



Delft University of Technology

Repositioning Architecture in the Digital

Proceedings of the 7th annual conference of the Jaap Bakema Study Centre

van den Heuvel, D.; Monteiro de Jesus, S.R.; Hwang, S.A.

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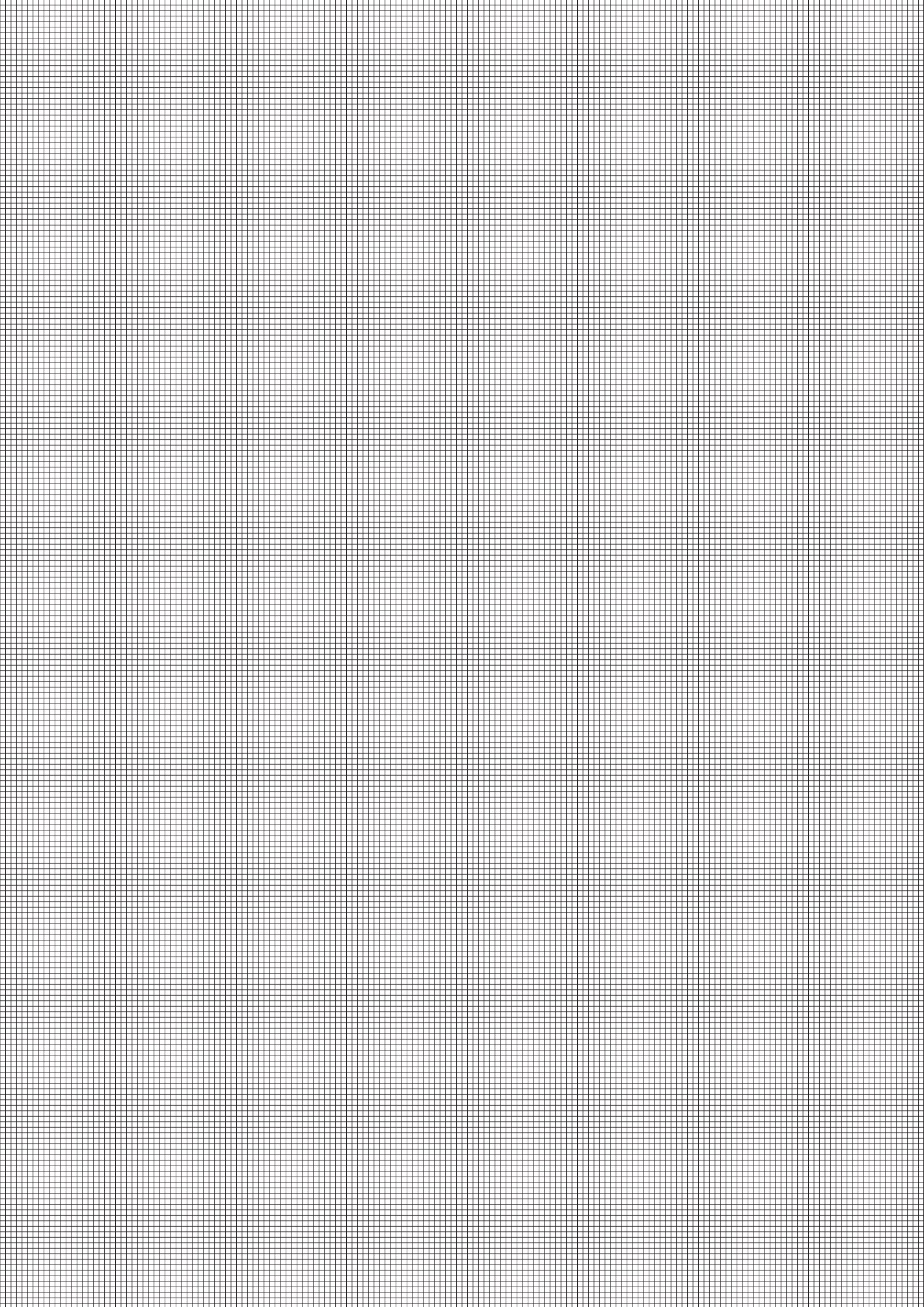
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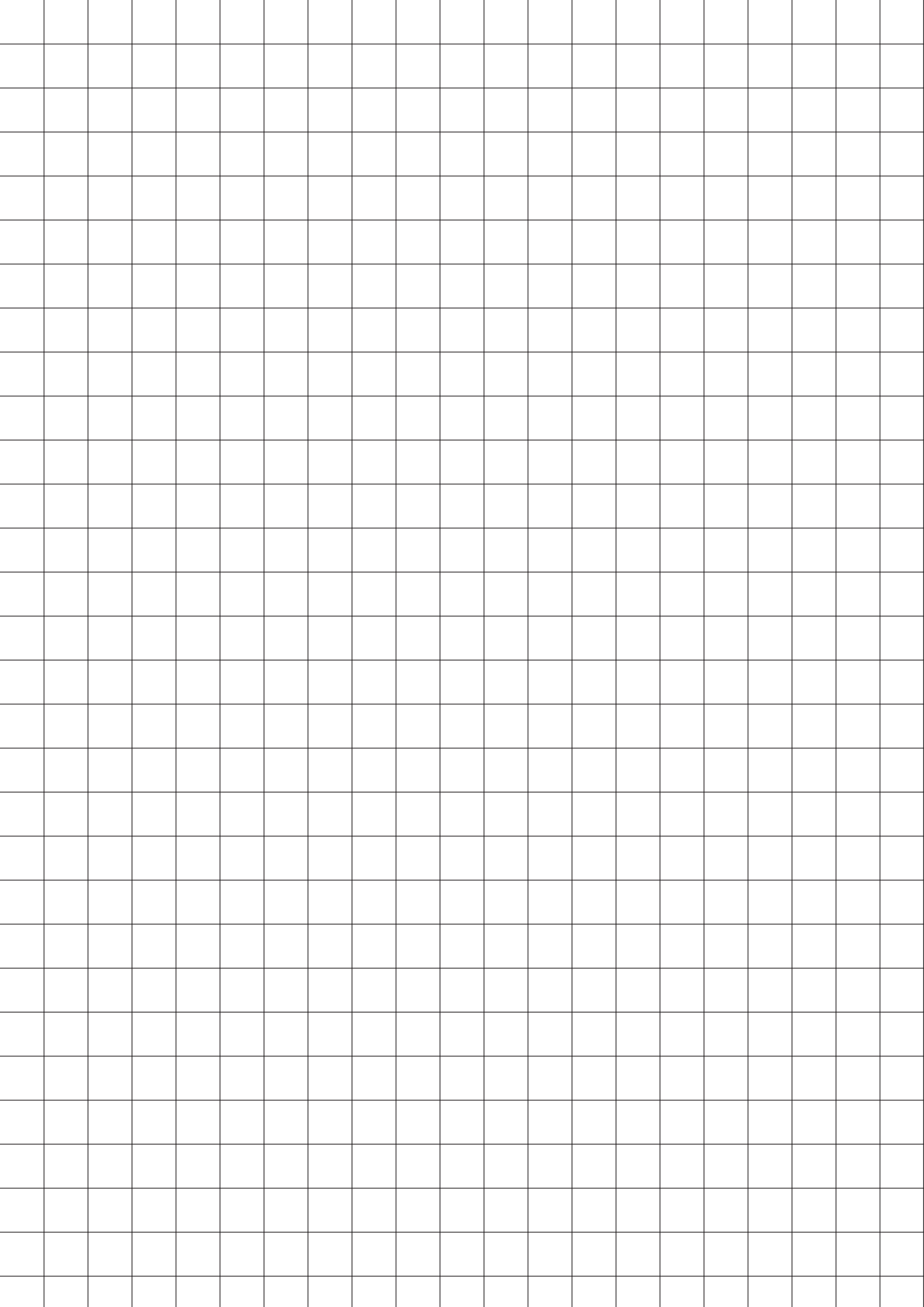
Jaap Bakema Study Centre

Repositioning Architecture in the Digital

Seventh Annual Conference
November 2020



Repositioning Architecture in the Digital



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R. D. Bleeker, Bankgirocentrale Rekencentrum Algemene Bank Nederland in Leusden, exterior photo, 1975

Repositioning Architecture in the Digital

INTRODUCTION

This year's conference of the Jaap Bakema Study Centre aims to critically explore the interplay between architecture and digital culture since the 1970s. How has the emergent data society materialized in architecture? What new typologies have been developed? And what role did architecture play in the emerging discussion about artificial intelligence?

Due to the pandemic, this year's edition of our annual Jaap Bakema Study Centre conference has to be very different from our previous events. Usually, we announce a call for papers in the spring, but spring this year saw the first lockdown in the Netherlands and many other countries. Now, with the second wave of the virus still gaining momentum, we are in a (partial) lockdown situation once again.

With this in mind, we have decided to organise a series of online workshops and keynotes with invited speakers. Together with Georg Vrachliotis, this fall appointed as full professor of the theory of architecture and digital culture at TU Delft, we have developed a programme around current research questions that probe the interrelations between the digital and architecture. This follows up on the earlier events of the Jaap Bakema Study Centre's Total Space programme.

TOTAL SPACE

The Total Space programme was started at the time to look into the interdisciplinary exchanges between architecture, planning, systems theory, anthropology, and the emergence of the computer. Key moments in architecture can be situated as early as the 1950s and 1960s, and have evolved into the ubiquitous phenomena of the Smart City and BIM design and construction. The first histories have been written, as well as a continuous theorizing of the impact of computation and digital media in the field of architecture.

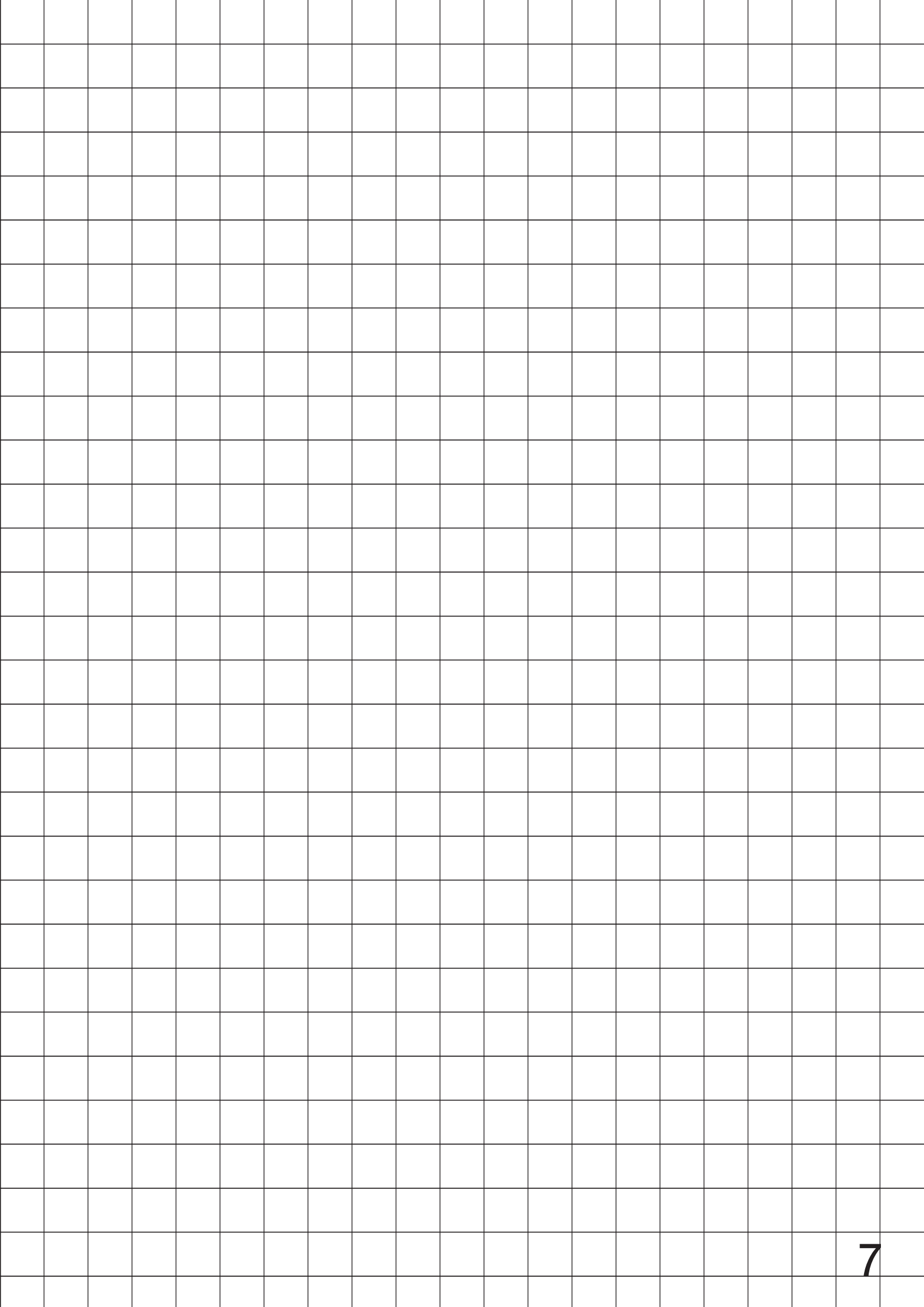
Earlier events of the Total Space programme included international workshops and a modest publication, tracing historical moments and rereading received histories and theories, among others with Tom Avermaete, Christine Boyer and Laurent Stalder, while connecting these with current developments in design theory and the digital arts, among others with Benjamin Bratton, Femke Herregraven and Richard Vijgen. An excursion for digital traces as

can be found in the collections of Het Nieuwe Instituut was undertaken at the occasion of the Bakema conference 'Between Paper and Pixels: Transmedial traffic in architectural drawing'. Two exhibitions probed the interconnections between urban planning, ecology, systems thinking and habitat: 'Habitat, Expanding Architecture' in 2018, and 'Animal Encounters' together with Studio Ossidiana in 2019.

THE 1970S TO TODAY

In the global history of digital culture, the 1970s are seen as a transitional period: between the dazzling rise and fall of cybernetics in the mid-20th century and before the popularisation of the personal computer and the early critical debates on artificial intelligence and surveillance in the late 1980s. The techno-utopian playfulness in architecture, art and philosophy of the 1960s was replaced by the application-driven technological thinking of the emerging post-industrial society. The focus was now on designing specific tools, digital standards, and automated services for the future data society. The miniaturisation of technology and in particular the development of microchips initiated far-reaching changes not only in natural science, industry and economy, but also impacted architecture and urban design.

We will look at buildings, archives, networks, concepts and visual culture. Long before the famous, formal explorations of Greg Lynn, Kas Oosterhuis, Lars Spuybroek and Maurice Nio, the digital was already firmly inscribed into the discipline. How to assess the various shifts and impacts of the digital in architecture while applying just such a historical and cultural perspective? Attendants and participants are invited to collectively explore these issues in the sessions that we have arranged. The sessions will bring together researchers from TU Delft and international scholars, while the department of Heritage of Het Nieuwe Instituut contributes with a special session 'Behind the Screens' on digital archives, and the department of Research will host the session 'Data Matters together with the Royal Academy of the Arts in London.





DKRZ (German Climate Computing Centre), archives, Hamburg, Germany, 2013.
© Armin Linke, 2013

Data Landscapes

For more than 20 years, photographer Armin Linke has documented the effects of globalization, the transformation of cities into megametropolises, and the networking of post-industrial society through digital information and communication technologies. His photographs record examples of the profound economic, ecological, and geological changes that our high-tech environment is undergoing. Taking a perspective that straddles our physical and digital worlds, Linke's work opens up a media-archaeological view of the materiality of today's data society. Georg Vrachliotis met Armin Linke in his studio.

GEORG VRACHLIOTIS (GV): Let's start with a simple question: How do you look at the world of data?

ARMIN LINKE (AL): In photography, the question of the gaze is closely linked to the question of one's own body. Your physical point of view determines the perspective from which you look at the world and from which you take a photo. This spatial dependence has changed recently due to the drone. It has decoupled the eye from the body, which enables a new way of producing images and a new way to experience space. But I'm less interested in the question of perspective than in bringing together different layers of meaning for a certain spatial, social, or political situation. I'm interested in a visual operation with anthropological signs.

GV: I've noticed that you often use the term "operation" in connection with your work. Looking at your images, it really does seem like you are "operating" in different rooms and with different materials. Not only do you involve physical bodies but also the invisible levels of language and data, placing them in a semantic context. In your series on operating theaters, motif and method unite in a special way. They show doctors standing at a machine covered in plastic, using robotic arms to operate on a human body. The inside of the body can only be seen on monitors, with the bodily functions visualized via sensors. The whole thing is like a circuit of media and technology, showing that the human body has long since become a data body. Data bodies and body data coincide here, so to speak.

AL: One special thing about this experience in the operating room was that the doctors' eyes were not on the patient, but on the screens. Although the surgeon in this medially mediated situation manipulated the human body by means of a joystick, it was explained to me that he must always be physically present in the room because he bears

the responsibility for the patient's life. While physicians can offer advice over the internet, for ethical reasons they are not allowed to operate remotely.

GV: Data always imply something abstract, invisible, and unfathomable. It's difficult to make datafication processes truly experienceable. In your works, you show server farms, control rooms, and trading floors – places that are inaccessible to the public, places for logistics, networking, and trade in the virtual infrastructure network spanning the globe. You once said that you were interested in showing the “material consequences of digitization.” What interests you about the process of materialization?

AL: A Marxist way of asking that might be: What are the production conditions of the respective spaces? But I would rather say that I deal with methods and strategies of image production. What are technical images and what role do they play in science and the economy? Which visualization strategies are used? In one picture, for example, I show the measurement data on the screens of geoscientists who are monitoring the underground movements of Mount Etna. What can be seen on the screens? Nature or nature that has been turned into data? Doesn't data make certain processes visible in the first place? In another project, I visited the labs and control rooms of the European Organization for Nuclear Research (CERN) in Geneva. Here, too, the question was: How do visibility and invisibility relate to one another? Basically, processes are isolated from nature, measured, translated into data, and finally assembled into operative images. It doesn't matter whether images are produced by digital or analogue means. What interests me is the operative moment of the images. Data images and sensor images are just as interesting for me as an engraving from the 16th century.

GV: This strongly reminds me of the media experiments of György Kepes, who first taught with Bauhaus teacher László MoholyNagy at the New Bauhaus in Chicago, and later founded the Center for Advanced Visual Studies (CAVS) at MIT in Boston. One of its aims was to make the abstract world of technology and science comprehensible and tangible through interdisciplinary strategies of visualization, enabling us to intellectually grasp this world and (re)orient ourselves within it. Kepes spoke of “structural vision” at the time. I am thinking in particular of the book *Language of Vision* (1944) and the exhibition *The New Landscape in Art and Science* (1956), which both dealt with the integration of aesthetic experience and scientific knowledge. Could there also be a parallel between the beginnings of the Center for Advanced Visual Studies and your work?

AL: Kepes' works are very interesting in terms of the visual experience of the technical world. With my work, I want to show the complexity

of global networking. It's not enough just to deal with data centers. Infrastructure is not only a question of technology, but impacts considerably more levels of society, economically, culturally, and socially. A good example of this is the global system of the so-called green industry. I find it important to show and understand the different technological and political contexts. There might even be similarities between greenhouses and computer centers; there must be a reason behind the term "server farms."

GV: But in addition to the complexity of networking, you seem to be interested in another aspect that can also be interpreted politically. By dealing with the construction and power of invisible nodes of the infrastructure, you highlight the hidden side of globalization and reveal its material construction. You're showing the backstage of globalization, so to speak. Are your images also a kind of critique of globalization?

AL: That's a good, but difficult question. Because to what extent does one become part of the system that one observes and navigates through one's work? We need to learn to read images. What means are used to shape our world? The awareness that there are different ways of reading the world – that's the political moment for me. So, in this sense, my work is quite political.

GV: For your exhibition project, *The Appearance of That Which Cannot Be Seen* (2017), you invited scientists and theoreticians such as Lorraine Daston, Mark Wigley, and Bruno Latour to work with your archive. The idea was for them to comment associatively on certain images and to arrive at their own, subjective order, which in turn became the starting point for an exhibition. Taking such an open approach to one's own work is hardly self-evident in the art world. You have spoken about this approach in terms of "activating" your archive. What does that mean, in concrete terms?

AL: I don't like the idea that I can only show or discuss a single picture in an exhibition or presentation. What's important are the connections. That's why I always work with image sequences. The more ways of reading a picture produces, and the more questions are provoked, the more interesting it is for me. Some of the images seem banal and boring at first glance. Sometimes what is special about a certain situation only comes to light during a discussion about it. The enigmatic is a way of activating the viewer – that's what it's all about.

GV: In your works, you tend to proceed in a documentary manner, without pretending to be objective. The image thus becomes not only an instrument, but also an argument. Today, you often hear the complaint that people no longer produce manifestos. I want to challenge this with the thesis that documentary photography has taken the place

of the political manifesto. An image that shows hidden spaces of control seems like a subtle form of enlightenment and criticism in equal measure.

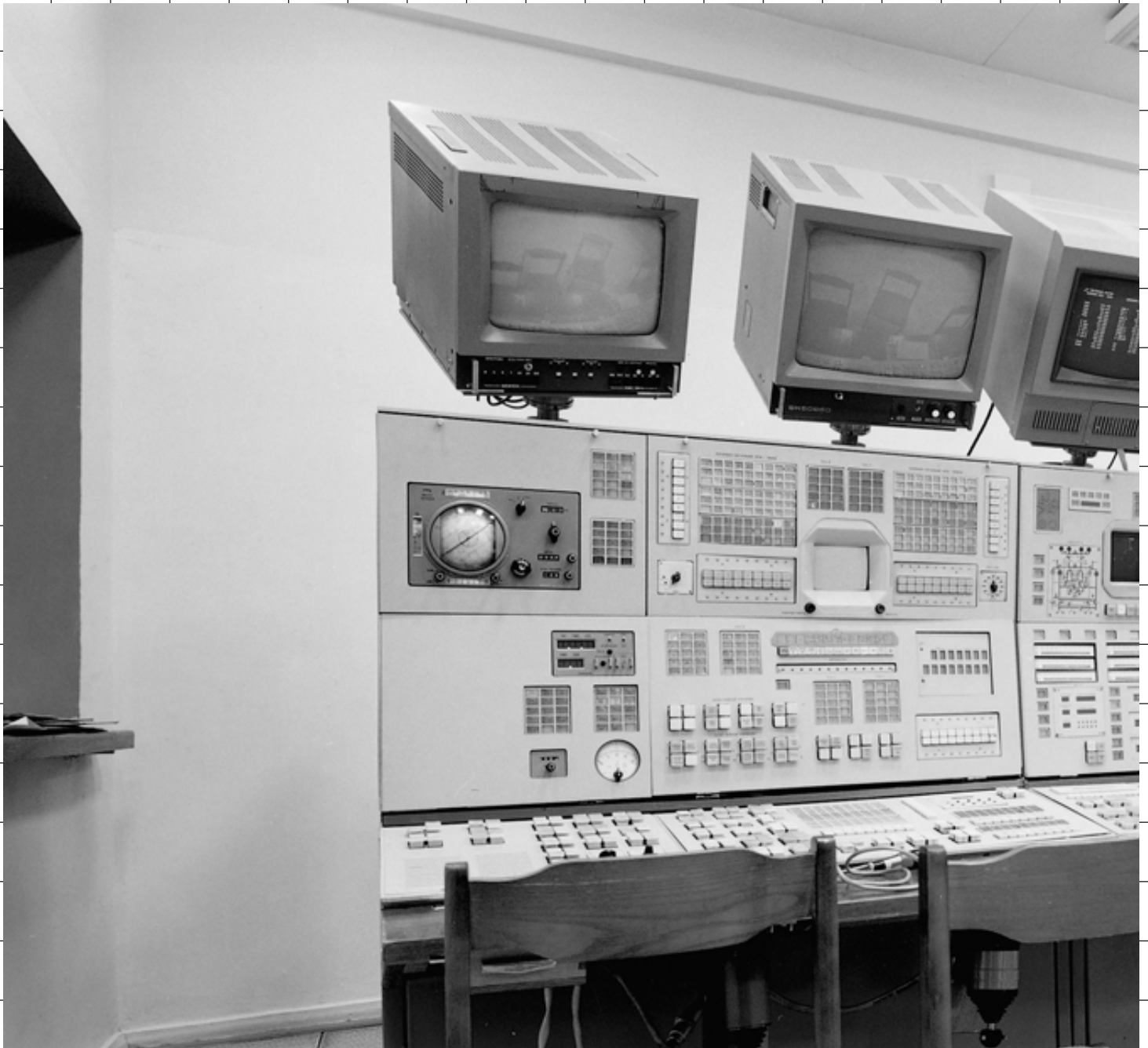
AL: That's a very interesting thought; I'll have to think about it.

Originally published in *Arch+* 234, p. 24–25









Star City, Cosmonaut Training Centre, Soyuz simulator control room console, Moscow, Russia, 1998. © Armin Linke, 1998





















Data Centre SmartDC, Rotterdam. Photo by Johannes Schwartz

Data Matter

As the COVID-19 pandemic forced millions of people around the world to radically reorganise their lives, data production, consumption, and aggregation grew exponentially. The planetary digital infrastructure, sustaining this shift to online and virtual forms of production as well as social, cultural, and economic activities, resulted in increasing bandwidth consumption around the world. Messages, online stories, video conferences, or memes also serve to support basic and intimate contact with loved ones, and provide a platform for a public life of virtual gathering and communication. Even when supermarkets ran out of supplies of toilet paper, pasta, and canned food, the access and availability to data is taken for granted.

With more screen time, the online platforms have been stretched. In the first weeks of the global lockdown, Microsoft Teams increased its daily active users from 32 million to 44 million, who in turn generated over 900 million meetings and calling minutes per day. Facebook confirmed that traffic for video calling and messaging had exploded.¹ The first home-office-day in the Netherlands, Monday March 16, saw an increase of 12 percent of traffic crossing the major data hub AMS-IX in Amsterdam, from 5,8 to 6,5 terabit per second.² What are the implications of this data explosion and why does it actually matter for humans and non-humans, even under the current dire circumstances?

In the early days of the COVID-19 pandemic, many celebrated the seemingly positive impact of the crisis on the environment. Humans indeed took less flights and manufactured less goods. However, it could be argued that meeting lower emission levels should be a result of the actions of big corporations and governments, and not at the expense of human life. This reduction of emissions in sectors such as industry and transportation is, nevertheless, accompanied by an increase in data production, circulation, and storage.

The growth of current data production not only means increased profits for a few select companies, it also carries a large environmental footprint. Data centres and cloud computing depend on high consumption of often non-renewable energy. These infrastructures produce waste and CO₂ emissions. For instance, only forty percent of Dutch data centres claim to use locally produced renewable energy, and so far the re-use of the produced heat appears to be unprofitable.³ It is no coincidence that the municipalities of Amsterdam and Haarlemmermeer recently banned the

1 "Big Tech Could Emerge From Coronavirus Crisis Stronger Than Ever." *The New York Times*, March 23, 2020.

2 Oberon Amsterdam, www.oberon.nl. "Total Stats: AMS-IX Amsterdam." Accessed October 28, 2020. <https://www.ams-ix.net/ams/documentation/total-stats>.

3 Following an inquiry in May 2019 published in "Dutch Data Center Report," 2019.

construction of new data centers in the capital's metropolitan region, as the current facilities together consume more energy than all Amsterdam's households put together.⁴

Therefore, in addition to the fears around further privatization of public life, surveillance on populations, and data mining, as well as uneven access to the digital infrastructures, the current mode of digital production in self-confinement and isolation does not necessarily lead to a renewed relation between humans and the environment nor to a less exploitative society.

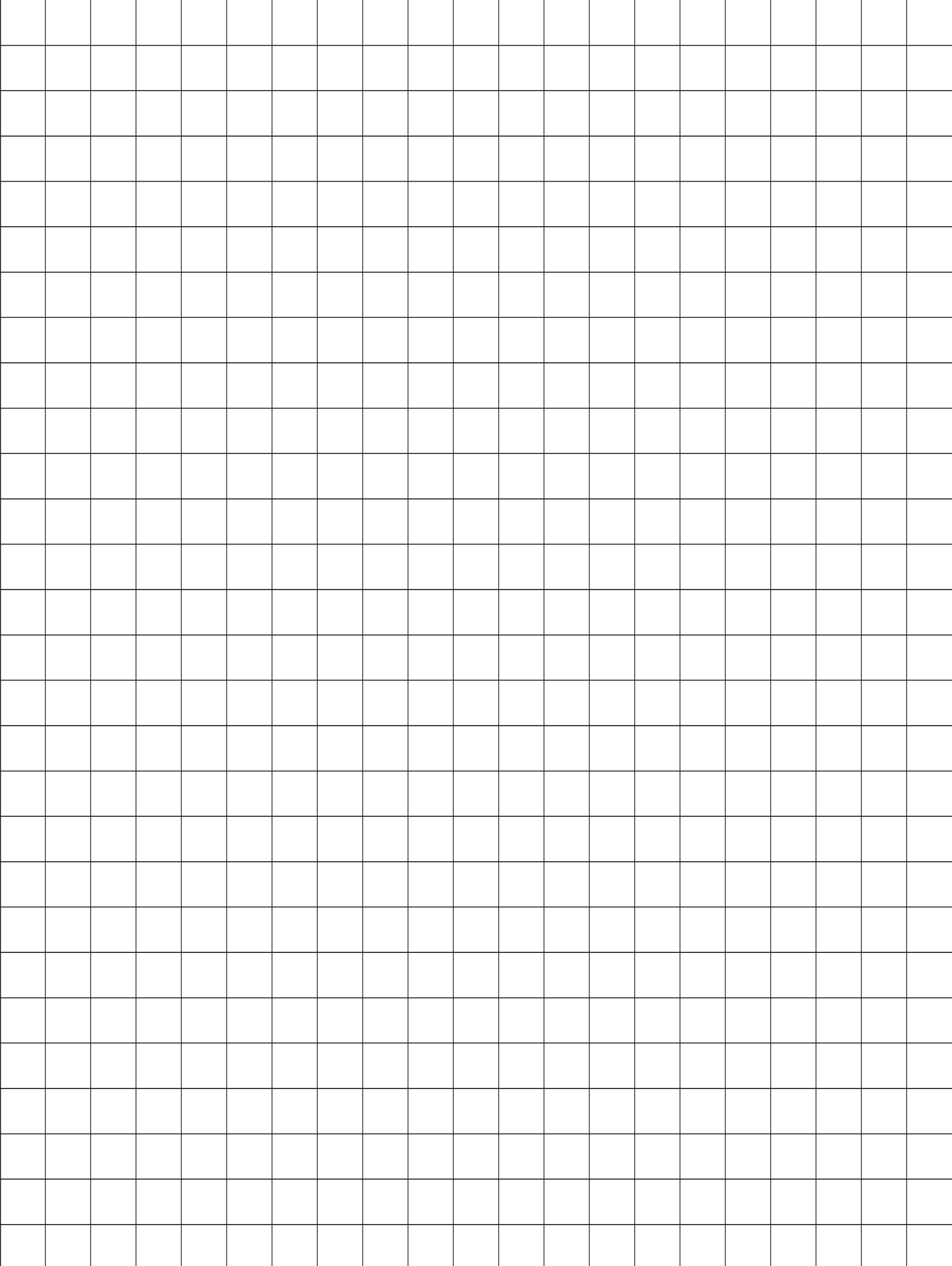
While in the short term the virtualization of life and work is playing a role in the reduction of planetary emissions and is allowing many to stay in employment and maintain social contact, the extraordinary measures that have followed the pandemic have yet to trigger diminished forms of extraction and exploitation. In confinement, emotional, affective, digital, creative labour has increased exponentially. The opportunity to work remotely and have access to a safe space with an internet connection to self-isolate are unequally distributed among the population. In many cases, the work ethos oriented towards productivity has intensified, and systemic forms of discrimination and inequality seem exacerbated.

The pandemic has also evidenced the extent to which data is a valuable resource. Used to monitor and control the spread of the pandemic – despite growing privacy concerns – big data analytics have become vital in the global search for COVID-19 treatments. Artificial intelligence enterprises devoted their computing power to screen existing drugs and learn about their effectiveness. Due to commercial interests, however, large amounts of data required for these processes of machine learning are withheld by global pharmaceuticals. These times of crisis reaffirm the need for forms of solidarity, such as the open sharing of chemical data sets and libraries.

Now is the moment to rethink priorities and decide what the planet and its inhabitants can afford. It is the responsibility of current generations to design alternative futures and forms of existence and for the implementation of non-extractive technologies and economies. This demands more than shifting hopes to a virtual world.

4 Bakkeren, Hanno. "Amsterdamse Servers Zijn Stroomslurpers." *Follow The Money*, July 20, 2019.

Originally published on hetnieuweinstituut.nl (April 9, 2020)





Animal Encounters, designed and curated by Studio Ossidiana (2019) [Exhibition].
Het Nieuwe Instituut, Rotterdam. 13 October 2019 – 2 February 2020

Habitat, Ecology and System Theory

According to the cybernetic theory of the mathematician Norbert Wiener there is no fundamental difference between networks of machines and ecological habitats. Both can be described as interactive feedback systems, in which the flow of communication enables the control of dynamic environments.

In the 1950s and 1960s this new insight contributed to a different understanding of architecture and cities as relational and system-based, an assumption that was also supported through research in the fields of anthropology and sociology. Together with the introduction of the computer and the need for buildings to accommodate computer centres, this has led to an interest in abstract spatial configurations of interlocking geometries.

Thus, in the archive of the national collection of Dutch architecture and urban planning, one encounters an uncanny resemblance between design proposals for animal shelters in zoos and the new workspaces of a post-industrial society.

DIGITAL TRACES IN THE ARCHIVE

The selection that we present here stems from the installation 'Animal Encounters', which was designed and curated by Studio Ossidiana for Het Nieuwe Instituut and which was on show from 13 October 2019, until 2 February 2020. Studio Ossidiana, Giovanni Bellotti and Alessandra Covini, presented their design and material research into the staging of a variety of encounters and interactions between people and 'other' animals. The spatial installation presented a micro-environment of its own and was occupied by drawings, diagrams and architectural models – creature-like objects – that addressed issues of proximity, scale and cross-species politics. Ecological and environmental notions were translated into experiments with textures, niches, frames and cages to question the interrelations between humans and birds in particular.

Following Norbert Wiener, we started a parallel search in the archives of the national collection of Het Nieuwe Instituut, looking for digital traces so to speak, even before the computer would start to dominate architectural practice. Especially, Dutch Structuralism and the teachings of Aldo van Eyck and Herman Hertzberger proved fruitful sources to identify cross-links between spatial design and systems theory. Student work of Jan Verhoeven

and Joost Váhl hold wonderful examples of abstract configurations that stage encounters between humans and other animals. Diagrams of a game concept by John Habraken and others bring to light the possible impact of decision-making processes on the organisation of space and territories. Early examples of data centres, for universities and bank companies among others, demonstrate a fruitful exchange of ideas, too, which resulted in innovative architectural proposals for hitherto unknown spaces such as computer rooms.

The most intriguing archival objects are the two space boxes from the archive of the office of Van den Broek and Bakema, one for the Siemens research centre in Munich, and one for the headquarters of the AMRO bank company in Amstelveen. The two objects sit between an actual architectural model and a 3D diagram of spatial and functional relationships. With their colourful plastic and perspex units and fiches they are testimony of the playfulness of the period of early experimentation with computers in architectural design.

TOTAL SPACE

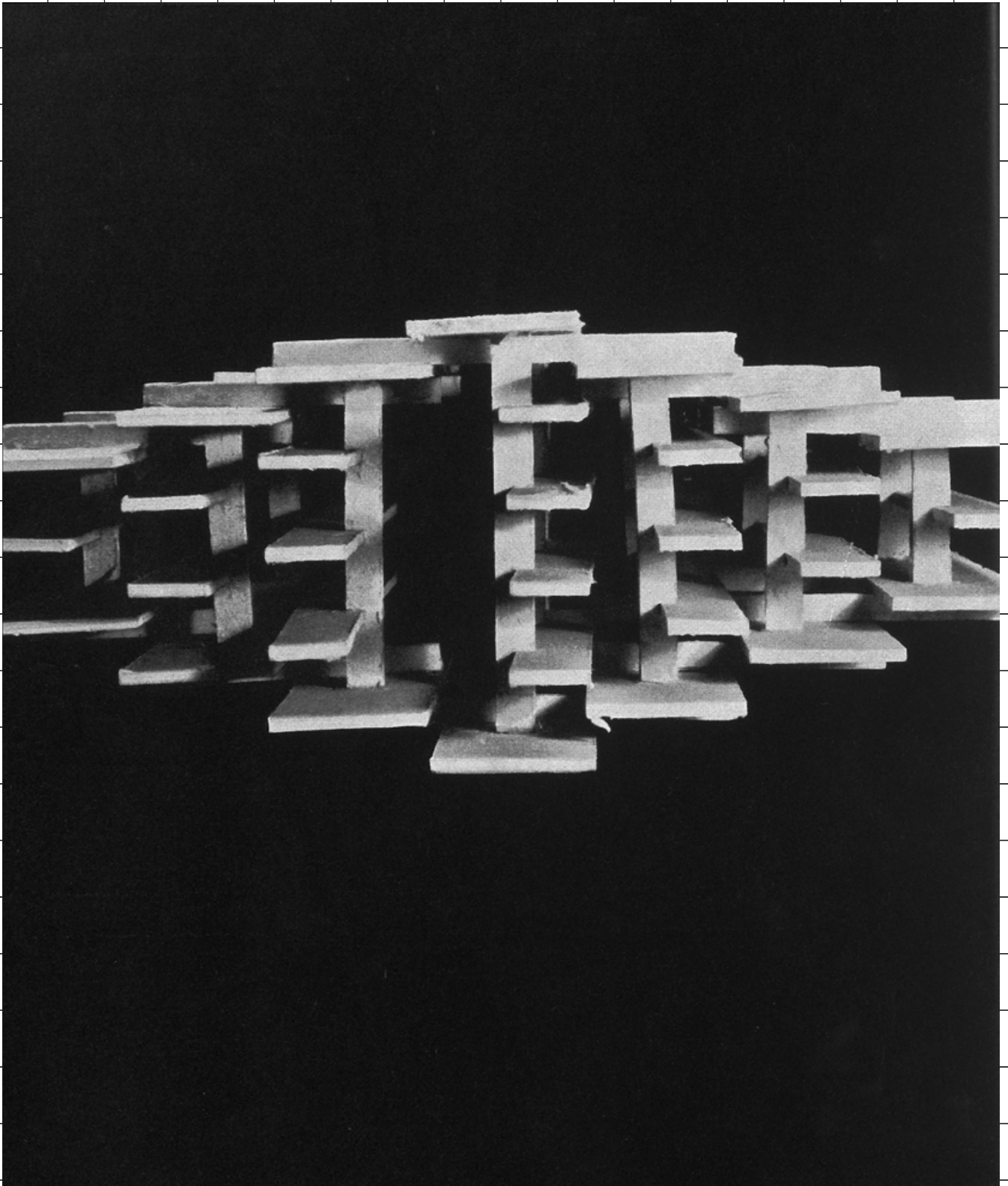
The installation 'Animal Encounters' and the archival research into digital traces of system theory and ecological thinking were part of the Total Space programme, a continuing series of projects of the Jaap Bakema Study Centre, which explores the interdisciplinary exchanges between the fields of architecture, urban planning, anthropology and systems theory. From the first propositions for networked cities and megastructures in the 1950s and 60s, up to developments such as smart cities and virtual territories today, the concept of a total, all-encompassing space or environment remains a recurrent motif.

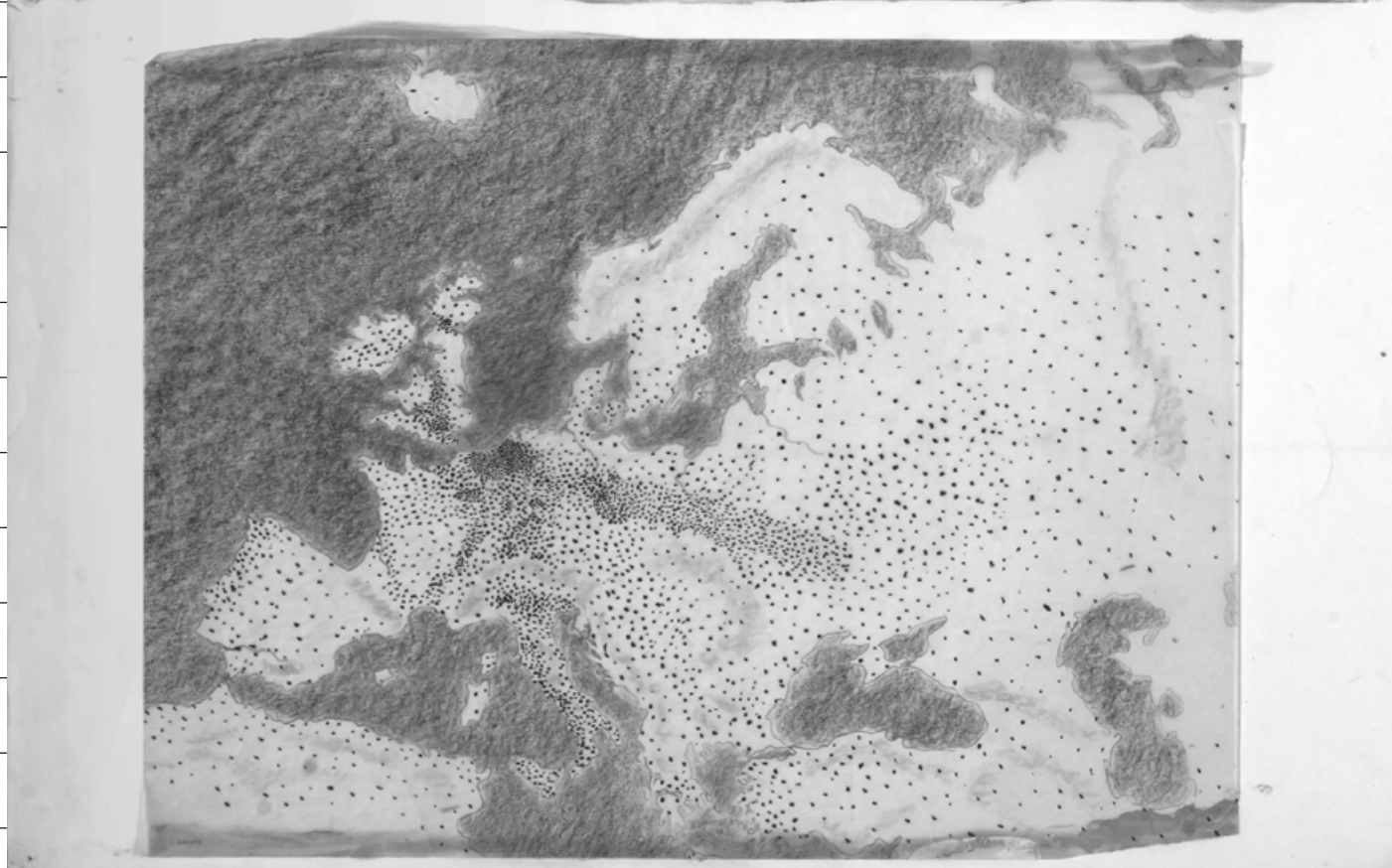
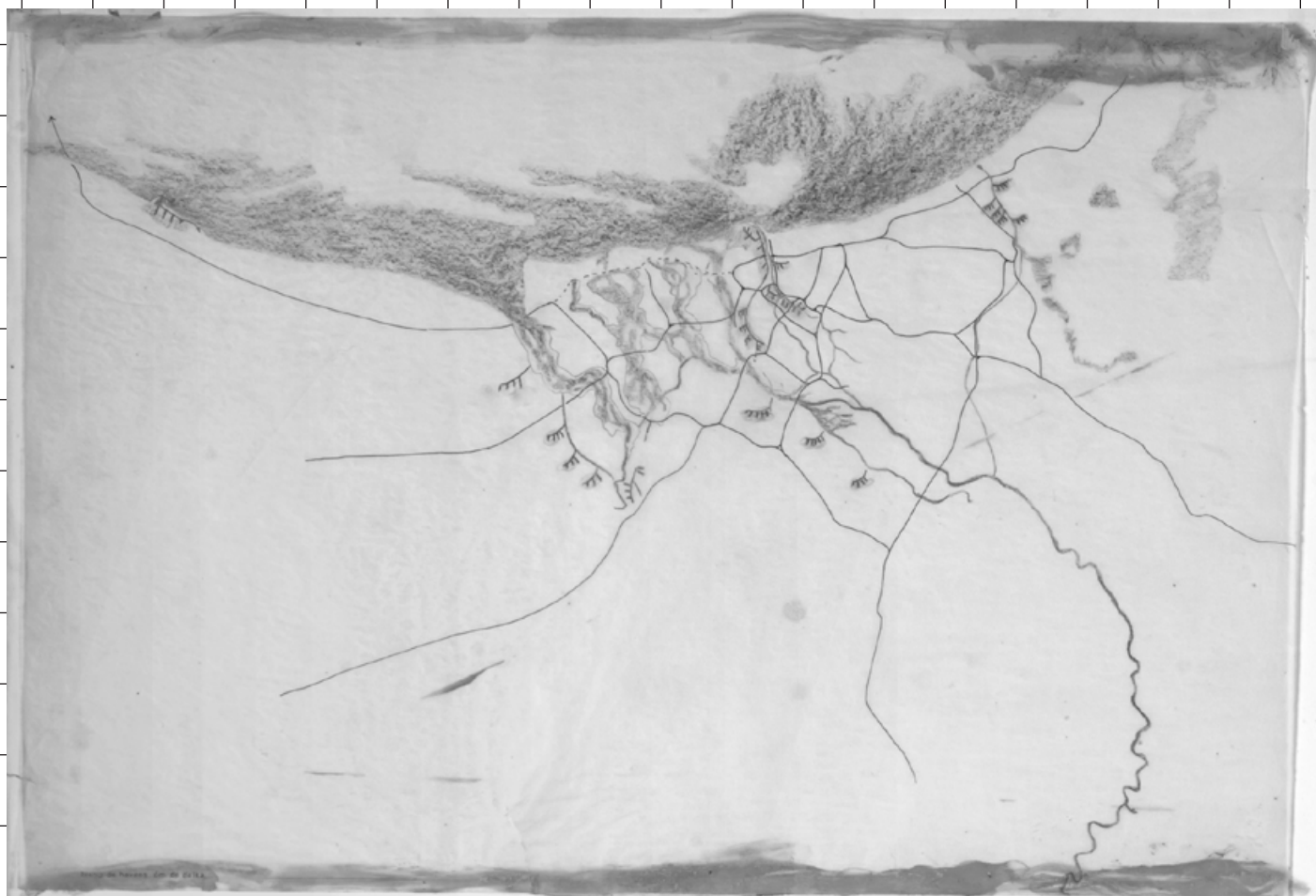
The term 'total space' was coined by the Dutch architect Jaap Bakema (1914–1981). For him, the concept signified a relational approach to humans and their environment, implying an almost cosmological understanding of space. This relational and ecological understanding of architecture and urban planning constitutes a radical redefinition of these disciplines and their tools in a technological, but most of all cultural sense. Notions of permanence, autonomy and monumentality are eschewed while those of process, growth and chance take prominence.

Total Space explores these far-reaching changes through a public events programme of research seminars, publications and exhibitions. The project locates and investigates important moments of cross-pollination and redefinition as embodied by the historical materials in the collection of Het Nieuwe Instituut, while questioning the nature of their epistemological and socio-cultural repercussions.

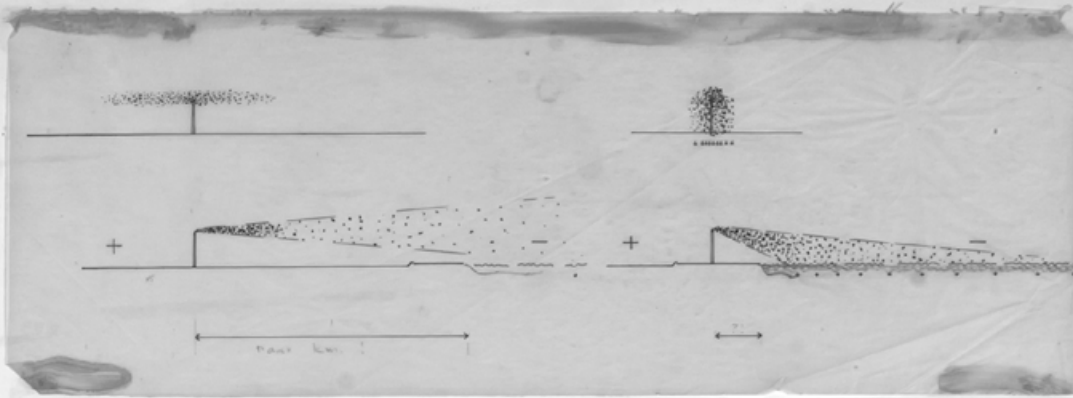
Aquarium by Jan Verhoeven, 1958, as published in Forum, nr. 2 1960–61 with assessment by Aldo van Eyck

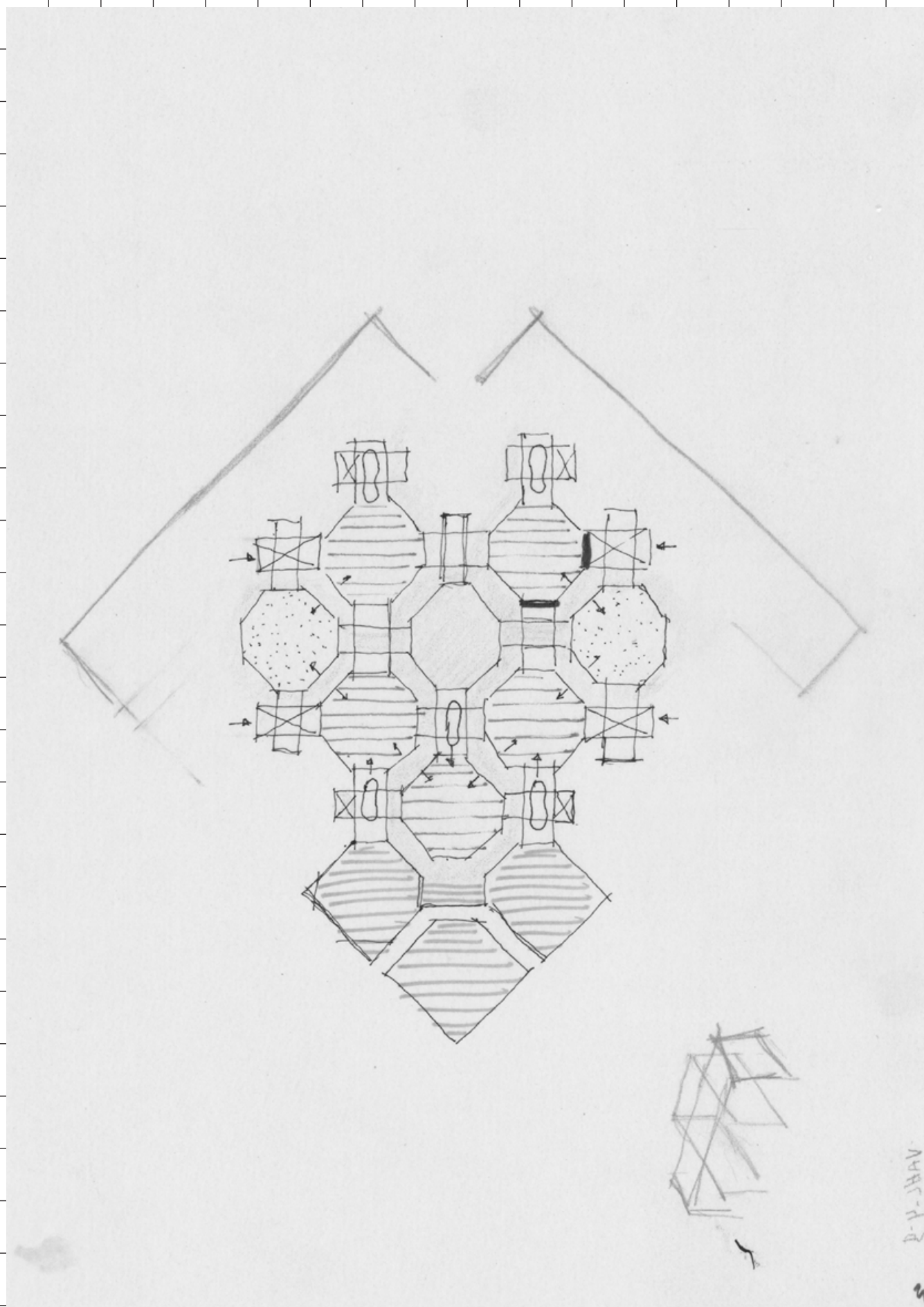
As a student Jan Verhoeven designed an aquarium, half of which was situated below sea level. Through an ingenious meandering of spaces, the human domain and the aquatic world seem to interlock. His teacher Aldo van Eyck published the design together with his own review in the Forum journal.



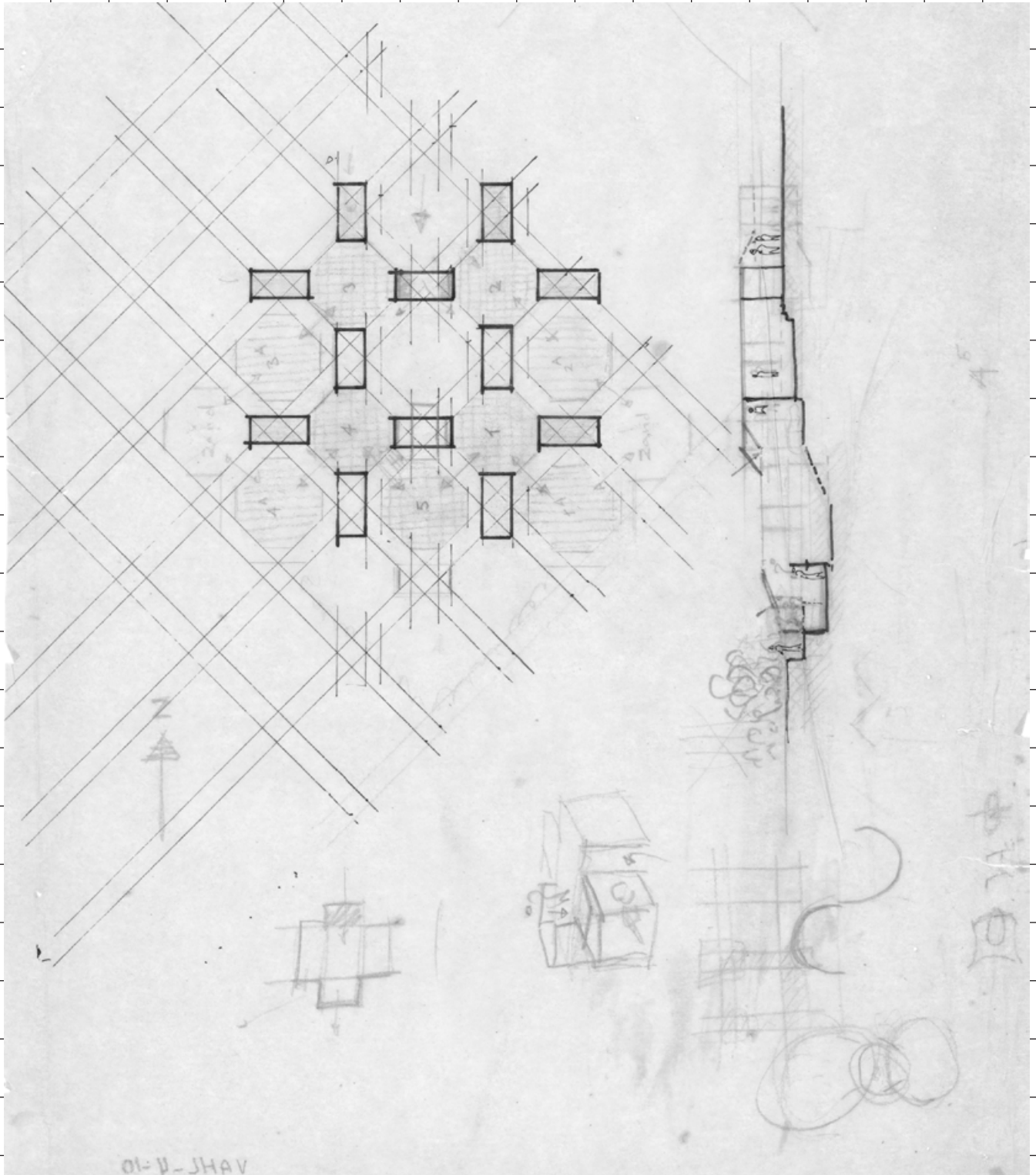


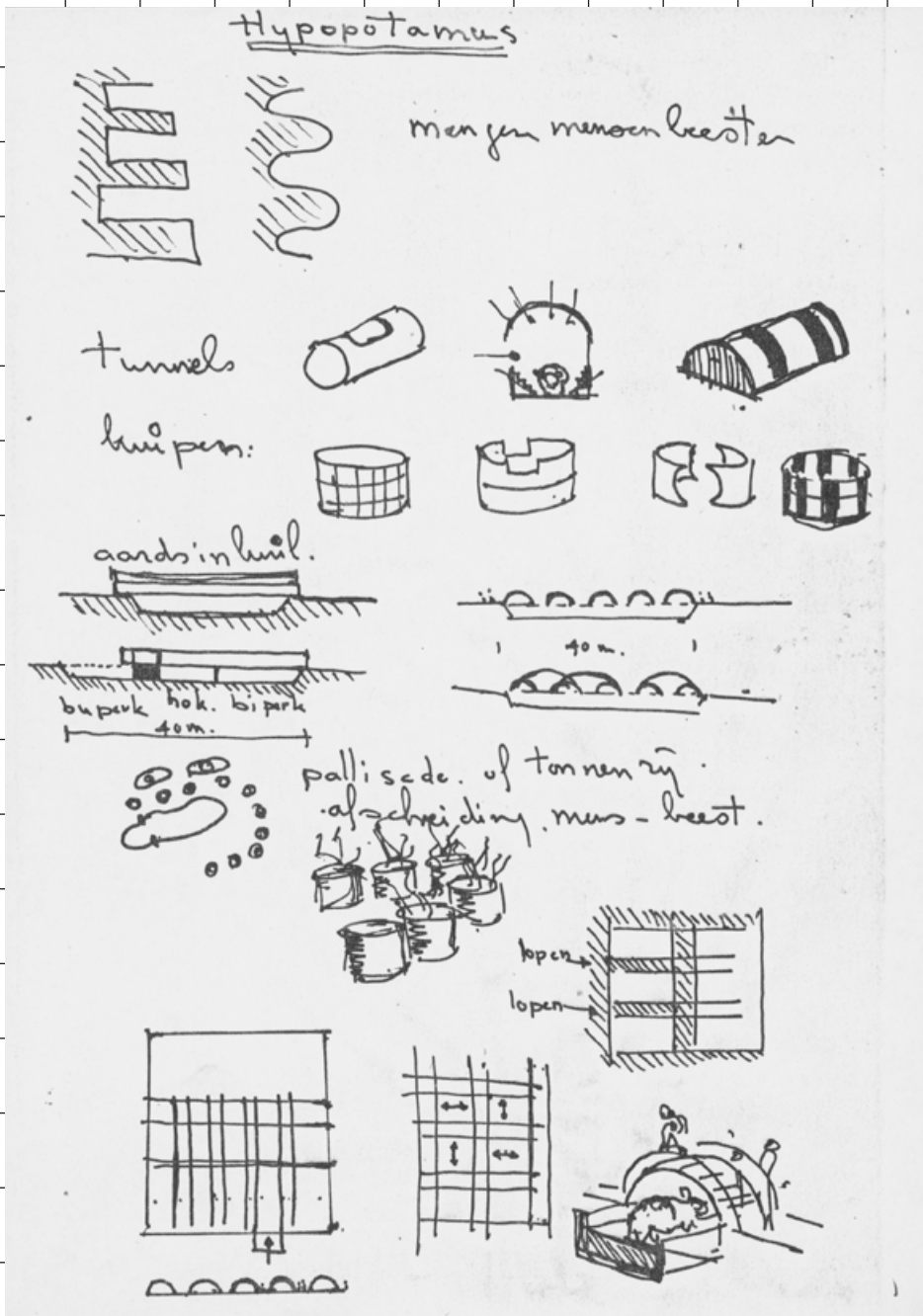
These hand-drawn maps are examples of Gonggrijp's profound analysis of the Dutch delta and its defining geological landscape formations in relation to different settlement and migration patterns. For Gonggrijp these drawings were a way to conceptualize the specific identity of the Dutch delta landscape and its inhabitants.



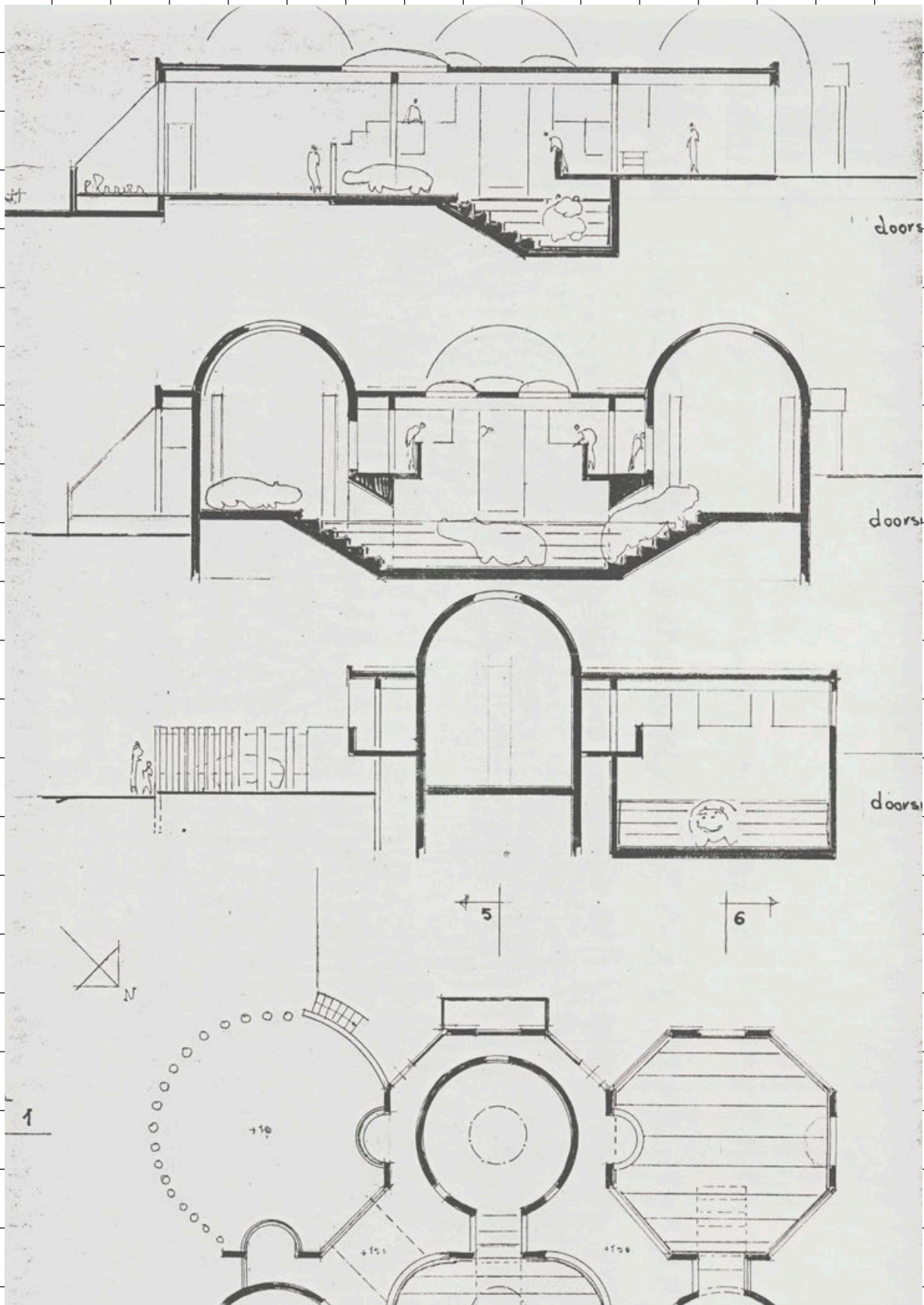


While teaching at the former TH Delft and Academie van Bouwkunst Amsterdam, Aldo van Eyck frequently challenged his students with design assignments for animals. Among the students was urban planner Joost Váhl. These sketches document Váhl's search for a solution for his idea of two intertwining spatial structures: one for humans, the other for animals. His design proposal is inspired by a Japanese pattern book from 1901, which shows a range of designs for fabric, paper and ornamentation using multiple geometric ordering systems.





The design proposal by Joost Váhl for a hippopotamus house enables hippos and humans to observe each other and even interact; through a hole in the air-bridges, the two can carefully touch one another, and it is even possible for people to enter the hippo house.



Design Games

October 30, 1986

CONCEPT DESIGN GAMES

Design games for Experimentation in Design Theory and Methodology.
an introductory paper.

This paper has two parts. The first is the introductory chapter to the two reports in which we give an account of our work. These two are the report proper and the 'manuals' of the games we developed.

The second part of the paper discusses a few aspects of Concept Design Games that seem of particular interest and may serve to give the reader an impression of what the games are like.

PART ONE: THE APPROACH WE TOOK.

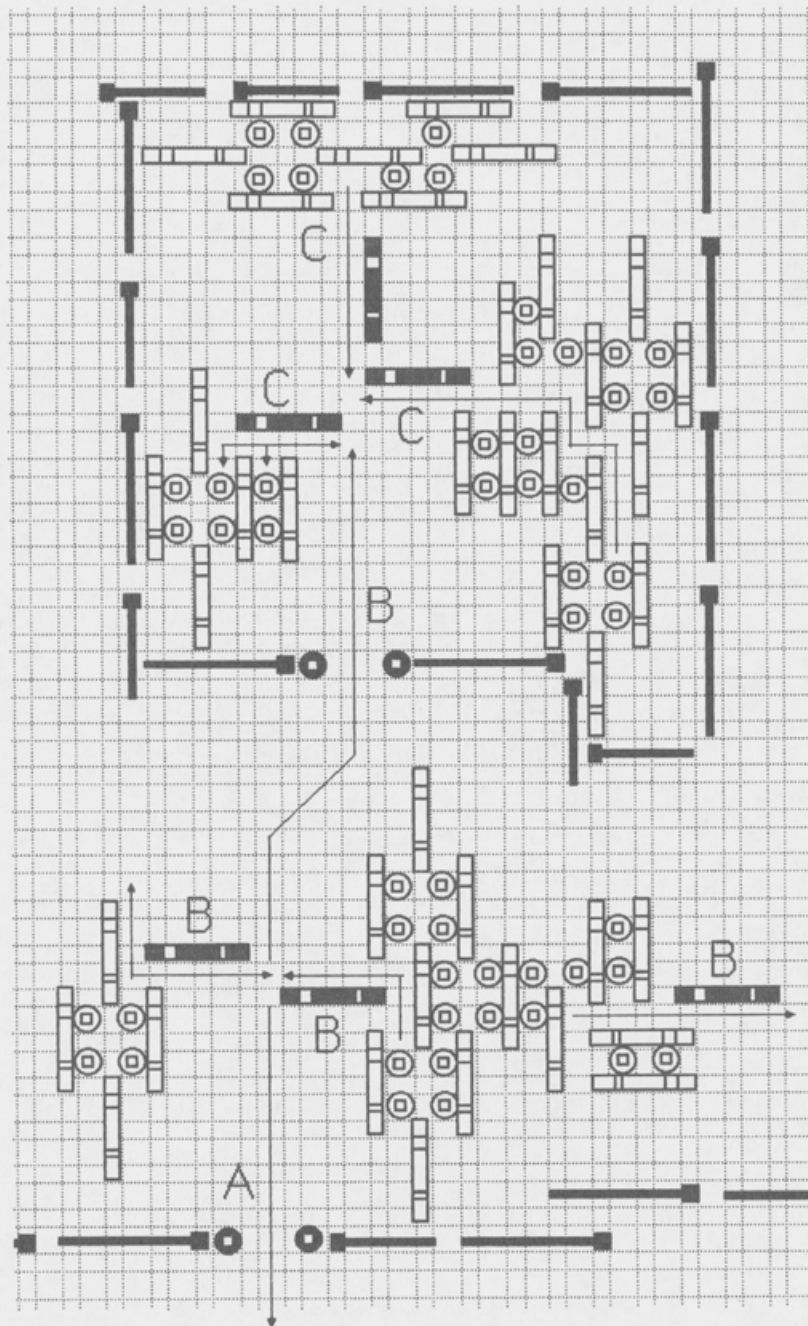
1 Architecture and problems of complexity.

Looking at games as a tool for research in design methods follows naturally the work in design methodology and theory we have done over the years.

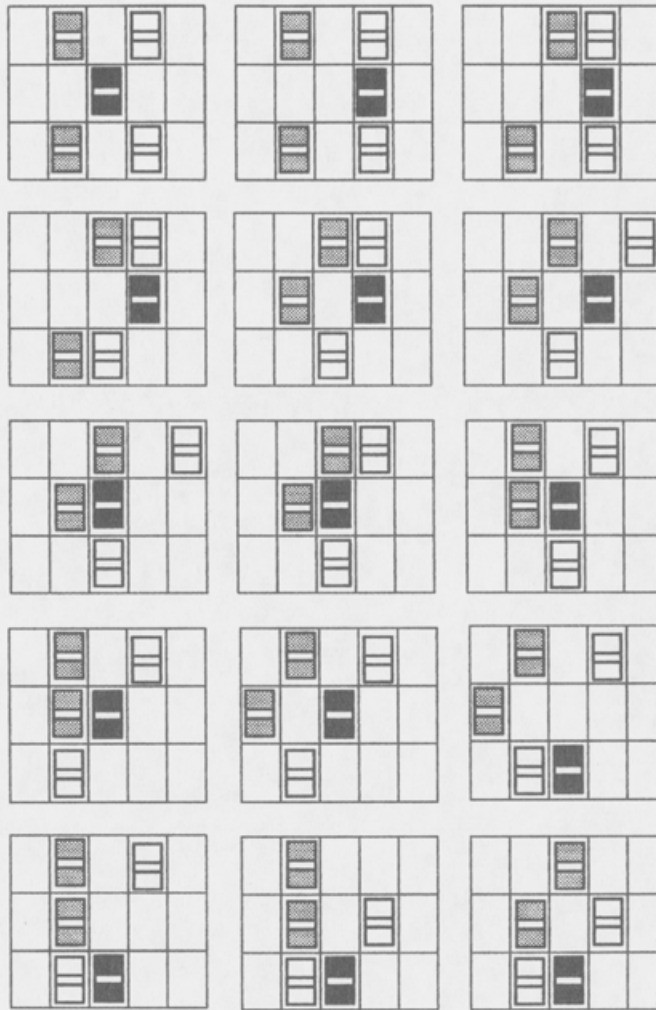
Human settlements are complex artefacts. They are often large in scale and may extend over vast areas. They differ considerably from one culture to another. They also are used over long periods during which they can be subject to dramatic transformations.

Even a single building today is a fairly complex thing. It embodies an array of subsystems: the structure, various systems of partitioning, envelopes to shield it, and systems for heating, ventilation, electricity, water, gas, and communications. It must house many and interrelated

While teaching at MIT, John Habraken developed Concept Design Games, open-ended research tools to understand how we design 'complex physical organizations', i.e. buildings. Following Habraken's view on participation design, these boardgames take the interaction of many actors into consideration. The recording scheme for all games could be manipulated by a computer.

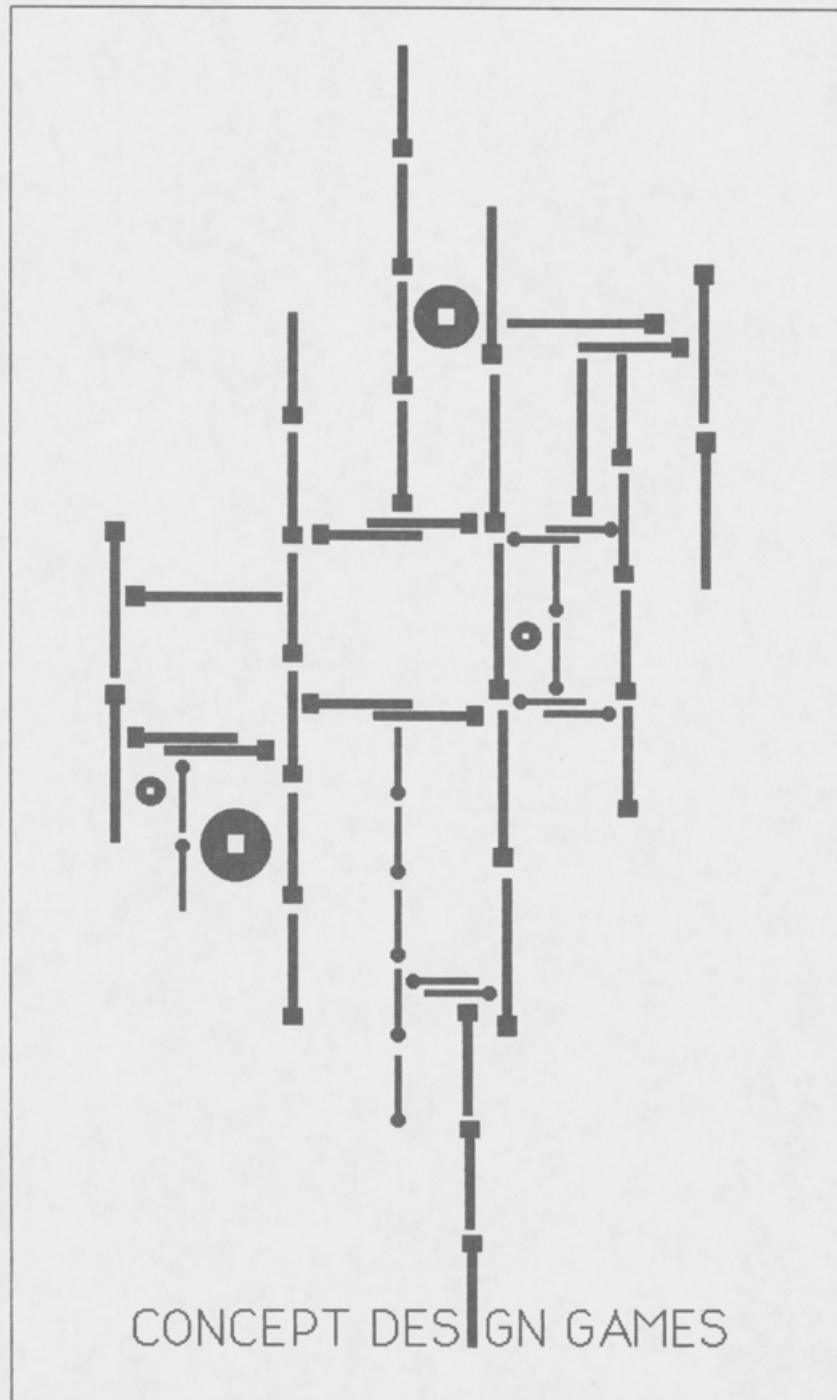


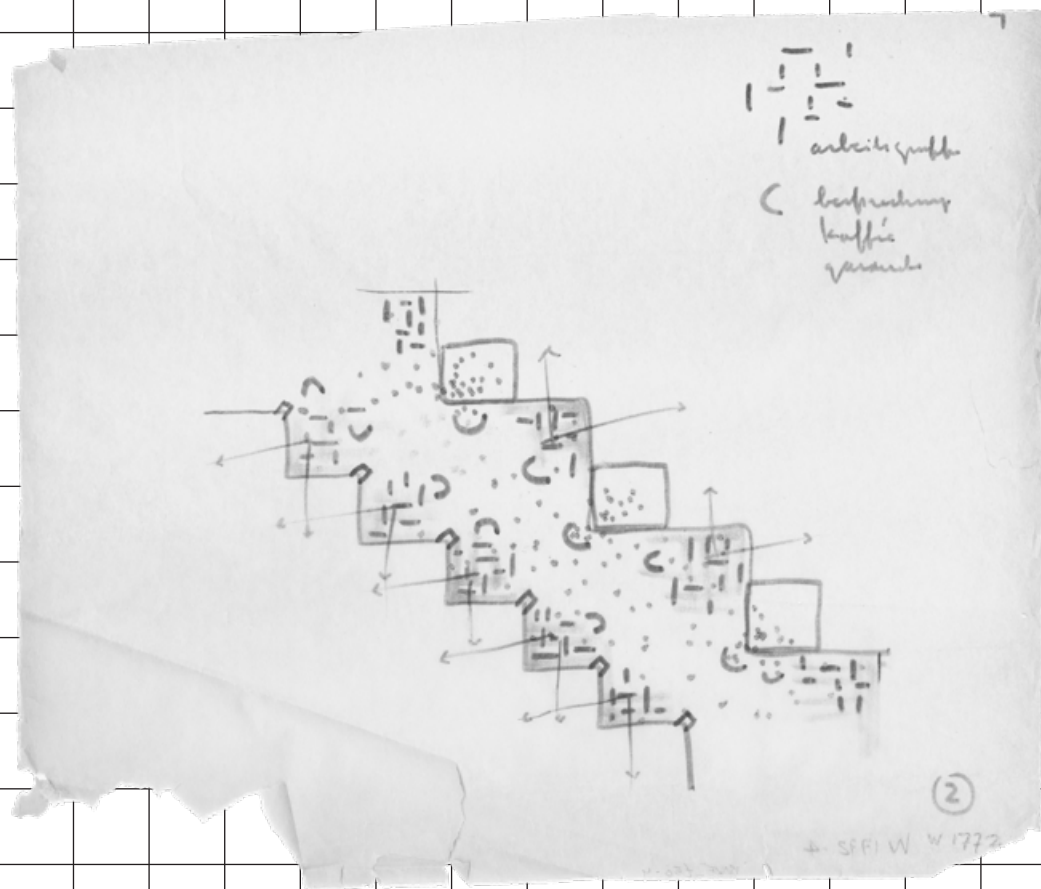
CONCEPT DESIGN GAMES FIG. 4 TERRITORIAL REPRESENTATION



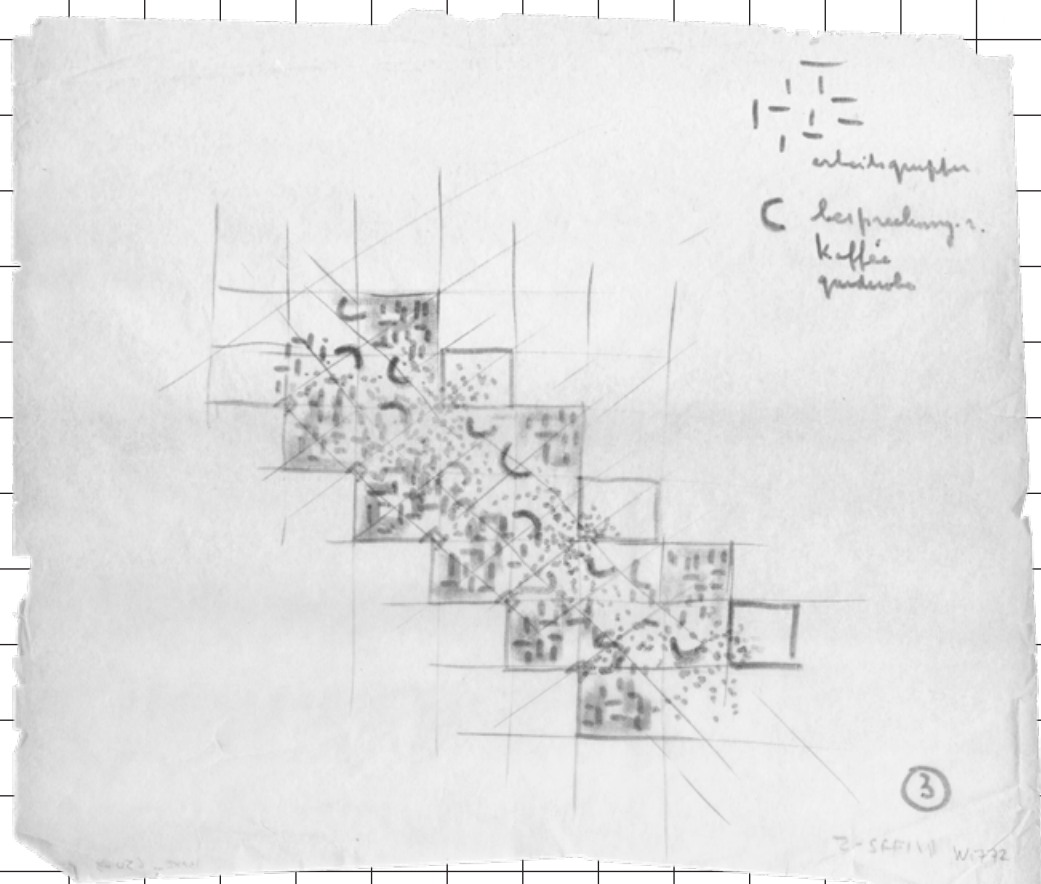
CONCEPT DESIGN GAMES FIG. 1 'DOMINANCE GAME'

While teaching at MIT, John Habraken developed Concept Design Games, open-ended research tools to understand how we design 'complex physical organizations', i.e. buildings. Following Habraken's view on participation design, these boardgames take the interaction of many actors into consideration. The recording scheme for all games could be manipulated by a computer.



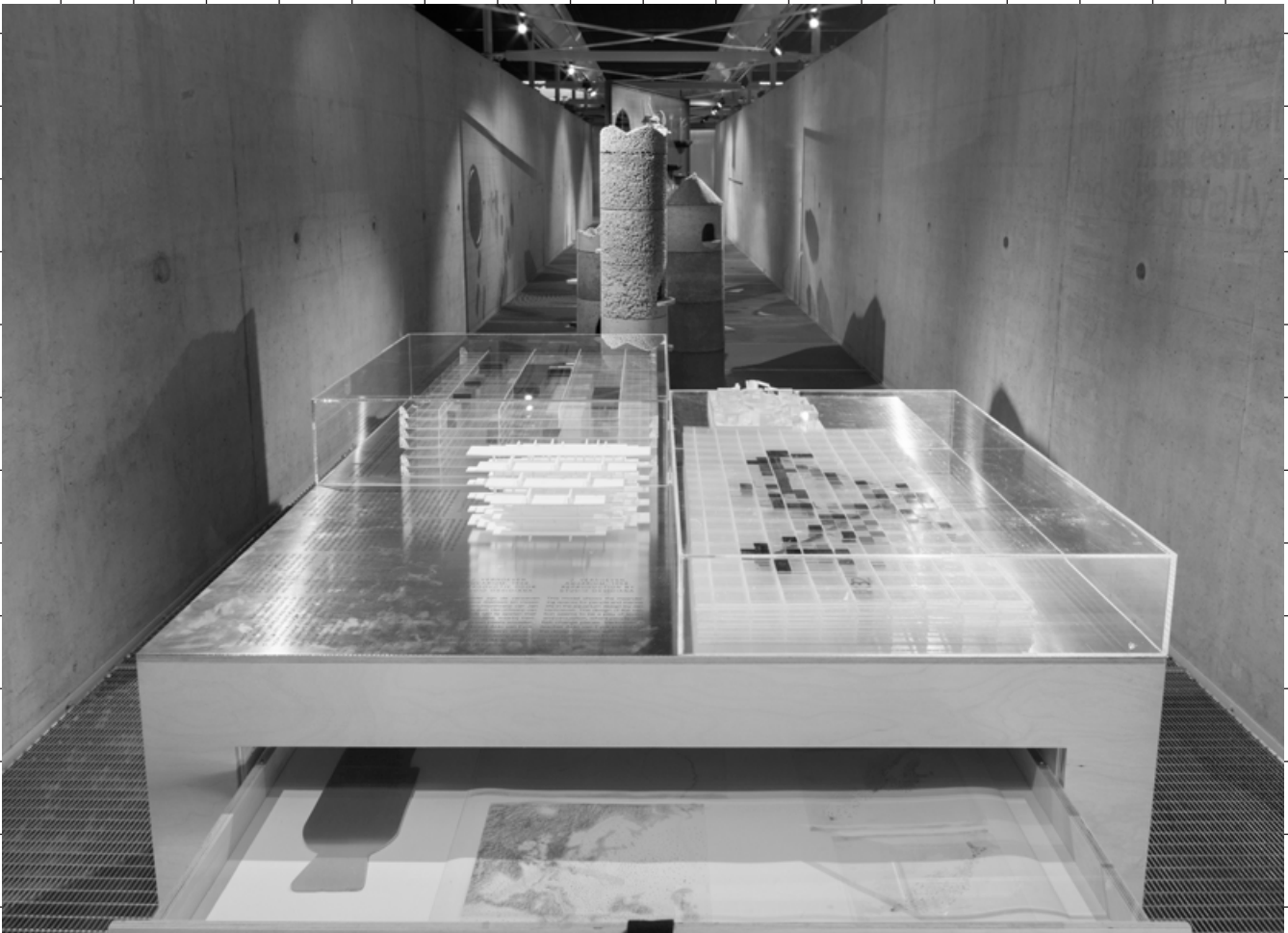


Conceptual sketches of the bürolandschaft for Siemens' new research centre and offices. The diagonal grid was developed as a programmatic organization scheme to accommodate the departments and integrate the various technical systems throughout the complex.



Right: Van den Broek and Bakema, project architect J. Boot, so-called 'space box' for Siemens Computer Research Centre, München-Perlach, 1972

This model can be seen as a three-dimensional diagram that communicated the programmatic organization, complexity and flexibility of the design to the clients. Each floor was represented by a transparent perspex grid that could be filled in with colour-coded fiches. The model was transportable in a custom-made suitcase. Design sketches are also on display in the drawers of this cabinet.



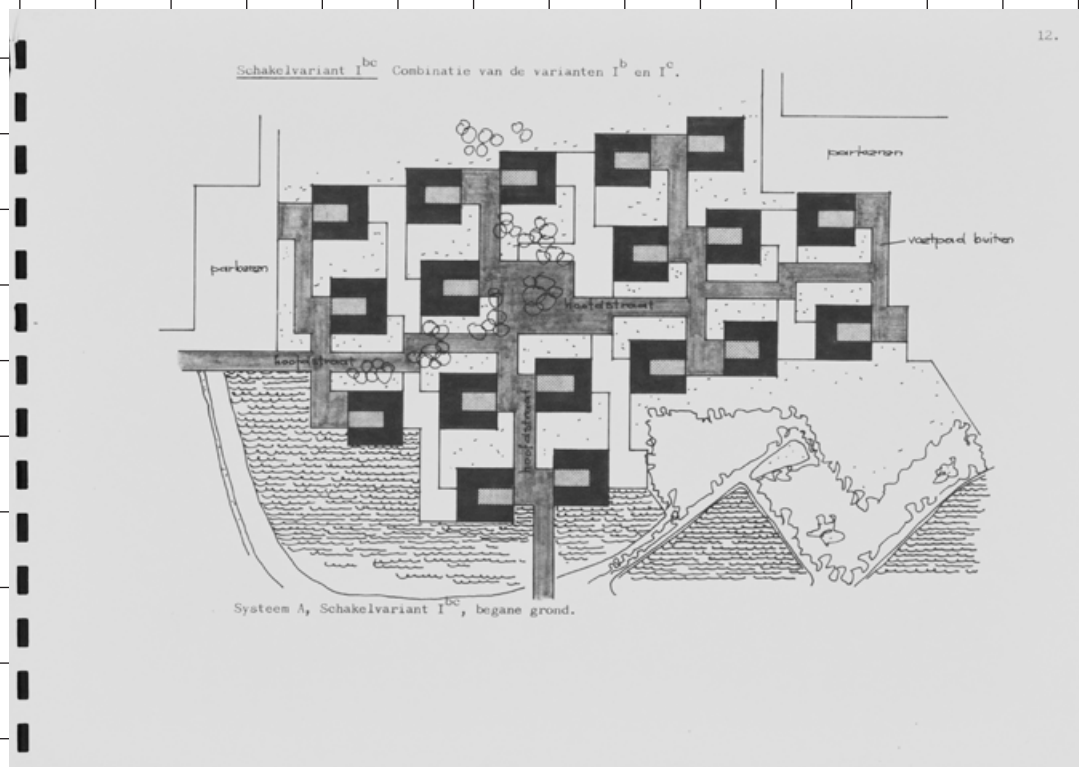
Left: Van den Broek and Bakema, project architect J. Boot, so-called 'space box' for Siemens Computer Research Centre, München-Perlach, 1972

Right: Van den Broek and Bakema, project architect J. Boot, Space box of computer centre and headquarters Amrobank, 1970–1973

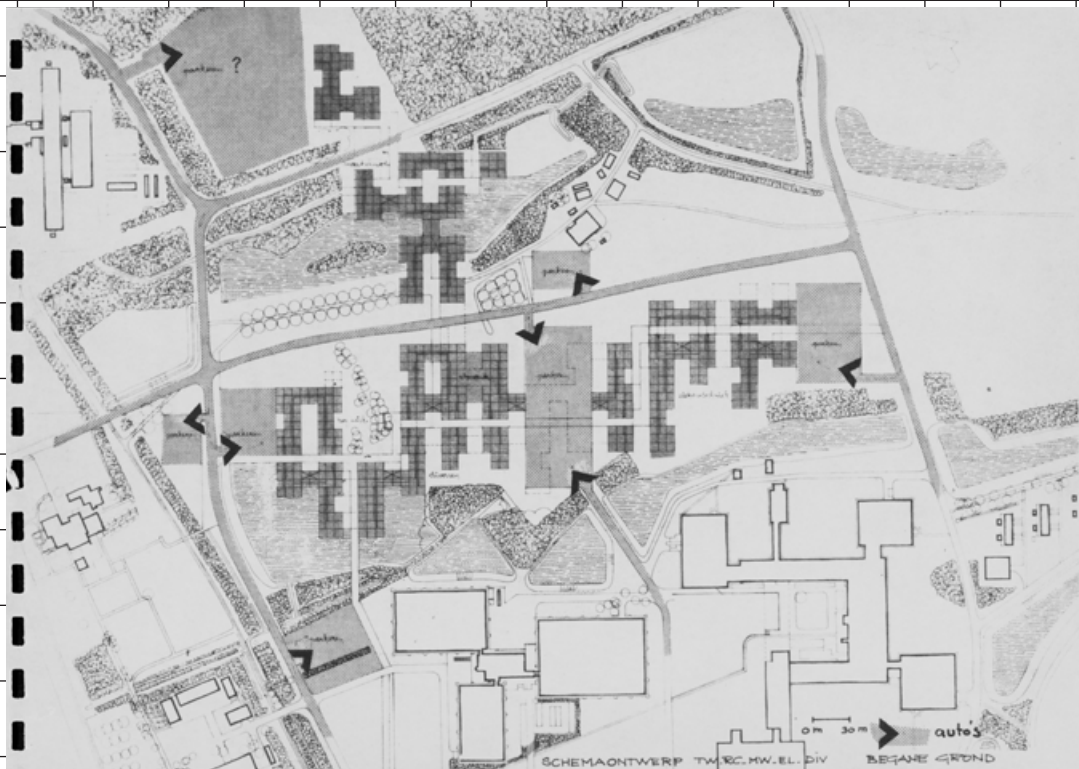
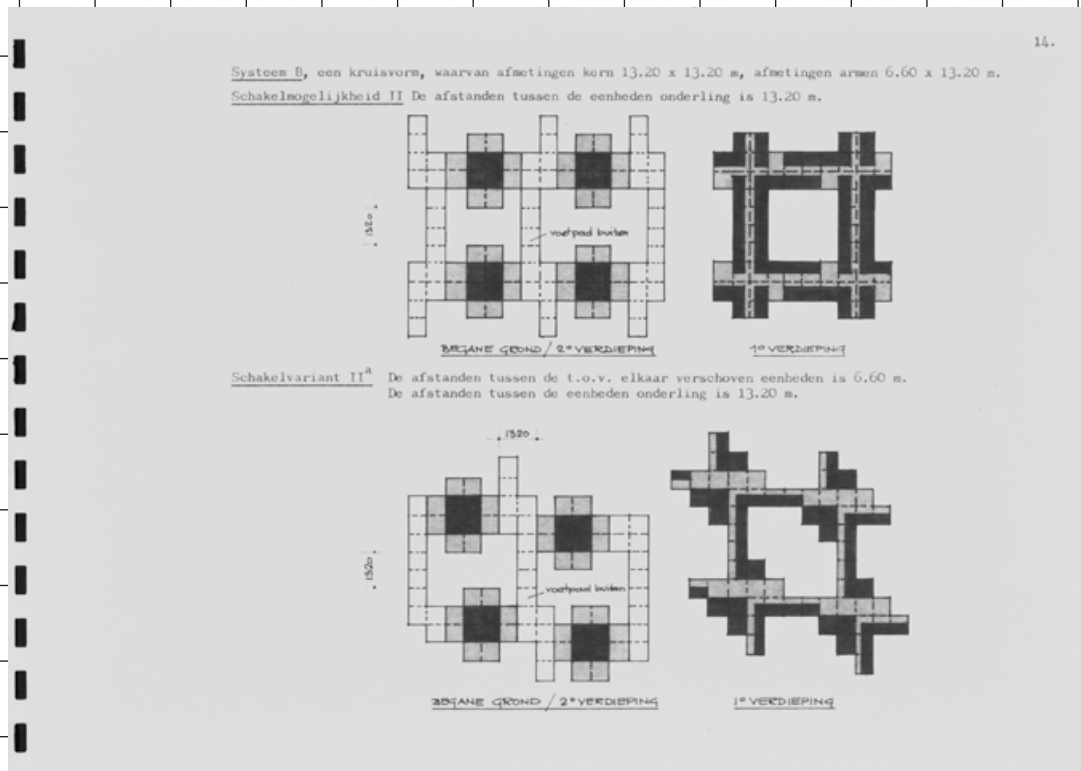
This study model consists of structural layers of transparent perspex in which separate coloured blocks can be placed. The colours indicate standardized functions of the programme. The perspex layers with blocks can be stacked into serialist compositions, showing the possible spatial configurations of the building.

On display during *Animal Encounters*, Het Nieuwe Instituut, 13 October 2019–2 February 2020.





The design for this university complex, including an early computer centre, is based on a repetitive unit combined with larger spaces for the computer and lecture rooms. The urban plan of the TH Twente university campus was devised by Sam Van Embden and Willem Van Tijen, with buildings by Piet Blom, Joop van Stigt and Herman Haan.



L.J. Heijdenrijk, J. Hermes, L.J. van der Stap, J. Mol, Faculty for Applied Mathematics and Computer Centre, TH Twente in Drienerlo, Enschede, 1969–1974, photo series by Cas Oorthuys / Nederlands Fotomuseum, Rotterdam



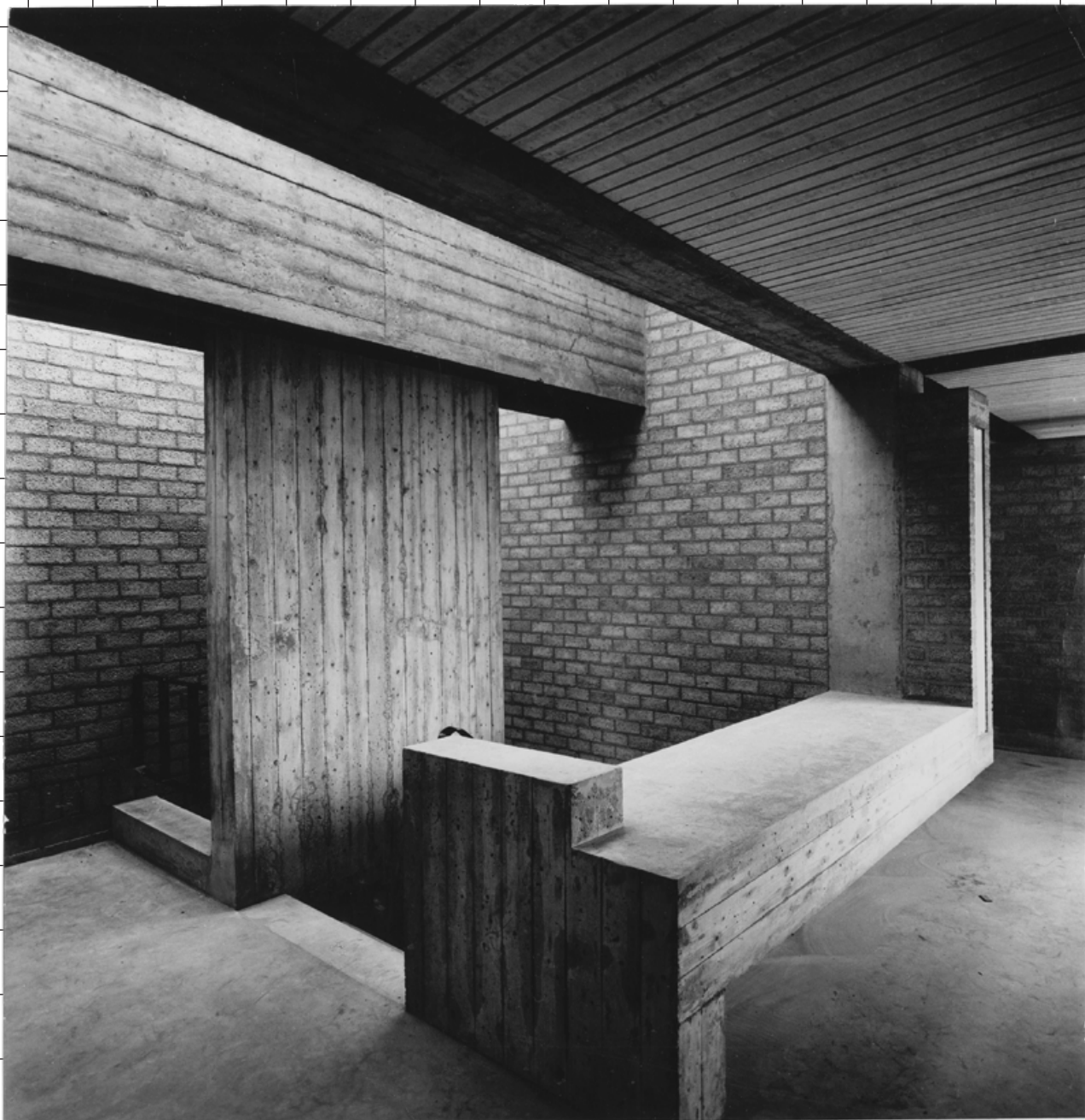
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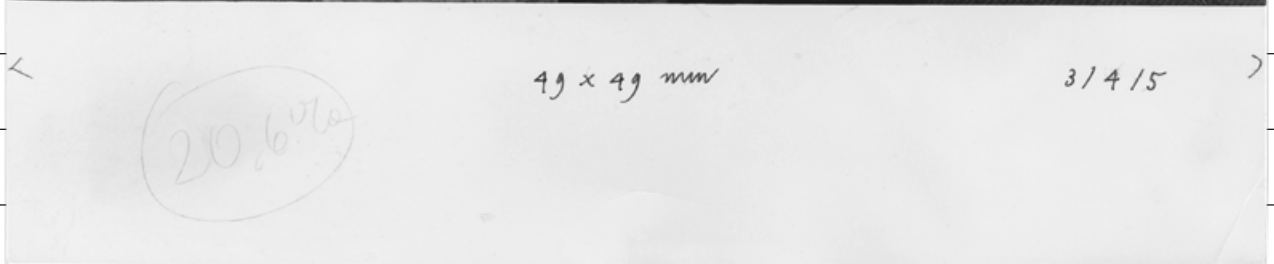


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The design for this university complex, including an early computer centre, is based on a repetitive unit combined with larger spaces for the computer and lecture rooms. The urban plan of the THi Twente university campus was devised by Sam Van Embden and Willem Van Tijen, with buildings by Piet Blom, Joop van Stigt and Herman Haan.





Rudi Bleeker designed numerous school buildings and offices, including several early computer centres in Breda, Amstelveen and Leusden. The robust character of these large-scale buildings is defined by sculptural facades and raw concrete prefab panels.



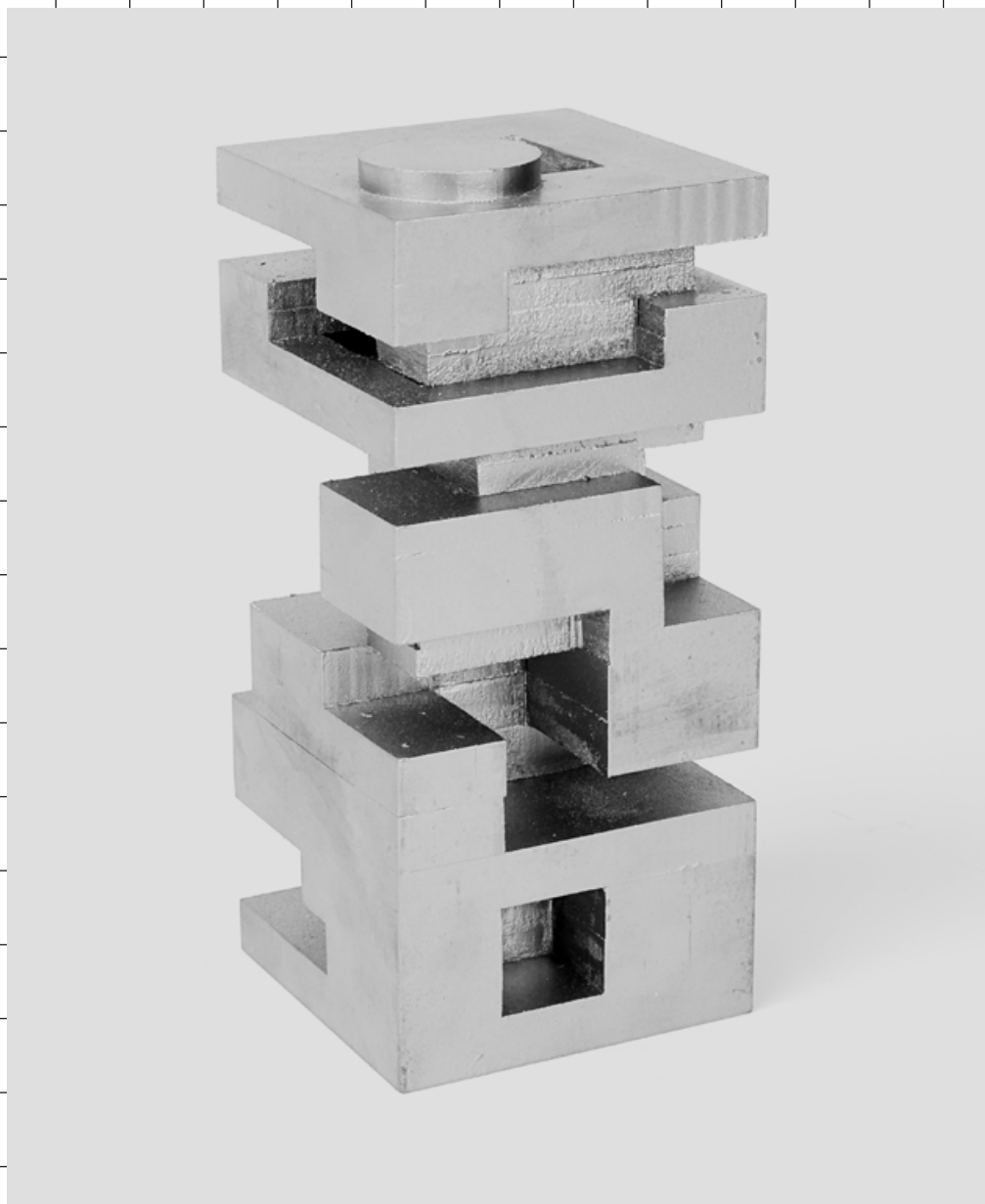


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The model demonstrates the spatial configurations of standardized units of the bank headquarters, including the dealing room, which are manipulated into an abstract sculpture of voids and solids.



Appendix

25.11.2020

Het Nieuwe
Instituut

10.00–12.30
Field Positions
and Exchanges

Introductions to the question of re-positioning the digital in architecture and ongoing research into interdisciplinary traffic between among others architecture, urban design, and systems theory. With presentations by Georg Vrachliotis (TU Delft), Tanja Herdt (TU Delft), Dirk van den Heuvel (TU Delft), Jaap Bakema Study Centre), Janno Martens (KU Leuven) and Victor Munoz Sanz (TU Delft).

14.00–16.00
Situating the
Pre-Digital

A seminar with presentations of research into the pre-digital era and early developments of the digital in architecture.

Moderated by Georg Vrachliotis
(TU Delft)

*Digitizing Mapping:
The Politics of Computerised
Cartography at Harvard LCGSA*
Evangelos Kotsioris (MoMA)

*Bouwcentrum Rotterdam:
From Statistics to Information*
Dennis Pohl (KIT Architecture Theory)

Architecture Machines, ca. 1970
Teresa Fankhänel (TU München)

16.00–17.30

Keynote Lecture:
Montreal and
the Artificial
Intelligence's
Mandate

The technological landscapes and infra-structures of the contemporary data society.

Alessandra Ponte
(Université de Montréal)

26.11.2020
Het Nieuwe
Instituut

Meera Badran, Kyriacos Christofides
and Helena Francis

Moderated by Marina Otero Verzier
(Het Nieuwe Instituut)

10.00–12.30
Behind the Screens

A workshop on digital born archives and their peculiarities, with the archive of MVRDV as case study. Contributions probe questions of acquisition and exhibition of digital born materials, how to work with the technical formats and their software, and how to re-imagine accessibility of digital archives.

With Flora van Gaalen, Suzanne Mulder, Frans Neggers and Eline de Graaf (Het Nieuwe Instituut)

Moderated by Dirk van den Heuvel
(TU Delft, Jaap Bakema Study Centre)

14.00–17.00
Data Matters

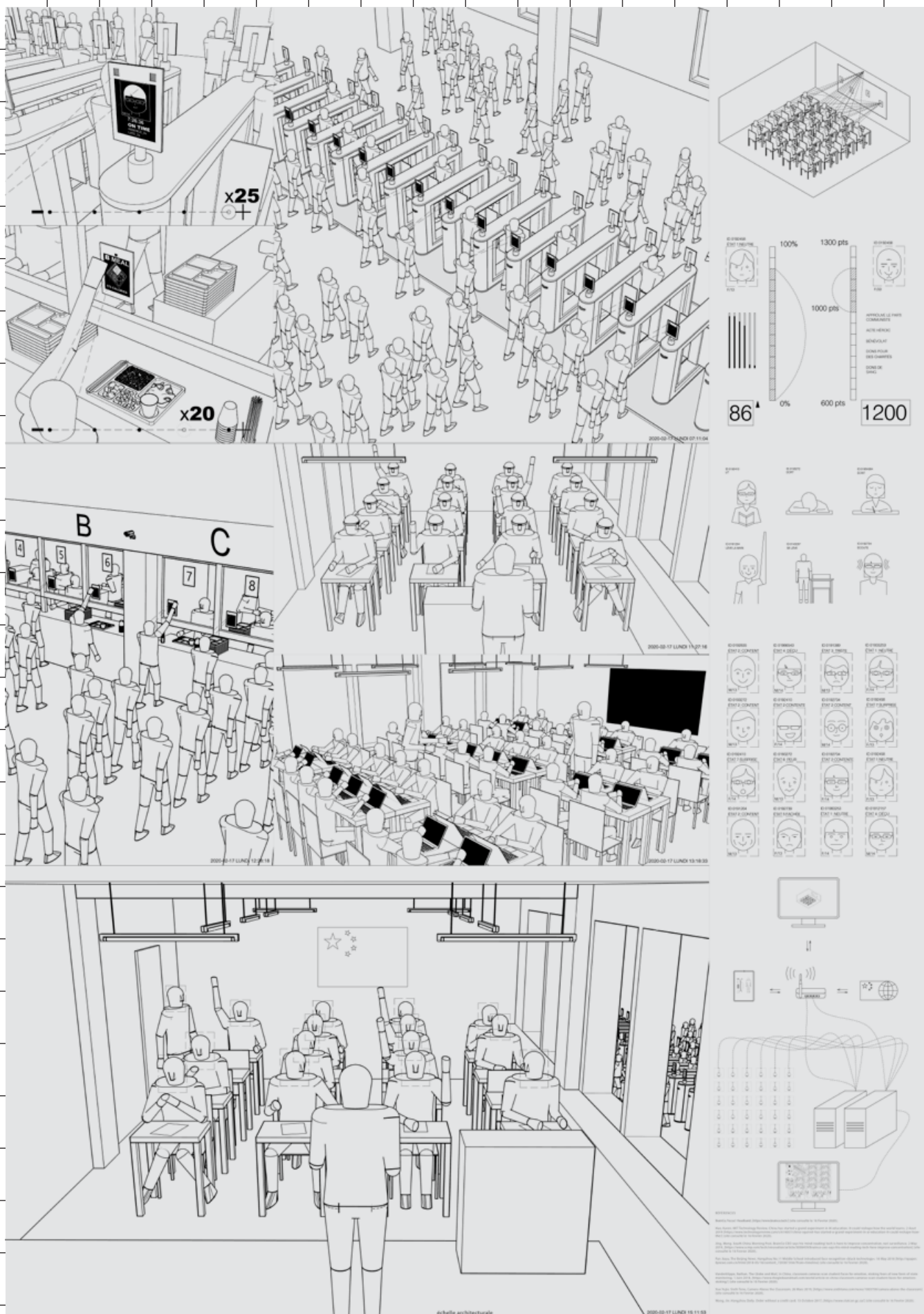
The planetary digital infrastructure sustaining the current shift to online and virtual forms of production as well as social, cultural, and economic activities, resulted in an increasing bandwidth consumption around the world. This seminar organised by Het Nieuwe Instituut's Research Department will expand upon the implications of this data explosion, and why it matters for humans and non-humans, even under the current dire circumstances.

With contributions by Marten Kuijpers and Ludo Groen (Het Nieuwe Instituut) on the ongoing project of Automated Landscapes, and the London Royal College of Arts research studio led by Ippolito Pestellini Laparelli and Kamil Dalkir with students Emily Chooi,

19.30–21.00
Keynote Lecture:
Data Landscapes

A reflection on the current state of global technological landscapes; from media archives and data archaeology, to control rooms and server farms

Armin Linke
(Photographer and Filmmaker)



Montreal and the Artificial Intelligence's Mandate

The lecture presents the info-graphics, cartographies and diagrams produced in the third iteration of the research by design studio Architecture and Information 2.0 conducted with the master students of the School of architecture of the University of Montreal during the winter term 2020 under the direction of a team of instructors (Alessandra Ponte, Fabrizio Gallanti, Gabriel Payant).

Following the public proclamation of the will to transform Montreal into a world platform for Artificial Intelligence studies and applications, the students explored at a territorial (the Province of Quebec), urban (the city of Montreal) and architectural scale the deployment of AI in five fields: education, health, fabrication, mobility and logistics, and interaction human-machine.

Alessandra Ponte is Full professor at the École d'architecture, Université de Montréal. Since 2008, she has been responsible for the Phyllis Lambert International Seminar, a series of colloquia held at the Université de Montréal. Curator of the exhibition *Total Environment: Montreal 1965–1975* (Canadian Center for Architecture, Montreal, 2009), she also collaborated to the exhibition and catalogue *God & Co: François Dallegret Beyond the Bubble* (with Laurent Stalder and Thomas Weaver, London: Architectural Association Publications, 2011), and contributed to the Canadian Pavilion at the Venice Biennale Architecture in 2014 (*Arctic Adaptations*) and 2016 (*Extraction*). Among her recent publications: *The House of Light and Entropy* (London: AA Publications, 2014), *Architecture et Information 2.0//2017*, *Architecture et Information 2.0//2018* and *Architecture et Information 2.0//2020* (École d'architecture, Université de Montréal, 2017, 2018, 2020).



Mountain with antennas, Kitakyushu, Japan, 2006. © Armin Linke, 2006

Keynote lecture by Armin Linke (Photographer and Filmmaker)

Data Landscapes

In conversation with Georg Vrachliotis and Dirk van den Heuvel, Armin Linke presents a selection of projects to reflect on the current state of global technological landscapes, from media archives and data archaeology, to control rooms and server farms.

Armin Linke is a photographer and filmmaker who lives in Berlin. Through his work he analyses the transformations of our natural, technological and urban environment as a diverse space of continuous interaction. By combining his own archive with other media archives, Linke challenges the conventions of photographic practice and conventional, singular authorship, whereby the question of how photography is installed and displayed becomes increasingly important. In a collective approach with artists, designers, architects, historians, and curators, a polyphonic narrative is created that combines multiple perspectives.

Biographies

Dennis Pohl

Dennis Pohl is research assistant at the department for architecture theory at the Karlsruhe Institute of Technology. His PhD research addresses the political impact of architecture on the institutions of the European Union in Brussels, Luxembourg, and Strasbourg. He was research fellow at the DFG research group “Knowledge in the Arts” at the UdK Berlin, and in 2018 DAAD fellow at the Graduate School of Architecture, Planning and Preservation at Columbia University New York. He was co-director of the AA Visiting School Brussels “The House of Politics,” and contributed to the project “Eurotopie” in the Belgian pavilion at the 16th Architecture Biennial in Venice. His articles were published in journals such as *ARCH+*, *Migrant Journal*, *MAP*, *Environmental & Architectural Phenomenology*, *Lo Sguardo*, as well as in several edited volumes.

Dirk van den Heuvel

Dirk van den Heuvel is an associate professor at Delft University of Technology, and co-founder and head of the Jaap Bakema Study Centre at Het Nieuwe Instituut in Rotterdam. Van den Heuvel received a Richard Rogers Fellowship from Harvard University in 2017, and was a Visiting Scholar at Monash University in 2019. He was curator of the Dutch national pavilion for the Venice Architecture Biennale in 2014. Other exhibitions include ‘Changing Ideals. Rethinking the House’ (Bureau Europa, 2008), ‘Structuralism’ (HNI 2014, with H. Hertzberger), and ‘Art on Display 1949–69’ (Calouste Gulbenkian Museum 2019, with P. Curtis). Publications include *Jaap Bakema and the Open Society* (2018), *Architecture and the Welfare State* (2015, with M. Swenarton and T. Avermaete), *Team 10: In Search of a Utopia of the Present 1953–1981* (2005, with M. Risselada), *Alison and Peter Smithson: From the House of the Future to a House of Today* (2004, with M. Risselada). He is an editor of the publication series *DASH: Delft Architectural Studies on Housing* and the online journal for architecture theory *Footprint*. He also served on the board of *OASE journal for architecture*.

Eline de Graaf

Eline de Graaf (1990) has been conservator at Het Nieuwe Instituut since January 2019. She is mainly concerned with the virtual translation and disclosure of the collection and archive and is constantly looking for new collaborations, new creators, new media and new stories to achieve this. She does so by researching and presenting the collection online and on location. In 2019 she started with the project *Open Archief*, a collaboration between Het Nieuwe Instituut and the Dutch Institute for Sound and Vision. This project brings makers and heritage institutions into discussion about

the importance of creative reuse of heritage and making online collections available. Three artists were selected via an open call to experiment with the possibilities of digital heritage collections in the creative, technical and copyright fields. In 2020/21 the project continues with a third partner: The International Institute for Social History. Together with three new artists, the project will organize an international symposium and a closing exhibition in the summer of 2021.

Emily Chooi

Emily Chooi is undertaking her MA in Architecture at the Royal College of Art and currently works at an architecture studio in London. She completed her BA (Hons) in Architecture at the University of Sheffield. At the RCA, her previous research focused on the ever-increasing human presence in oceans acoustically bleaching the soundscape of marine species. Emily proposed a network assisting non-human life forms to resist or coexist with the threat of anthropogenic interventions. Her project was shortlisted for the RIBA West Award. Her current interests engage with the local-global tensions in the environmental and social politics of decolonial practice.

Evangelos Kotsioris

Evangelos Kotsioris is a New York-based architectural historian, educator and architect whose research focuses on the intersections of architecture, science, technology and media. He is a Curatorial Assistant in the Department of Architecture and Design at the Museum of Modern Art in New York and a Lecturer at the Weitzman School of Design at the University of Pennsylvania. Kotsioris was curator of the exhibition *Lab Cult* at the CCA in Montreal. He is co-editor of *Radical Pedagogies*, a global history of experiments in architectural education, which will be published by MIT Press in 2022.

Flora van Gaalen

Flora van Gaalen is Head of the Programme department with Het Nieuwe Instituut in Rotterdam, and responsible for the public programme that covers architecture, design and digital culture. Recent projects include: *Stage Set Screen: Realities of Postproduction* (an installation on the importance of video production as a public realm for activism, commerce and emancipation), *G/D Thyself: Spirit Strategy on Raising Free Black Children* (spatial installation of The Ummah Chroma together with IFFR), *The Hoodie* (on the street fashion's icon as a carrier of cultural signification), *Atelier Nelly en Theo van Doesburg* (with a focus on Nelly as a key figure to the creation of the canonical

position of Van Doesburg and De Stijl movement), *Neuhaus* (temporary academy of more-than-human-knowledge) *Speculative Design Archive* (concerning the value of an archive of Dutch design and digital culture).

Frans Neggers

Frans Neggers is digital archivist at Het Nieuwe Instituut, the keeper of the state-owned Collection of Dutch Architecture and Urban Planning. The institute aims to increase the appreciation of the cultural and social significance of architecture, design and digital culture and to strengthen the interaction between these disciplines. Preservation of and sustainable access to the analogue and digital collection are main responsibilities. Strategies and facilities for digital preservation are being developed and will be implemented in 2021. The focus of research is the digital archive of the first 400 MVRDV projects, that has become part of the collection of the institute.

Georg Vrachliotis

Georg Vrachliotis is Professor for Theory of Architecture and Digital Culture at Delft University of Technology. Georg was dean of the Faculty of Architecture, head of the Chair for Architecture Theory and director of the architecture research archive at the Karlsruhe Institute of Technology (2014–2020). Georg is curator and (co)author of *Complexity: Design Strategy and World View* (with A. Gleiniger 2008), *Simulation: Presentation Technique and Cognitive Method* (with Andrea Gleiniger 2009), *Code. Between Operation and Narration* (with Andrea Gleiniger 2010), *Geregelte Verhältnisse: Architektur und technisches Denken in der Epoche der Kybernetik* (2009, 2020), *Structuralism Reloaded: Rule-Based Design in Architecture and Urbanism* (with T. Valena and T. Avermaete 2011), *Fritz Haller: Architect and Researcher* (with Laurent Stalder, 2014) and of *Frei Otto: Thinking by Modeling* (2017). He recently curated the exhibition “Models, Media and Methods. Frei Otto’s Architectural Research” at the Yale School of Architecture. Georg is a member of the advisory board of the magazine *ARCH+*.

Helena Francis

Helena Francis holds a BSc (Hons) in Architecture from the University of Bath. She currently works at an architecture studio in London and is undertaking the final year of her MA in Architecture at the Royal College of Art. At the RCA, Helena’s research has explored the spatial opportunities presented at the intersection of human, natural and machine bodies. Her interests lie in the fields of digital technologies and environmental and

social politics, with a particular focus on machine learning, intersectional feminism, decolonial theory and the politics of non-human and more than human knowledge production.

Ippolito Pestellini Laparelli

Ippolito Pestellini Laparelli is an architect and curator based in Milan. He is the founder of the interdisciplinary agency 2050+. Currently he teaches at the Royal College of Arts in London. Pestellini has recently co-curated *Manifesta's* 12th edition (2018) taking place in Palermo and has edited *Palermo Atlas*, the preparatory investigation on the Sicilian capital (Humboldt books, 2018). Between 2007 and 2020 he has worked as architect and partner at OMA where his work focused on research and curation, scenography and preservation. His projects include *Panda*, a research and exhibition for the 2016 Oslo Triennale, on the controversial impact of digital sharing platforms; *Monditalia*, a multi-disciplinary exhibition on the current status of Italy, at the 2014 Venice Architecture Biennale; the scenography for the Greek theater of Syracuse in Sicily (2012); and the co-curation of *Cronocaos*, OMA's exhibition on the politics of preservation at the 2010 Venice Architectural Biennale.

Janno Martens

Janno Martens studied philosophy and architectural history at the University of Amsterdam. He is currently a doctoral candidate at KU Leuven with a FWO-funded project on how psychological and technological notions of environment impacted North American architecture and urbanism. He worked as research assistant for Erik Rietveld (RAAAF/University of Amsterdam) and as coordinator of the Jaap Bakema Study Centre. Together with Dirk van den Heuvel and Víctor Muñoz Sanz he co-edited *Habitat: Ecology Thinking in Architecture* (nai010, 2020). He (co-)authored articles, essays and reviews that appeared in *ONTO*, *Orphanage Amsterdam: Building and Playgrounds by Aldo van Eyck*, *Phenomenology and the Cognitive Sciences*, *ArchiNed*, *Failed Architecture* and *De Witte Raaf*.

Kamil Dalkir

Kamil Dalkir is a tutor, together with Ippolito Pestellini Laparelli, of architecture design studio ADS8: Data Matter: Digital Networks, Data Centres & Posthuman Institutions. The ADS aims to investigate a possible architectural agency in designing for data and imagining the spaces and aesthetics of a new human and non-human cohabitation. Kamil holds a degree in Architecture

from the University of Westminster, a Master's degree in Robotics from King's College London and a Master's degree in Architecture from the Royal College of Art. He is currently studying for a PhD in Architecture at the Royal College, focusing on the Architecture of Law in the context of the migrant crisis.

Kyriacos Christofides

Kyriacos Christofides is a trained architect originating from Cyprus. He graduated from the MA Architecture program at the Royal College of Art and previously studied at the University of Bath. During his stay in the UK he was part of several architecture practices before recently joining 2050+, an interdisciplinary agency in Milan. His recent work explores the intertwined relations of architecture with ethnographic studies within the geo-political and socio-cultural context of Cyprus. He uses digital tools that allow experimentation with non-physical environments to emphasize certain spatial relations, within which he invites the public for participation and re-enactment of past events.

Ludo Groen

Ludo Groen works at the Research Department of Het Nieuwe Instituut and The Berlage at Delft University of Technology, whilst practicing architecture from his eponymous studio. He holds a cum laude degree in architecture from both The Berlage and Delft University of Technology. His writings are published in *StrelkaMag* (2020), *OASE Journal for Architecture* (2019), and *Architectural Association's DUE* (2018). Since 2020, he acts as junior member of the Council for the Environment and Infrastructure (RLI), the primary strategic advisory board for the Dutch government and parliament in matters relating to the physical environment and infrastructure.

Marina Otero Verzier

Dr. Marina Otero Verzier is an architect and the director of research at Het Nieuwe Instituut in Rotterdam. In 2018 Marina was the curator of *Work, Body, Leisure*, the Dutch Pavilion at the 16th Venice Architecture Biennale (2018). Previously, she was Chief Curator of the 2016 Oslo Architecture Triennale together with the After Belonging Agency, and the director of Global Network Programming at Studio-X – Columbia University GSAPP (New York). She studied at TU Delft, Columbia GSAPP, and ETSA Madrid, where she completed her PhD. Her thesis *Evanescant Institutions* examined the emergence of a new paradigms for cultural institutions. Marina taught

architecture at RCA in London. From September 2020 she is the Head of the Social Design Masters at Design Academy Eindhoven.

Marten Kuijpers

Marten Kuijpers is an architect based in Rotterdam, and researcher at Het Nieuwe Instituut. His work concerns the often invisible political and economic forces, scripts and mechanisms that shape cities and their hinterlands. His current research focuses on the implications of automation for the built environment, as part of the research project *Automated Landscapes*, launched in 2017 by Het Nieuwe Instituut. Marten studied architecture at the University of Technology in Eindhoven.

Meera Badran

Meera Badran is an architect and designer, based between London and Doha. She completed her BA in Architecture at the University of Kent (2017), and her MA at the Royal College of Art (2020). Her thesis project *On Behalf of the Voice* which explored the body, voice and language in relation to the digital and sociopolitical context in East Jerusalem, was nominated for a spatial justice award, and was featured in magazines such as *The Funambulist*. As co-founder of a research collective, Meera hopes to continue this investigation, exploring the body and its physical, digital, political and social contexts – within the realms of architecture, art, film and theory.

Soscha Monteiro de Jesus

Soscha Monteiro de Jesus is a researcher and designer. She is coordinator of the Jaap Bakema Study Centre, a collaboration between Het Nieuwe Instituut and Delft University of Technology. Soscha holds a MSc in Architecture, Urbanism and Building Sciences from TU Delft. In 2015 she was a participant in the Tokyo Tech International Research Opportunities Program (TiROP), where she investigated the relation between water, public space and urban transformation in Greater Tokyo Area.

Suzanne Mulder

Suzanne Mulder studied history of architecture at the University of Amsterdam. Since 2009 she is curator of collections at Het Nieuwe Instituut. She (co-)curated various exhibitions and her publications on architecture,

heritage and design include *Narrative Environments, on the art of making exhibitions, Dutch Architecture in 250 Highlights preserved by the Netherlands Architecture Institute* and *Making Choices, new perspectives on architecture archives*. She has been a guest lecturer at the Academie van Bouwkunst in Amsterdam and the Reinwardt Academie.

Tanja Herdt

Tanja Herdt is Associate Professor of Theory and Methods of Urban Design and section leader in the department of Urbanism at TU-Delft. She is both an academic and a practicing urban designer with an emphasis on urban transformation, methods of urban analysis, and history and theory of the city. Tanja Herdt studied architecture and urban design in Germany, and received her doctorate from the Department of Architecture at ETH Zurich. Before joining the faculty at TU-Delft, she worked at the research centre ETH-Wohnforum, ETH-CASE, as the head of research for sustainable settlement design. Her work on the British architect Cedric Price and the changing legacy of modern functionalism was published under the title *The City and The Architecture of Change* at Park Books, ISBN 978-3-03860-045-9.

Teresa Fankhänel

Teresa Fankhänel is a curator at the Architekturmuseum der TUM in Munich where she recently opened the exhibition *The Architecture Machine* (October 14, 2020–January 10, 2021). She was a curatorial assistant at the German Architecture Museum for the exhibition *The Architectural Model* (2012) and completed her PhD at the University of Zurich on American model making in 2016. Her book *The Architectural Models of Theodore Conrad. The 'Miniature Boom' of Mid-Century Modernism* will be released on July 15, 2021 (Bloomsbury).

Víctor Muñoz Sanz

Víctor Muñoz Sanz is an assistant professor at TU Delft. His research focuses on the implications for architecture and urbanization of technological transitions. Muñoz Sanz was a postdoctoral researcher at TU Delft in the project 'Cities of Making', and fellow at the Akademie Schloss Solitude. Prior to that, he was coordinator of the Jaap Bakema Study Centre, co-principal researcher of 'Automated Landscapes' at Het Nieuwe Instituut, and Emerging Curator at the Canadian Centre for Architecture. He is the co-editor of *Habitat: Ecology Thinking in Architecture* (2020) and an editor of the journal *Footprint*. His research on Automated Landscapes was exhibited at the Venice Biennale 2018.

CONFERENCE

Convenors:

Dirk van den Heuvel (TU Delft, Jaap Bakema Study Centre)
Georg Vrachliotis (TU Delft)

Conference team:

Soscha Monteiro de Jesus (Jaap Bakema Study Centre)
Marina Otero Verzier (Het Nieuwe Instituut)
Sun Ah Hwang (TU Delft)
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Soscha Monteiro de Jesus
Sun Ah Hwang

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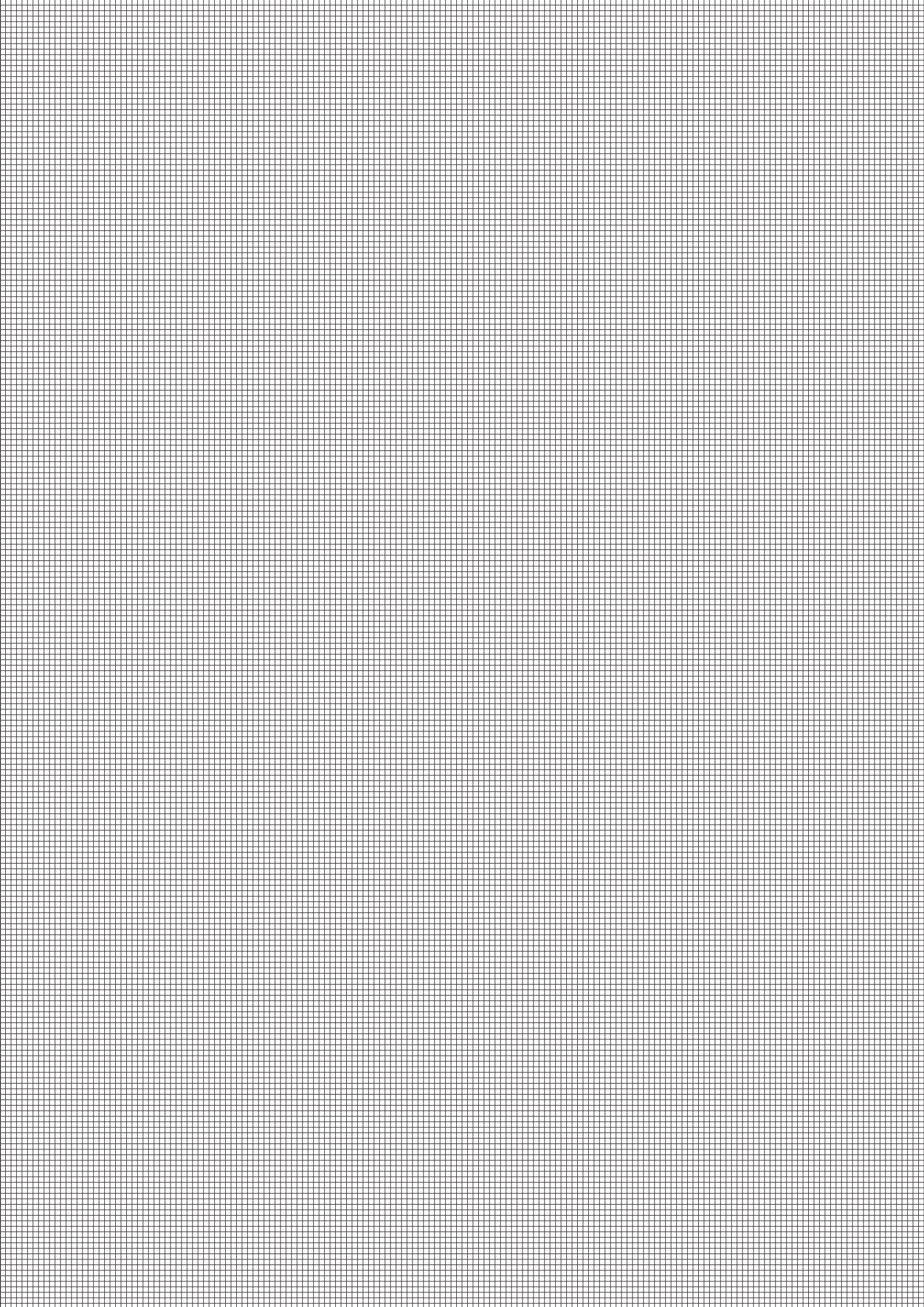
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Het Nieuwe
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architecture
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