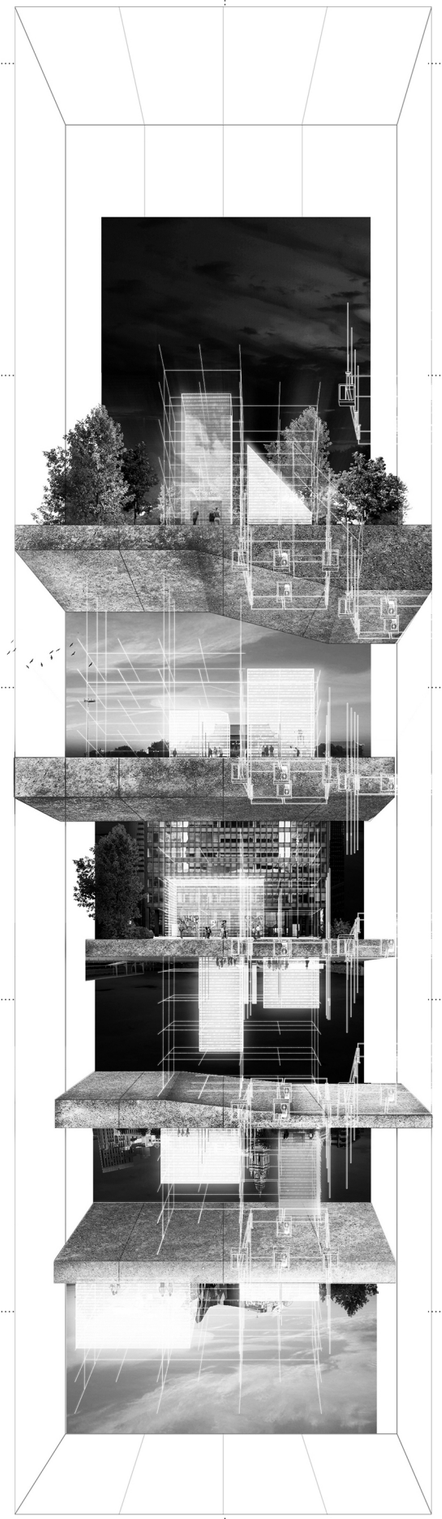
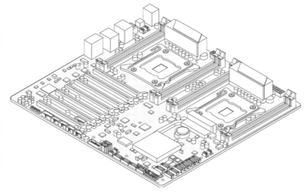
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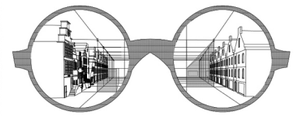
_Application Part 01

_Introduction
_Project "Ephemera"
_Theoretical Research

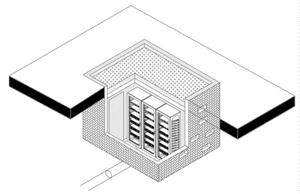




_urban hardware



_augmented reality



_urban server

project ephemera

part 01

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01 _Introduction
_Andrey Hodkevich

The desire for exploration of the unknown is what drives the human mind in its attempt to expand the horizon of its surrounding universe. Only through such curiosity one can see the perspective necessary to go one step beyond. I have always believed that the role of the architect is not so different from that of an explorer set to reach uncharted territories. I try to see every project as a journey which expands the current borders of my knowledge. For that reason I dedicate most of my career on the strive to seek and investigate new possibilities for the way in which we create our habitable environment. I believe that in the dynamic world today, we are the ones responsible to see, understand and anticipate the processes of transformation if we want to lay the foundation for a better future. The architecture which we produce should be a representation of that responsibility.

In 2016, parallel to my professional development as an architect, I founded "Ephemera", an architectural research studio which investigates the consequences of the Digital Revolution on the way we

_project ephemera
_introduction

percieve architectural space. Its purpose is to synchronise and intersect the worlds of the virtual and phyiscal and by colliding principles and ideas from both sides to propose innovative proposals for the contemporary urban environment.

The following pages include theoretical and practical examples of the ideas and visions which I have developed over the past years at "Ephemera". Each of these projects has received international recognition within academic or public media. They all represent my search for architecture that corresponds and answers to the changing conditions of our lives- a 21st cenury architecture.

_project
_Ephemera

02 _project _Ephemera

"there is one profession and one only, namely architecture, in which progress is not considered necessary , where laziness is enthroned , and in which the reference is always to yesterday " [1]

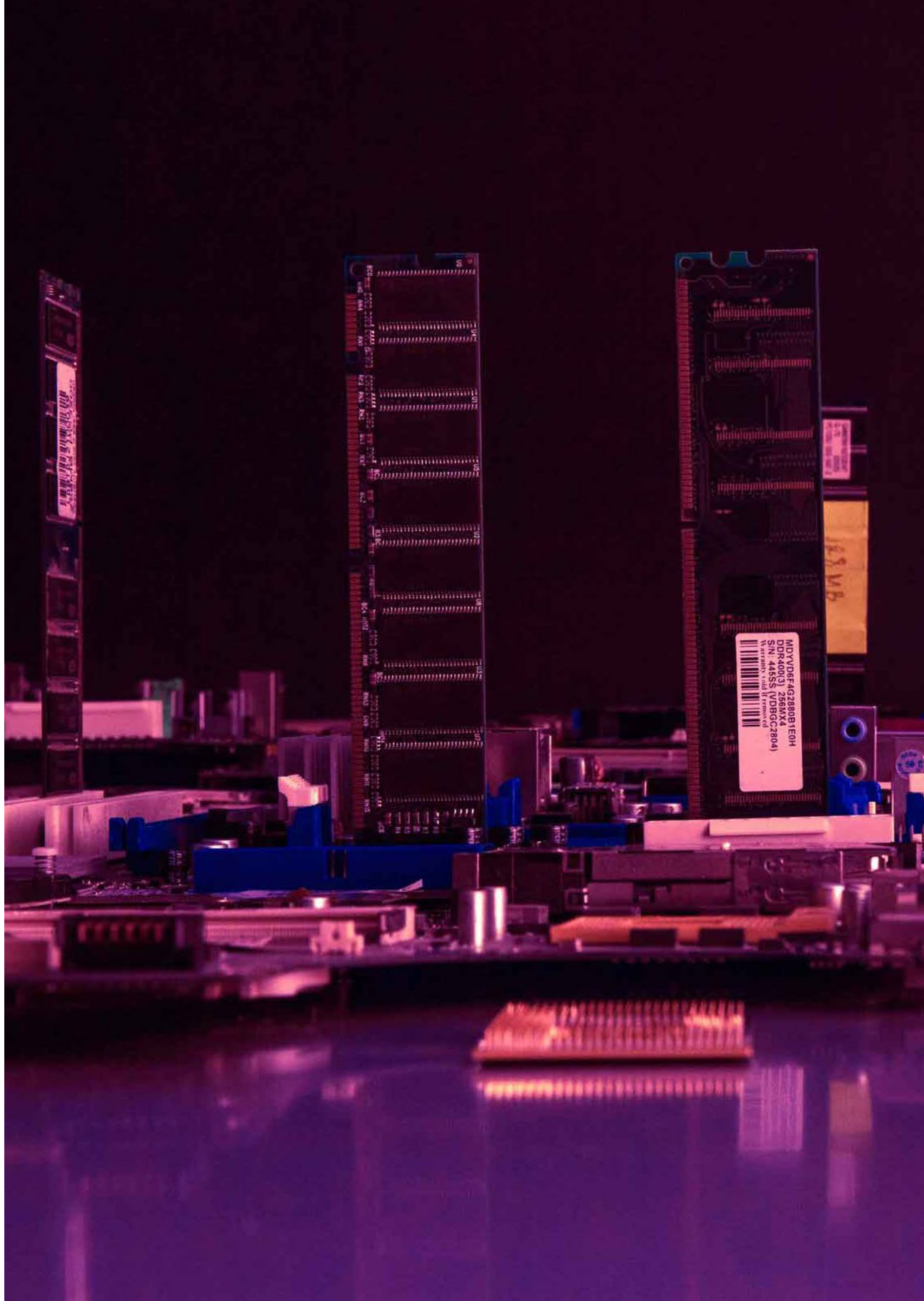
Vers une architecture
Le Corbusier

_Towards "Ephemeralization"

Project "Ephemera" represents an architectural experiment. It researches possible interaction between contemporary philosophical, technological and architectural thoughts in strive of discovering new opportunities for the discipline. As such It stands at the border between utopia and reality, aiming at a clear and realistic result inspired from conceptual ideas. The term "ephemeralization" was originally introduced by Richard Buckminster Fuller in the middle of the 20th century. It represents the ability of mankind and the technological advancement to do "more and more with less and less until eventually you can do everything with nothing". A process of accelerating efficiency of achieving the same or more output while requiring less input- a necessary direction in the intention of maintaining a balance between the growing global population and the decreasing resources which it consumes. It is this relentless evolutionary path that should guide us in the establishment of the vision for the reality which we attempt to influence. Unfortunately there is a strong mis balance between what our contemporary "spirit of the times" has to offers as technological opportunities and social problematics and what the architectural status quo provides in return. The demand by the market has become a supreme architectural guide in the 21st century. Instead of being led by pioneering ideas, designers are hiding behind post-modern provocations, trends in design and the built environment.
We have forgotten that it is our responsibility to expand the horizon of what can be offered to society. This is where we find the starting point of investigation of "Ephemera".

[1] R. Buckminster Fuller, “Nine Chains to the Moon”, Anchor Books, 1938, 1973, pp. 252–59.

[2]Le Corbusier, “Vers une architecture”, Dover Publications Inc, 1923 , 1986, pp. 109



Driven from curiosity and dissatisfaction with the contemporary architectural trends, it confronts the idea and understanding of architectural space today. It is a research studio focused on filtering and understanding factors and conditions that surround and shape society. Its result is represented through series of globally acknowledged architectural concepts that reflect and correspond to the aspirations and emerging technologies which our time has to offer.

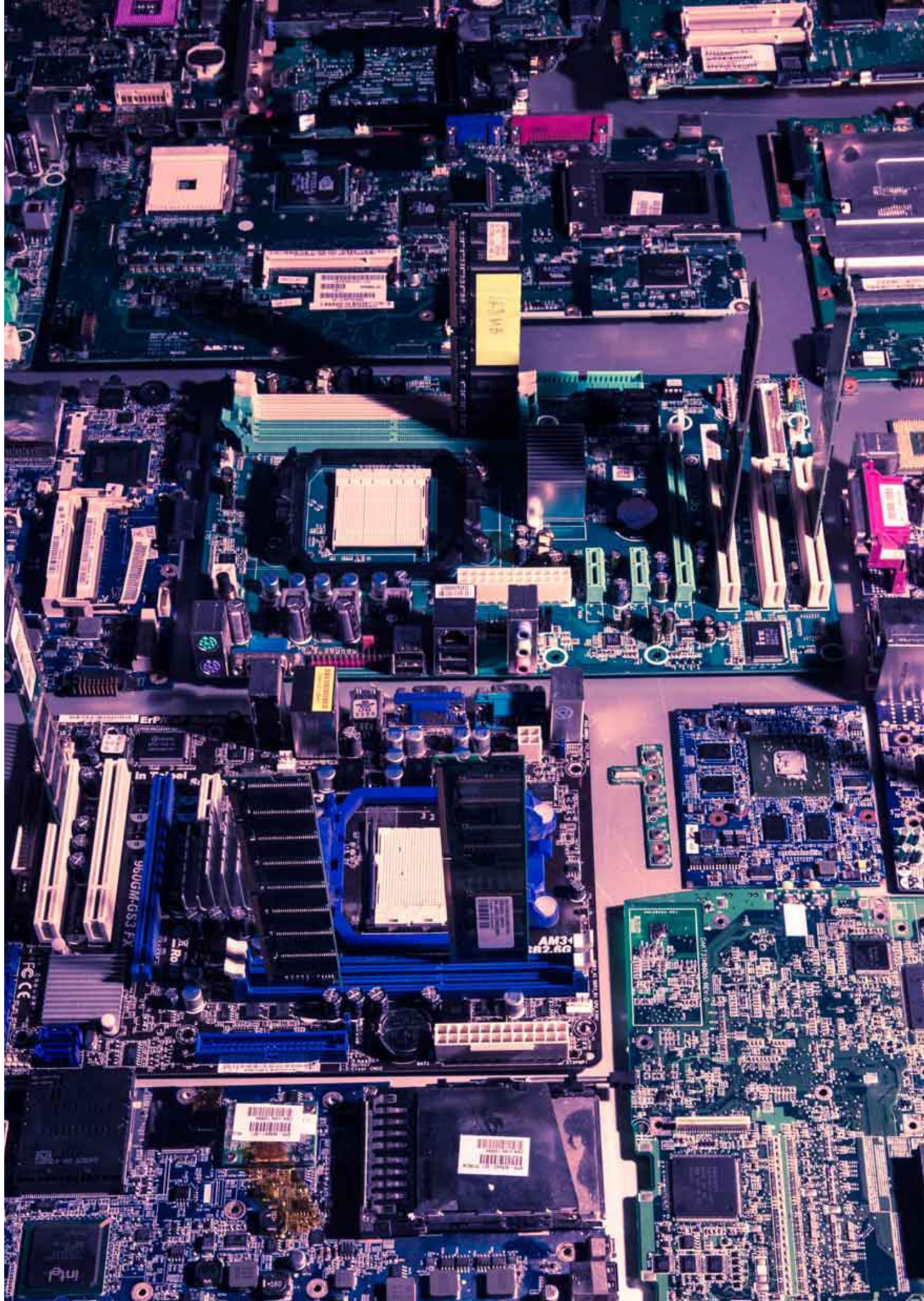
_Reflection

Today there is the opportunity to be part of one of the most fundamental and controversial technological periods, the rise of the "Information Revolution". Regardless to whether it has reached the power to be referred to as a revolution or it is a speculative mask worn by the late industrialization, it brings a new digital world of mass connectivity and extreme growth. A completely new scenario for nearly every professional field. On a daily basis one may witness an on-line revolution which redefines our perception of reality in a progressively thinning border between the material and the virtual world. Being among the leading factors in the formation of the human habitat, architecture is responsible to elaborate on such social , economical and technological transformations. As its typological and stylistic waves resonate and follow one after another in a spiral-shaped evolutionary trajectory, over time emerges one of its most natural capabilities- to provide interpretative reflection of its surrounding. As described by Quatremere de Quincy:

"*this art imitates no form, but rather the spirit of those surrounding it* [3]"

To understand how architecture as a discipline reflects the "spirit of its time" we can look at its basic product- the design of functional habitable space. So far we have always achieved habitable space by creating borders, -walls, floors , roofs and other forms of separation between the interior space and the outdoor environment. What happens to those borders and the space that they adapt in a world in which the boundary between the material and the digital environment slowly disappears? In order to define an answer we must concentrate on principles given by both perspectives. This is not a question of architectural form but the form of architecture that we create.

[6]Vittoria Di Palma, “Architecture, Environment and Emotion: Quatremère de Quincy and the Concept of Character,” AA Files 47 (2002)



_Immateriality

The technological transformormations of the "digital age" provide adaptation of the term "architecture" beyond the building sector. Used in the field of information technologies, it becomes a symbol of proficiency in rational and logical organization in computer hardware compilation, software design or the development of Internet networks. These new approaches give different reflection of the term, unimpeded from previous understandings and manifestations. In a way they give a clear and unobstructed reflection of the contemporary thought. Project "Ephemera" aims at a possible connection between such different adaptations and the design of habitable space. It strives to extract essential principles, typical for digital branch that can be reinterpreted as additions to the current architectural vocabulary.

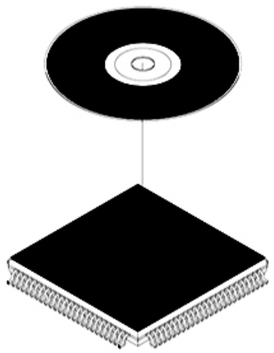
"Ephemera" proposes a different form of architectural space based upon one of the most fundamental progressions of the digital age- the growing value and usage of production in the form of information. The invention of the computer has opened up a new era in which we see how a product can be created, used and destroyed without ever becoming a part of the physical world.Building upon this notion, with the creation of the Internet such products can be used and accessed all around the world at a touch of a fingertip. This phenomenon leads to a production of immaterial goods that become sometimes even more valuable than physical manifestations. More importantly, it raises the question about the need for creating something physical as opposed to immaterial goods considering the fact that our world has limited resources. With its research "Ephemera" seeks to question, study and understand how such a technological and social perspective can affect the idea of architectural space and where exactly it can be applied in the building industry? Can one think of producing an immaterial building and what advantages can that bring? Can we blur the border between habitable space and exterior environment? Can a space in a design be as responsive and adaptive as a computer program? Can two people enter the same room at the same time from two different places around the globe? What is human scale in an immaterial habitable space? In order to answer these questions "Ephemera" summarizes four basic principles, which step upon the idea of immaterial habitable space that can be used as founding concepts. Each of term is a key principle used in computer or digital design that can be reinterpreted and translated into potential architectural value. Together they lead to designs of space which stands between the digital and the physical. Designs of an architecture born in the 21st century.



3.1

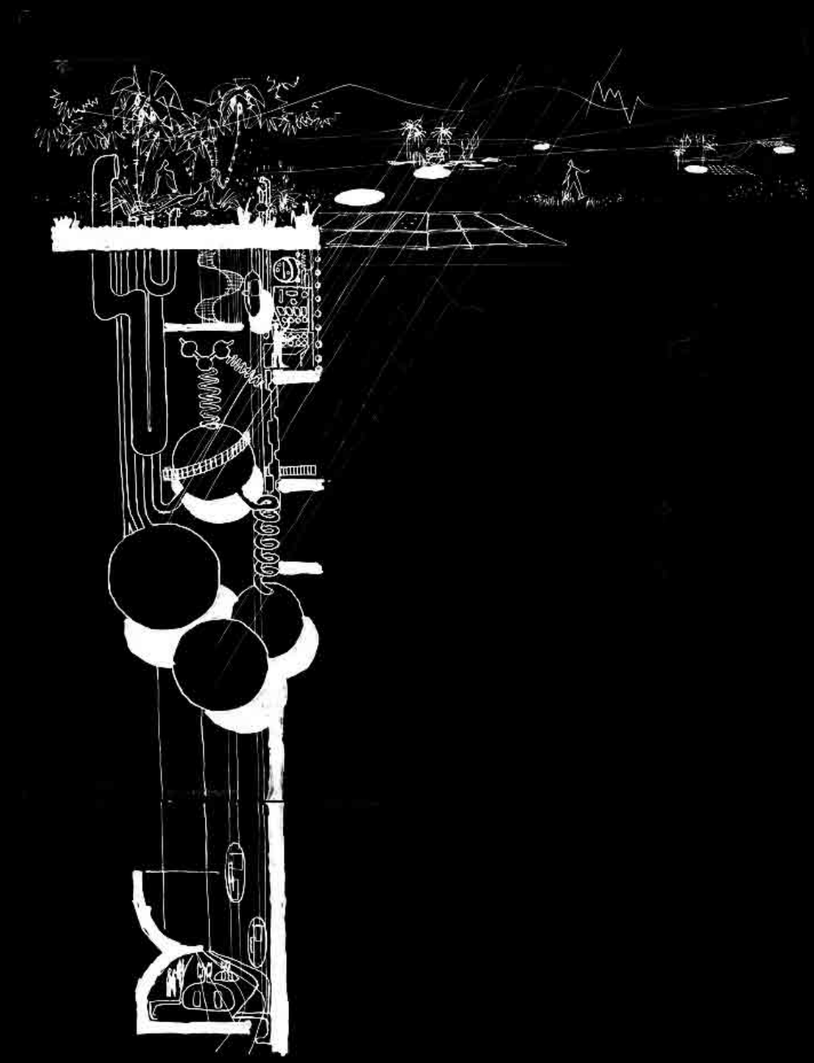
_Principle 01

_Hardware and Software



The fundamental invention that lays in the basis and also triggers the "Information Revolution" is the computer. In its simplest definition it is an electronic device that can be used to perform a sequence of logical or arithmetic operations which lead to the production of a result in form of information or signals. The architecture of a computer is based on the interaction of two vital components- its hardware and its software, a combination that allows the machine to go beyond its mechanical existence. The hardware is a made up of physical features - parts with different function which you can see or touch. These can be interior components such as the motherboard, CPU and the video-card or exterior such as the monitor, the keyboard or the mouse.

The software is pure information that has the ability to activate and control the work of the hardware. It coordinates the input of signals (data) with a preset of functions (programs). It controls an interaction between the physical components and the user in a process, which produces a direct result. Can a building be such a result? A possible way to achieve this can be to consider a building as a dynamic system rather than a fixed object - an immaterial space generated by the urban hardware and organized through the urban software, a building based on the interaction of overlapped dynamic layers activated by the presence of the user. Such layers can be physical or digital depending on their functional requirement, so that when combined together they can function as a temporary habitable space. Amplifying fields as a form of architecture gives a fundamental capability- a transition from physically strict to indeterminate borders, from a state of permanence to relativity and dynamics. The impermanent and dynamic state of such a space can allow the software to organize it as a result of the interaction between the site, its user and function. In the end the understanding is that the hardware is the physical component of a building and the software can be inferred as the different organizational components of a buildings. The result of the two working together is habitable space.



In 1958 Yves Klein in collaboration with architect Claude Parent develop an idea of built space which they refer to as " Air Architecture" . A space where the walls, the roof and even the furniture are made from compressed air, while the services (kitchen, bathroom and store) are grouped together underground. An environment with a controlled climate where people are free to move in direct contact with the earth and sky. An ephemeral, immaterial space with invisible blurred borders generated from hardware devices hidden underground.

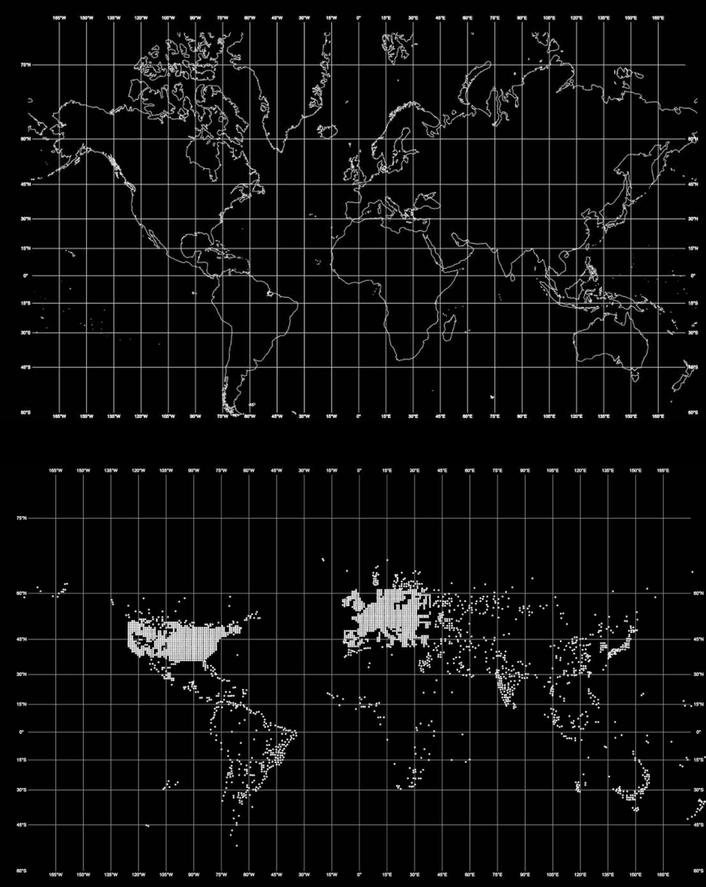
3.2

_Principle 02
_Peer to Peer Network



The Internet is a global network of interconnected computers that allow exchange of information. There are two main approaches in the "architecture" of a network. The first and original is the client to server network, based on a classic hierarchical model in which the source of information is clear and defined- a centralized server that stores all the information. With the growth of the Internet and the improvement of computer technology, a secondary model gained more importance, the peer-to-peer network. It is a network in which there is no hierarchy; every device is a source of data. Two devices can connect and exchange information in an unregulated digital field.

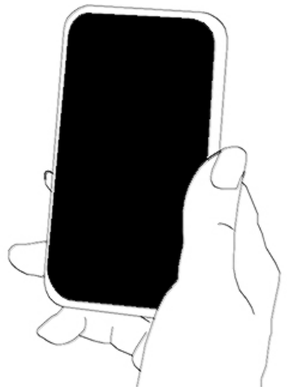
Today there are 7,496,358,758 billion people in the world from whom there are 3,606,925,516 who have access to the Internet. This means that nearly half of the global population uses the Internet. Considering the constant increase of both digits, with the latter growing faster, one can see that the digital layer on top of the physical global layer is becoming a more crucial element in our everyday lives. This world has different rules and nearly no restrictions. Dynamic immaterial architecture can adapt to the concept of peer - to- peer networking and result in a form of interaction between unrelated places that can share a similar idea or event. A building can be a form of communication in a site-to-site global master plan where every point with Internet access is a potential hotspot. With the Internet being an immaterial resource to people, anyone who can have access to the web can trigger informational exchange that can result in functional spatial adaptation.



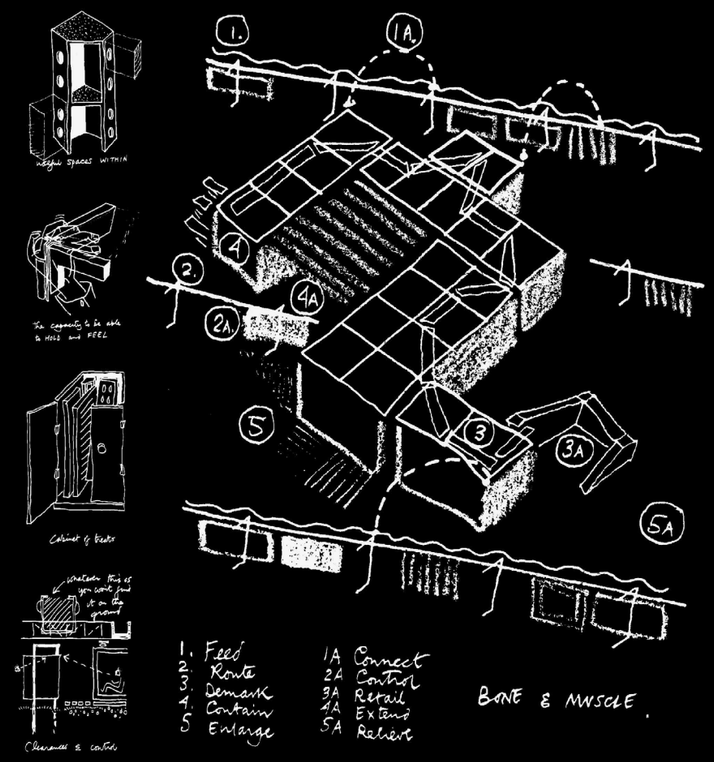
The Information Revolution allows us to see a new geographical image of the world- the one of global connectivity and access to online information. This is a new world, with different rules and borders. A transparent, limitless but also very often "fake" and censored space in which the borders are set not according to the natural conditions but according to the carried content. This digital world is the masterplan for our work.

3.3

_Principle 03
_Interactivity



The process and extent of communication between a user and a device can be referred to as interactivity - capability of the software to relate to and react to the input of information by the user. This concept is a fundamental aspect in the architecture of every software design for a computer. Just like a master plan, every program has a backbone structure, which filters the input of information to the proper destination intern leading to a reaction and eventually to a result. From very basic processes, the level of interactivity in contemporary smart devices and applications creates an "almost natural transition" between the human thought and a device. Interactivity, is a fundamental principle, which can be interpreted from software architecture into spatial architecture, transforming the building from a homogeneously designed space with clear authorship into a heterogeneous system. This system is a result based on an instantaneous automatized communication between a user, the function of the space, the spatial conditions of the site and the context, a bottom-up process that makes a building as responsive and adaptive as a smartphone application, which constantly reacts to the demands of the user and the changing conditions of the site. The aim is that a building has the potential to be as responsive to the user as a computer program.



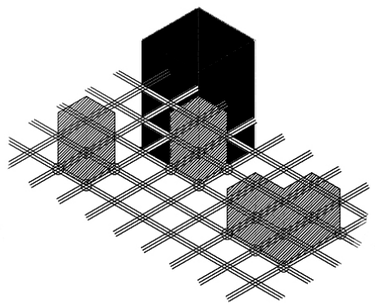
"If you kick a system, the very least thing you would expect it to do is kick you back."

The "Generator" Project developed by Cedric Price in 1976 to 1979 was an attempt to design a building as a shifting condition instead of a final form. Similar to the case of "Fun Palace" (1965), Price designs a character of architecture which seeks to engage the people in a conversation, in a provocation, which would include their participation in the final result. The project was to be developed on the coastal Georgia-Florida border and was to be an "activity center". Price developed a grid according to which the building would shape-shift instantaneously and through this attempt to provoke and integrate the variety and dynamics of the activities and wishes of the people which will be using it. With the sensory system developed by John Frazer , installed on the modules of the generator , the users would be able to predefine and actively participate in the layout that was to happen. Through this the building would develop its own memory and behave in certain patterns following the particular activities and users involved.

[6]John Frazer, Letter to Cedric Price (January 11, 1979). Generator document folio DR1995:0280:65

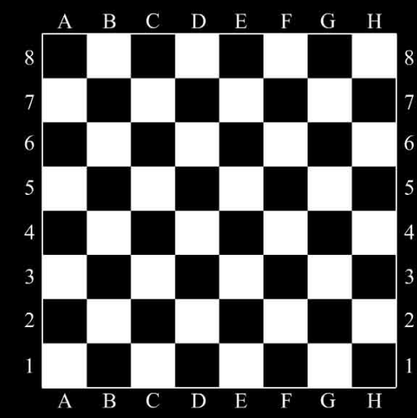
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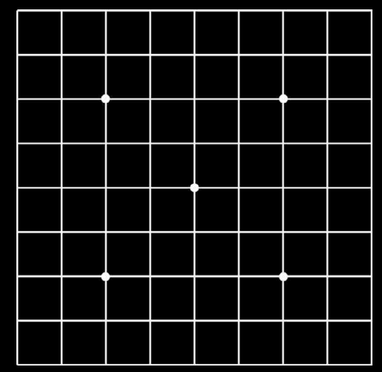
_Principle 04
_Grid-Based Design



Using a structure of intersecting straight lines as a framework for organisation of graphic elements is among the timeless tools in design. The grid gives a designer the freedom to coordinate proportion and rhythm in the search of a balanced and harmonic appearance. Its simplicity makes it a functional tool that can serve as a backbone for static or dynamic systems of all scales and typologies. When used in the field of Web Design as a skeletal system, it gives the possibility for a web page to successfully adapt to devices with different screen sizes.

If we take into consideration that a building is a dynamic system instead of a fixed object, the grid becomes an excellent framework on top which its dynamic spaces can transform. In order to achieve this all components of the hardware need to follow the grid, so that they can be easily coordinated by the software. Instead of screens of different sizes we see sites with different scales and conditions. When those conditions are mapped, the grid becomes a mediator between the digital and physical space. Information is provided by the user and according to the demand (function of the space) the information is processed to the site so that the resulting space the resulting space can adapt and thus be experienced in its optimal appearance. It can grow and shrink, appear and disappear , giving freedom to the interactive spaces.





"Within their milieu of interiority, chess pieces entertain biunivocal relations with one another, and with the adversary s pieces: their functioning is structural." [32]
"...a Go piece has only a milieu of exteriority, or extrinsic relations with nebulas or constellations as bordering, encircling, shattering. All by itself, a Go piece can destroy an entire constellation synchronically; a chess piece cannot (or can do so diachronically only. " [4]

[4] Gilles Deleuze and Félix Guattari “A Thousand Plateaus”,


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