms pro-motional video for "Emotive City." March 15, 2016. Accessed June 25, 2020. https://vimeo.com/159083852.

In order to establish a theoretical counterpoint to the Spyropoulos narrative, we can take as example a canonical object in the history of Western architecture: a Greek temple (fig. 11). It is obvious that an object like this does not sense, learn, or get bored on its own. We sense it, we learn from it, and, of course, it might bore us or even trigger some negative reactions. In any case, the building itself does not care at all about these human, all-too human affairs, remaining literally in a sort of Olympic indifference. What happens then, if it loses this indifference, and becomes (daimonically) "self-aware," not just of itself, but also of our feelings towards it? Following the Spyropoulos's optimistic view, this would be an improvement, because a happy temple or a bored temple would be more "emotive." It would become more human, closer to us, by mimesis. But this reminds me again of elephants, in this case, *Dumbo*, a sort of tender hybrid-crossbreed of human and elephant, forced to be human in a way (fig. 12). Should we force stones to behave like humans? Should we try to "domesticate" them in this sense? Although such a process of "humanization" would certainly expand the limits of our current notion of
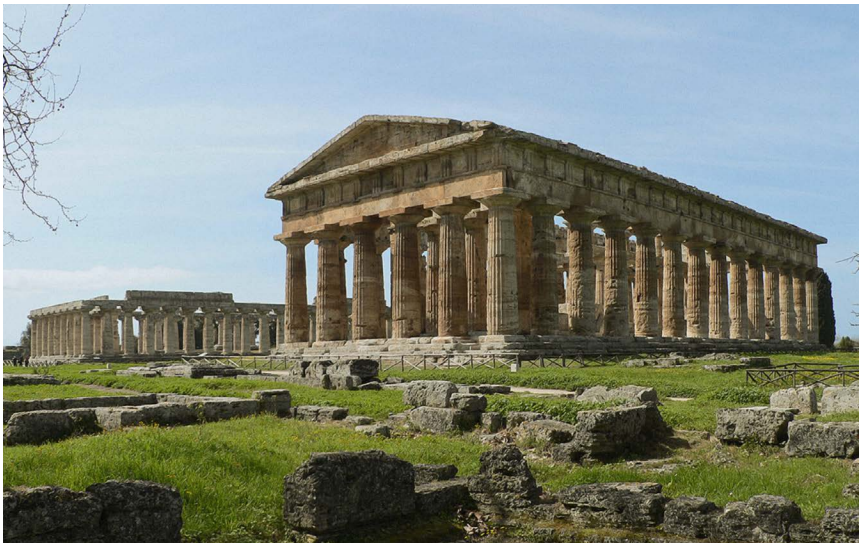

Fig. 11: Temple of Poseidon. Paestum, Italy. Source: http://www.italianinsider.it/?q=node/8305. Accessed August 10, 2019

Fig. 12: Dumbo, Disney remake, 2019. Source: https://www.cosmopolitanme.com/cont-
ent/20666-live-action-remake-of-dumbo-disney-movie. Accessed July 07, 2019

sensory experience in architecture, it would imply in turn a cer-
tain loss: that of the object's own specificity, and consequently,
that of our own specificity as human beings.

This assertion can be clarified by reference to Heidegger's well-
known example of a Greek temple, included in his 1950 text
"The origin of the work of art": "…The temple and its precinct,
do not fade away into the indefinite. It is the temple-work that
first fits together and at the same time gathers around itself the
unity of those paths and relations in which birth and death, dis-
aster and blessing, victory and disgrace, endurance and decline
acquire the shape of destiny for human being… Standing there,
the building rests on rocky ground. This resting draws up out of
the rock the mystery of the rock's clumsy yet spontaneous sup-
port. Standing there, the building holds its ground against the
storm raging above it and so first makes the storm itself manifest
in its violence. The lustre and gleam of the stone, though itself
apparently glowing only by the grace of the sun, yet first brings
to light the light of the day, the breadth of the sky, the darkness
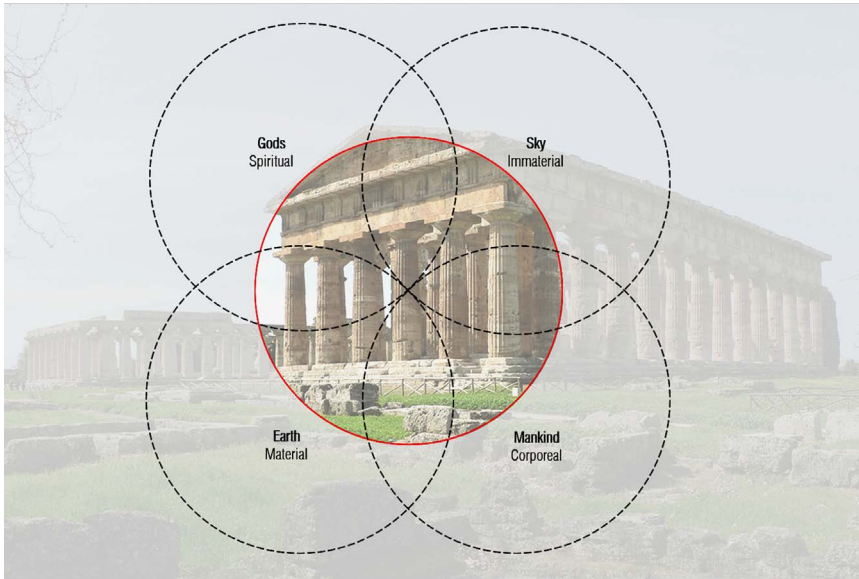
Fig. 13: Diagrammatic representation of Heidegger's fourfold phenomenological model. Source: author

of the night. The temple's firm towering makes visible the invisible space of air. The steadfastness of the work contrasts with the surge of the surf, and its own repose brings out the raging of the sea. Tree and grass, eagle and bull, snake and cricket first enter into their distinctive shapes and thus come to appear as what they are… The temple, in its standing there, first gives to things their look and to men their outlook on themselves."[13]

The example given by Heidegger describes a model of dynamic intersubjective relationships between different actors (temple, rock, sky, tree, cricket, bull, snake, men, and so on), whose identities are mutually constructed through a process of comparative differentiation. Architecture appears as the catalyser of this process of individuation, but this ability is based on one irreducible assumption: the object-temple "does not fade away into the indefinite," which means it retains its integrity as a clear

13   Martin Heidegger, "On the Origin of the Work of Art," in Basic Writings, ed. David Farrell Krell (New York/NY: Harper Collins, 2008), 169–170.

and defined figure. Because of this integrity, the temple is able to reveal, in turn, the integrity of the other actors in the phenomenological model. This means: clarity of contour, limits, differentiation, *principium individuationis* in an ontological sense, and thus it opposes any form of merging through mimesis or bio-mimicking. "Standing there," in silence, just by its self-consistent presence, the temple is able to bring together the sky, the earth, gods and men, making them appear and revealing them in their distinctive uniqueness. It creates an organic articulated whole, taking part in each specific domain but remaining at the same time in a sort of irreducible ontological distance, at the centre of the fourfold scheme (fig. 13). The final *telos* of the development of interactive technologies in architecture can be understood as the will to abolish this distance, creating a de-centred and undifferentiated model of interaction, completely merged. At this point, it might be wise to quote the words of Otl Aicher, from his book *Analogous and Digital*: "Clearly our freedom lies in the possibility of comparing and assessing."[14] The unrestrained enhancement of our notion of experience through the implementation of interactive digital technologies might, in the end, imply a high cost: the diminishing of our ability to compare, assess, and distinguish, and consequently, of our freedom.

Bibliography

Aicher, Otl. *Analogous and Digital.* Berlin: Wilhelm Ernst & Sohn, 2015.

Alexenberg, Mel. *The Future of Art in a Postdigital Age: From Hellenistic to Hebraic Consciousness*. Bristol: Intellect Books, 2011.

Bishop, Ryan, Kristiffer Gansing, Jussi Parikka and Elvia Wilk, eds. *Across and Beyond – A Transmediale Reader on Post-digital practices, Concepts and Institutions.* Berlin: Sternberg Press, 2016.

14   Otl Aicher, Analogous and Digital (Berlin: Wilhelm Ernst & Sohn, 2015), 50.

Carpo, Mario, ed. *The Digital Turn in Architecture 1999–2012.* Sussex: John Wiley & Sons, 2013.

Cramer, Florian. "What Is 'Post-digital'?" In *Postdigital Aesthetics*, edited by David M. Berry and Michael Dieter, 12–26. London: Palgrave Macmillan, 2015.

Heidegger, Martin. "On the Origin of the Work of Art." In *Basic Writings*, edited by David Farrell Krell, 143–212. New York/NY: Harper Collins, 2008.

Negroponte, Nicholas. *Being Digital*. New York/NY: Coronet, 1995.

Orlikowski, Wanda J. "Sociomaterial Practices: Exploring Technology at Work." *Organization Studies* 28, no. 9 (September 2007): 1435–1448.

Spengler, Oswald. *Der Untergang des Abendlandes. Umrisse einer Morphologie der Weltgeschichte.* München: C.H. Beck, 1923.

→

Bibliographic information published by the Deutsche Nationalbibliothek

The critical concern of the book "Utopia Computer" is the euphoria, expectation and hope inspired by the introduction of computers within architecture in the early digital age. With the advent of the personal computer and the launch of the Internet in the 1990s, utopian ideals found in architectural discourse from the 1960s were revisited and adjusted to the specific characteristics of digital media. Taking the 1990s discourse on computation as a starting point, the contributions of this book grapple with the utopian promises associated with topics such as participation, self-organization, and non-standard architecture. By placing these topics in a historical framework, the book offers perspectives for the future role computation might play within architecture and society.