6.th

Material

Information as the par ex-cellence factor in order to transform society pulse into architecture

Marianna Milioni | Daniel Hora

DISSERTATION

Thema THE SIXTH MATERIAL

ausgeführt zum Zwecke der Erlangung des akademischen Grades einer Doktorin/eines Doktors der technischen Wissenschaften unter der Leitung von

Betreuer Ao.Univ.Prof. DI Mag.phil. Dr.phil. Peter Mörtenböck

Insitutsnummer/ E264/1
Abteilung Abteilung Zeichnen und Visuelle Sprachen

Institutsbezeichnung Institut für Kunst und Gestaltung

eingereicht an der Technischen Universität Wien
Fakultät für Architektur und Raumplanung

Name	Marianna Milioni	Daniel Hora
Matrikelnummer	0327817	9725253
Anschrift	Gelonos 11 GR-11521 Athens	Reinprechtsdorferstrasse 56 A-1050 Vienna

Wien, am

_____   _____

.004

ACKNOW-LEDGEMENTS

.005

.006

Today's architecture, as well as a number of diverse disciplines, has to share the rapidly technological, cultural and social developments. In this framework, architecture has to embrace the driving force of this evolution, namely the information. Information is progressively turning into an integral part of the architectural praxis – not only as a piece of the new-media-tools that architecture uses by now, but also as a data feedback.

Foreword

This dissertation not only aims at exalting and promoting the role of information in architecture, but it also argues that information can be considered as the new building material.

During its long history, architecture has called forth miscellaneous materials – natural and artificial, obvious and surprising, beautiful and ugly, easy and difficult to handle, delicate and strong, durable and evanescent. What all these materials have in common is that they have always represented their era, the coeval social and technical evolution. In this framework, our time, the so widely referred to as "the age of information", should be represented by this specific material.

In the following chapters, the nature as well as the possible usage of information is explored through the constant interaction between theoretical research and experimental, practical quest. We assume and consequently evince that there are two different kinds of information, namely the apparent and the implicit one. In the framework of this dissertation, the kind of information that we are interested in is the unforeseeable, the implied one.

We therefore explore the procedures in order to extract this information and then use it for conceptualising architecture once more.

The empirical part of our research is conducted through a range of different prototypes, in different scales, detail, interaction ability and precision. Their conception and materialisation either confirms or questions our theoretical supposition.

This thesis is a registration of numerous variations of the theory and the thought. Thus, it functions as a "boost" in order to speculate, to contemplate, and finally to design architecture in an innovative way. Therefore, it is an open-ended procedure; its outcome cannot be predicted.

Table of contents

The Sixth Material

.010

.012

Information is increasingly becoming an integral part of architecture and the urban environment. Indeed, as Antonino Saggio underlines

Summary

> "it is information, above all, that is becoming an essential component of the new architecture and the new urban environment".[1]

Overall, this is realized in a wide range of ways. First, information acts as a *communicative* tool, which architecture employs to interact and connect with its users. It allows for buildings – and by extension built environments – to spell out a narrative story and thereby educate and communicate, as well as entertain or advertise. Secondly, information prompts architects into developing buildings and spaces that are "conscious of the changes in the operational and social framework caused by information's technology and capable of expressing this revolution".[2] Put differently, information pushes the boundaries of architectural practice by embodying change and innovation. Finally, and most importantly for the purpose of this analysis, information becomes a *production infrastructure.*

The present thesis explores further this complex relationship between information and architecture.

It argues that information can be considered as architecture's new construction material - the sixth building material following wood, stone, concrete, steel and glass. Information – actually its collection, classification, diffusion, transmission and above all formalization and operationalization – is among the driving forces behind the change that

[1]Gausa, M., Guallart, V., Müller, W., Soriano, f., Porras, F., Morales, J., (2003), The Metapolis Dictionary of Advanced Architecture – city, technology and society in the information age, Actar, Barcelona
[2]Ibid

we witness nowadays.

The thesis is organized in two core and complementary parts: the first part addresses the core theoretical question of our analysis, namely how we can conceptualize the identification and collection of information. It distinguishes between the apparent and the implicit information. The apparent information is in essence the basis of traditional architectural theory, which rests on the reading of the existing such as soil, topography and so on. The scope of this understanding of information has actually changed in recent years owing largely to rapid technological change, as well as globalisation and shifts in geopolitics. The implicit information is the *not seen* but *felt* kind of information. It is in other words the unforeseen one. Although not visible, implicit information can be approached and gathered through qualitative participation. This thesis maintains that information could be enhanced and enriched through the involuntary, unprovoked, unasked, of even unforeseeable information. Nowadays society is both multifaceted and incessantly changeable and therefore full of dormant energy that needs to be extracted. Our research, aims at unearthing and discovering this dormant information that participants may possess, allowing them to realise their right to express themselves. It is this acknowledgement that directs to provoking a direct participation and measuring all the subversive consequences that this may imply.

It is in this area, that this thesis aspires to contribute. In particular, it focuses on the implicit and involuntary information, which participants, as already argued, not even know to possess. It is recognised that our consideration rests on the assumption that the implicit information although not known is indeed there. However, we maintain that this does not necessarily represent a limitation to our analysis, because

even *identifying* its absence would indeed be a finding in itself.

A necessary practice in order to address these implications would be to develop a toolkit of participation techniques. This is what the second part of this dissertation deals with, that is the ways of provoking participation in order to get a reaction and in this framework information feedback. Changing the whole procedure of extracting information, changing the whole range of requested society data appears to open up a *continuous* process. In other words it opens up a process, which has no prescribed itinerary and quite likely no final solutions.

Architecture has to work socially, as well as, spatially by coping with the rhythm of everyday life. In view of this, we try to collect bits of information through experimental praxis, in the form of interactive prototypes. These prototypes function as provocation factors in the city – in the reality itself – through their physical interactivity, while they operate in recognition to the fact that the architecture itself changes. The provocation is continuous and in constant motion. Therefore the prototypes act as the research experiments, allowing for the conduct and registering of momentary inquires. During their sojourn, through the communication and the interaction with the visitors, the prototypes become suppliers of information.

In the course of our research, we experimented with a range of different prototypes, which are described and discussed in more detail later. All of these attempts have had a distinct value in providing useful insight on the role and importance of information and on the approaches available in extracting it. Their conceptualization and actual or virtual realization allowed for further reconsideration of our theoretical reasoning, while also providing the input for the refinement and adjustment of design in the next experiment of our praxis. Yet the one prototype that has been

presented in different circumstances, in order to provoke participation is the self-model ICH.

ICH develops as an outcome of the information processing in the mind. One maintains an internal image of oneself. That consists not only of colours and forms, but also of instinct feelings, the sense of internal and external equilibrium, cogitations and personal memories. And in addition to that, the obstinate impression that a core exists, something that remains identical over the time. The intended purpose of this model is to be orientated towards the outer world, to communicate with other conscious essences, to attract attention and cerebration. No mental substance corresponds to the model - it is rather a skilful kind of organizing the information flow.

Through this thesis we register the numerous variations of the theory and the thought. This work doesn't try to invent formulas; it represents just an impulsion to alteration. After all, to represent a reality is to begin to transform it.

Chapter 01

Introduction

The Sixth Material

This dissertation aims at exploring methods of interpreting society data into architecture. Operating at the interception of ancient knowledge and contemporary practice, architecture represents an "awkward way to look at the world and an inadequate medium to operate on it".[3] Yet, if, as Rem Koolhaas proposes, architecture becomes liberated from the obligation to construct, then it can become a way of thinking that is a discipline that represents relationships, proportions, connections, effects. In other words, architecture can become the diagram of everything.[4]

This thesis sets at systemizing this understanding of architecture.

+ Architecture is not only what is built. It is also a conceptual trajectory, the comparison of concepts stemming from heterogeneous disciplinary fields, which exempt it from all formal unification and open it up to its future development.

This ceaseless exploration pushes architecture out to its conceptual and disciplinary boundaries.

In this context, the thesis aims at developing innovative strategies and methodologies in order to use social data and their information potential so as to arrive to an updated, an interactive architecture – in this case thought as the diagram of everything. The research sets in exploring the evolution of information, the kinds (or types) of information, in order to arrive at a better understanding of the complex relationship between information and architecture.

It is widely accepted that we nowadays experience the age of information.

01.1
Preface

[3]Koolhass, R., Editor in Chief, Content (2004), Taschen
[4]Ibid

+ Information is considered to be the par excellence requisite element, both as a given data, as well as a procedure outcome – and that it affects almost all disciplines from humanities to social sciences and from natural to formal and applied sciences.

Given that the notion of information is of such a wide use and influence, it is critical that we restrict our engagement with it and thereby disentangle its relationship with architecture.

Although – due to the nature of the information – this engagement involves reference to diverse disciplines, like social science, philosophy and theory of architecture as well as applied architecture, we should from the outset clarify that our ultimate objective and interest (both professional and inquiring) is confined to architecture – its theory and applied form.

Within this context, this study focuses in exploring the different aspects of information, as well as its role in architecture. The fundamental hypothesis that we intend to (set and) explore is, whether information can be considered as an *architectural material*, a material that can be employed and capitalised upon in order to produce architecture.

In view of the above, we can argue that the ultimate objective of this dissertation, as well as its contribution to the science lays in the *fusion* of information – the undoubtedly prevalent notion of our era – with architecture. This *amalgamation* is achieved through a qualitative approach, which, in turn, rests on the constant interaction between theory and praxis. In recognition to the fact that information is an unceasingly changing element, and therefore there exist no secure way

.020

to *confine* it, the alternative method is to *capture* moments of it. This is precisely what our experimental practice is set to achieve. The praxis discussed in the second part of this dissertation represents actually our case studies. There are diverse definitions and uses of cases. Some of them presented as specific empirical phenomena and others as general theoretical categories. These real, tangible examples function in a catalytic manner in order to conceptualize the notion of information. Like C. Ragin and H. Becker argue[5] "the experimental method can be a guide to finding and fixing an identity, or interlocking set of identities, in a region or phenomena. And so experiment can be a guide to features of the search for identity in general".

A first core dilemma that needs to be addressed from the outset is how we should approach architecture. Overall we could argue that there exist two quite different, yet both very convincing – as well as relevant regarding our desirable goal – ways of dealing with architecture. From one side, we have the *phenomenology* in architecture that is architecture in concrete, existential terms. On the opposite side of the spectrum, we have *contingency* in architecture, which can bring architecture to engage with the "inescapable reality of the world", as Jeremy Till accurately characterizes it in Architecture Depends.[6] More specifically, Till argues that the everyday world is a disordered mess, from which architecture has retreated; that is why architecture is defined by its very contingency, by its very uncertainty in the face of the outside forces.

In order to be able to combine these two – apparently totally opposite – terms, we should (briefly in the framework of this introduction) analyze both of them.

[5]Ragin, C., Becker, H., eds., (1992), What is a case? Exploring the Foundations of Social Inquiry, Cambridge University Press
[6]Till, J., (2009), Architecture Depends, MIT Press

Phenomenology in philosophy (from Greek: *phainómenon* "that which appears" and *logos* "study") is the study of the structure of experience, and as a notion can be traced back to the early 20th century writings of Edmund Husserl. According to Husserl's conception, phenomenology is primarily concerned with the systematic reflection on, and study of, the structures of consciousness and the phenomena that appear in acts of consciousness. Phenomenology was conceived as a *return to things*, as opposed to abstractions and mental constructions. Overall, phenomenologists have been mainly concerned with thematic areas related to ontology, psychology, ethics and to some extent aesthetics. However, they have given relatively little attention to the phenomenology of the daily environment. It is in response to this that Schulz, in his seminal book *Genius Loci*, has called for the need of a phenomenology of architecture.[7]

Phenomenology in architecture juxtaposes rationalism, questioning the quality of architecture and not referring to the quantity. It refers to the experience through sensory properties in reference to building materials. Namely, a philosophy where the building does not function in the second dimension or third dimension, but the fourth dimension (time). *Genius Loci* represents a first step towards a "phenomenology of architecture", that is a theory, which understands architecture in concrete, existential terms. Schulz claimed that it is urgent to return to a qualitative, phenomenological understanding of architecture.[8]

In phenomenology, the environment is concretely defined as *the place*, and the things, which occur there take place. It should be emphasised that the place is not as simple a notion as that of the locality. Rather,

[7]Norberg-Schulz, C., (1980), Genius Loci. Towards a phenomenology of Architecture, Rizzoli International Publications
[8]Ibid

it consists of concrete things, which have material substance, shape, texture and colour, and together coalesce to form the environment's character, or atmosphere. It is this atmosphere, which allows certain spaces, with similar of even identical functions, to embody very different properties, according to the unique cultural and environmental conditions of the place, within which they exist. Phenomenology is conceived as a "return to things", manoeuvring away from the abstractions of science and its neutral objectivity. The man-made components of the environment become the settlements of differing scales, from cities to houses. The paths between these settlements and the various elements, which create the cultural environment, become the secondary defining characteristics of the place. The distinction of natural and man-made offers us the first step in the phenomenological approach. The second is to qualify inside and outside, or the relationship of earth-sky. The third and final step is to assess character, or how things are made and exist as participants in their environment.

While Schulz's Genius Loci, was indeed the first systematic attempt to develop a phenomenological understanding of architecture, earlier tentative attempts also exist. Gaston Bachelard in his book "The poetics of space", published in 1958 also attempted to apply the method of phenomenology to architecture, basing his analysis not on purported origins but on lived experience of architecture. Bachelard implicitly urges architects to base their work on the experience it will engender, rather than on abstract rationales that may or may not affect viewers and users of architecture.

On the other hand, juxtaposing to the quite "concrete" nature of the term

and meaning of phenomenology in architecture,

> there is J. Till, who doubts this architectural control and in his book *Architecture Depends* argues that architecture is dependent for its existence on things outside itself.[9]

Despite the arguments of autonomy, purity, and control that architects often proclaim about their practice, architecture remains buffeted by uncertainty and contingency. The everyday world is not certain, but rather a disordered mess, and it is from this everyday world that architecture has emerged. According to Till "architecture has to work (socially, spatially) by coping with the flux and vagaries of everyday life".[10] On the basis of this, he argues about the necessity to understand the role of contingency in architecture as an opportunity rather than a threat.

Contingency, from the philosophical point of view, is the status of sentences, which are neither undoubtedly true under every possible assessment, nor are they necessarily false. A contingent proposition may be so, because it contains logical connectives, which – along with the verity of any of its parts – determine the truth-value of the proposition in general. This means that the truth-value of the proposition is contingent upon the correctness of its components. Contingent propositions depend on the facts, whereas analytic propositions, are true without regard to any facts about which they speak. The term proposition refers to either the *content* or *meaning* of a meaningful declarative sentence or the pattern of symbols, marks, or sounds that make up a meaningful declarative sentence.

[9]Till, J., (2009), Architecture Depends, MIT Press
[10]Ibid

.024

Contingency represents a possibility, as well as the condition of being dependent on chance (or generally, on not forehead known circumstances) or on the fulfillment of a condition. It seems that a discipline inevitably bound with contingency is rhetoric: rhetoric is indeed contingent and relative, but it is also epistemic. Theorist Lloyd Bitzer makes five assumptions about rhetoric in his article: "Rhetoric and public knowledge".[11]

_ Rhetoric is a method for inquiring into and communicating about the contingent.

_ This inquiry does not yield certain knowledge, but only opinion.

_ The proper mode of working in this realm is deliberation that relies on reasonable judgment.

_ This deliberation and decision making is audience centered.

_ This engagement with the audience is constrained by time.

Attempts in the past by philosophers and rhetoricians to allocate to rhetoric its own realm have ended with attempting to contain rhetoric within the domain of contingent and relative matters. Aristotle explained in *Rhetoric*,[12] "The duty of rhetoric is to deal with such matters as we deliberate upon without arts or systems to guide us…". Aristotle stresses the contingent because no one deliberates on the necessary or impossible. He believed that the "unavoidable and potentially unmanageable presence of multiple possibilities"[13] or the complex nature of decisions creates and invites rhetoric. Aristotle's view challenges the view of Plato, who said that rhetoric had no subject matter except for deceit, and gives rhetoric its position at the pinnacle of political debate. In this framework, if we assume that rhetoric is actually merely about the contingent, it *ipso facto* excludes what is either necessary or

[11]Bitzer, L. F., "Rhetoric and Public Knowledge" in Burks, D. M. ed., (1978), Rhetoric, Philosophy and Literature: An Exploration, West Lafayette: Purdue University Press
[12]Iliou, I., (2002), The Rhetorics of Aristotle, (*Η Ρητορική του Αριστοτέλη*), Kedros publishers
[13]Ibid

impossible. The *necessary* is that which either must be done or will inevitably be done. The *impossible* is that which will never be done. This procedure raises again the question of contingency because that which is considered necessary or impossible depends almost entirely on time and perspective. Another problem arises when we wonder how something is characterized either *necessary* or *impossible, and how the knowledge can be applied to others.*

The juxtaposition between phenomenology and contingency, as well as the interplay between the theoretical quest and the experimental praxis are just two of the bipolars that are met through this thesis.

The built up of this dissertation through *bipolars* emerged through the exploration of alternative ways and paths through which we should approach our core question. This realization is in fact not surprising, if we consider that even architecture has a dual nature. As Can Altay correctly stresses "architecture has a dual nature, in being about setting the grounds for relations; it can also possibly be about controlling them: the "built" environment is essentially a partial product, even though there exist attempts to control and prevent relations via building".[14]
Architecture's inherent confrontation of space and use and the inevitable disjunction of the two terms – which is again an expression of its very bipolarity – means that architecture is constantly unstable, constantly on the verge of change.

For Hegel, architecture is, in essence, a duality. On the one hand, it must serve an external need – characteristically that of enclosing space

[14]Altay, C., (2007), "Setting a Setting", in Friday Session 13 "setting a setting" Fanzine, public works, London

in order to provide shelter; but, on the other hand, if it is to be a mode of fine art, it must also give expression to spirit – to our relation to the Absolute. Hegel remarks that "…its task consists in so manipulating external inorganic nature that, as an external world comfortable to art, it becomes cognate to spirit".[15]

The understanding of architecture as simultaneously embodying space and event brings us to the question of space as related to social practice.

If architecture is neither a pure form nor solely determined by socio economic or functional constraints, the search for its definition should expand to an urban dimension.

This dissertation also rests on the constant interplay of a bipolar. Specifically, with the exception of the *intercompletion* of phenomenology and contingency in architecture we just referred to (and which will be further analyzed in the second part of this thesis), this dissertation rests on the "bipolar" between theory and praxis.

During our theoretical research on the role of information in architecture, the actual nature of architecture, as well as how and where architecture takes place, we came across and studied the book of M. Mahall and A. Serbest "How Architecture Learned to Speculate". Coincidentally, in this book we met some of the answers we were seeking for, as well as a formation of our actual question. The two writers argue that if architecture is in search of a theory, then this theory should focus on questions of strategy: "…strategy behind any form and any program, behind any procedure and any argumentation. Because, it is strategy

[15]Hegel, G.W.F., (1975), Aesthetics, Clarendon Press, Oxford

that mediates between work and world, between intention and attention and that decides on success or failure of any effort. It is strategy that – as Foucault has shown – is realized as improving tactics, but that most certainly implies a subject (an author, a designer, or a curator), a public, and speculation".[16]

This thesis argues that modern culture, above all architecture, is a region of speculation, of mobile values, of risk and gain, with strategic bears and bulls, and with magicians. This understanding of architecture within modern culture calls for a theory, which shows how modernity actually implies speculative strategies. That is speculation, not as a form of contemplative and philosophical reflection, but of strategic and risky acting that produces differences. Speculative reason is contemplative, detached, and certain, whereas practical reason is engaged, involved, active, and dependent upon the specifics of the situation. Speculative reason provides the universal, necessary principles of logic, such as the principle of contradiction, which must apply everywhere, regardless of the specifics of the situation. Architecture calls for a theory that treats architecture not with regards to content – content is value, is mobile – but with regards to *strategy*.

Without fiction there is no speculation. Only the fictive allows the constitution of a subjective and individual position, from which an author can enter the speculative competition at first. Speculation is a form of *self-authorization*, of an author claiming for authorship. And modern architecture is architecture, if there is an author to it. We could even radicalize that in modernity architecture is architecture only insofar as it is authored.

In this framework, the theory quest has led us to the questions of

[16]Mahall.M., and Serbest, A., (2009), How Architecture Learned to Speculate, igmage, Stuttgart

strategy that is to be followed, and these questions also introduced the issue of speculation. On the other hand, as previously mentioned, this dissertation is also about the praxis. The distinction between the two (theoretical and practical confrontation) goes at least as far back as the ancient Greek philosophers, such as Plato and Aristotle, who distinguished between theory *(theoria)*, or a wide, bird's eye view of a topic, or clear vision of its structure) and practice (praxis), as well as productive knowledge (techne).

In order to arrive to the conception of architecture as "…a discipline that represents relationships, proportions, connections, effects…"[17] as described by Koolhaas, it should be treated as quasi-object in its own right, rather than as artificially separated and purified constructions of the modern world. Architecture can be placed back at the intersection of the human and the nonhuman, the particular and the general. Networks are reestablished that "allow as to pass with continuity from the local to the global, from the human to the nonhuman",[18] and it is these networks that once again form the basis for the interpretation of the overlapping spheres of science, culture – and architecture.

For the above reasons, the results of our analysis are deduced from a multi-lateral theory research. That is a theory research drawing from the field of architecture, city-culture and new related disciplines. This theory quest interacts constantly with praxis – that is experimental projects in the form of prototypes. Based on the foundations of our theoretical analysis, we arrive to questions of strategy in order to conceive and apply the practical reflection of the theoretical quest. The prototypes, which represent actually the research methods of the dissertation, are

[17]Koolhass, R., Editor in Chief, Content (2004), Taschen
[18]Latour, B., (1993), We have never been modern, Harvard University Press

indispensable for the process of the project; it is through the careful study of the prototypes, their interaction with their surroundings and the evaluation of their effects that the dissertation material has been collected.

These prototypes function as representations of the city –of the reality itself; as tactical, flexible and digital, more operative cartography: evolutionary models of simulation and development, but, also, weighted – meaningful – maps intended to select bits of basic information (and situations) related to abstract elemental codes (precise and indeterminate at the same time).

At this point it is critical to clarify the nature and character of the prototypes. To address, in other words, the key questions as to whether they are considered real, or they just represent reality, or indeed they can be understood as a combination of both.

A prototype can be defined as an early sample or model built to *test a concept* or process or *to act as a thing to be* replicated or *learned from.*

"Prototyping serves to provide specifications for a real, working system rather than a theoretical one".[19]

The bipolar theory / praxis is strained in this case by the dichotomy real / unreal, which actually represents the distinction between actual / virtual.

The experimental, urban prototypes are a new set of actual and conceptual tools. Some of them are just conceptual, virtual, while some

[19]Prototyping definition from PC Magazine Encyclopedia, in http://www.pcmag.com/encyclopedia_term/0,1237,t=prototyping&i=49886,00.asp

are constructed, actual and real. In this case, we use the term of G. Deleuzes, regarding what is virtual:[20] He uses the term virtual to refer to an aspect of reality that is ideal, but which is nonetheless real. Deleuzes's concept of the virtual has two aspects: first, we could say that the virtual is a kind of surface effect produced by the actual causal interactions, which occur at the material level. For example, an image shown on a computer monitor depends upon physical interactions going on at the level of hardware. The window is nowhere in actuality, but is nonetheless real and can be interacted with. The second concept of Deleuze's virtual is this of the generative nature. The virtual in this case is conceived as a kind of potentiality that becomes fulfilled in the actual. Going back to the abovementioned example, the window is still not material, but it is real.

Deleuzes opposes the virtual / actual distinction to the possible / real distinction in order to show that actualisation is the "mechanism of creation". He argues that the supposed set of possibles is simply an extrapolation from the real, which guarantees the representational relation between the possible and the real. Actualisation, on the other hand, is the process in which the virtual differentiates itself in the active creation of something new, an actual which does not resemble the virtual from which it arose. There is no relation of representation between the virtual and the actual as neither is a subset or an extrapolation of the other. Indeed, there cannot be such a relationship as the virtual can yield a practically unlimited diversity of actualisations.
The idea of the virtual is not new. The word derived from *virtus*, meaning potential or force, and often comes coupled with the actual, meaning that through which the potential or force becomes at once visible and effective.

[20]Deleuzes, G., (2006), [1988], Bergonism, The MIT PRess

" According to Deleuze, "to actualize the virtual is not the same as to realize the possible"

– and that is what the prototypes aim at. However, in this sense, the actual is then what effectuates the virtual, but it never *completely* shows or activates all that the virtual implies. The prototypes represent in a sense, what the Ancient Greeks called *techne*, that is a *pragmatic instrumentalisation* meaning, "a practical rationality governed by a conscious goal" (a term that like Heidegger, also Foucault professed to be interested in).[21]

In determining the nature of the prototypes, an additional issue that needs to be addressed is that of *space*, where architecture takes place. Going back to Schulz, the place represents architecture's share in truth. The man's identity depends on his belonging to places. Place is a concrete term for environment. It is common usage to say that acts and occurrences *take place* – in fact, it is meaningless to imagine any happening without reference to a locality. Place is evidently an integral part of existence. "Taking place" is usually understood in a quantitative, "functional" sense, with implications such as spatial distribution and dimensioning. Even "similar" functions demand places with different properties, in accordance with different cultural traditions and different environmental conditions. The functional approach therefore left out the places as a concrete "here", having its particular identity. Being qualitative totalities of a complex nature, places cannot be described by means of analytic, "scientific" concepts, in order to arrive at a neutral, "objective" knowledge.

[21]Reference is made here to Foucault's definition - Foucault, M. 1984b. Space, knowledge, and power: interview with Paul Rabinow, in P. Rabinow (ed.), The Foucault Reader. New York, Pantheon.

.032

"" According to Schulz, there are no different "kinds" of architecture, but only different situations, which require different solutions in order to satisfy man's physical and psychic needs.

When we treat architecture analytically, we miss the concrete environmental character, that is, the very quality which is the object of man's identification, and which may give him a sense of existential foothold.

Schulz goes on by arguing that the term "existential space" comprises the basic relationships between man and its environment. The concept of existential space is in *Genius Loci* divided in the complementary terms "space" and "character", in accordance with the basic psychic functions "orientation" and "identification". Space and character in this case are directly related to architecture, following the definition of architecture as a "concretization of existential space". "Concretization" is furthermore explained by means of the concepts of "gathering" and "thing". The word "thing" originally meant a gathering, and the meaning of anything consists in what it gathers. Thus Heidegger said: "A thing gathers world".

Summarizing our discussion, this dissertation deals with the matter of information on architecture. In order to arrive to the definition of the term, we have to deal with matters that have long enough detained the theoreticians of architecture, like the concepts of space and its energy – space in the sense of *where* architecture takes place and energy in the sense of *how* it occurs.
The research procedure is initially developed through the bipolars of

phenomenology and contingency in architecture, as well as theory and praxis, as already mentioned.

The theory quest led us to the seeking of a strategy in order create this architecture that contents and express the "genius loci", the spirit of every space, where it takes place. In order to achieve that, we cannot ignore the role of speculation in architecture, of the not to be predicted issues. Speculation in this sense is necessary as an act that produces differences, as forehead mentioned.

The praxis that was not only complementary, but also the actual expression (actual or virtual) of the theoretical research is taking shape through urban experimental prototypes. The conception and realisation of the prototypes raised the question about their nature, their actuality or their virtuality.

Through the prototypes, we aim to map this new reality – the result of mobility, interchange, migration and communication. Therewith, we endeavor to compress meaningfully not so much the reproduction of the whole reality, or part of it, but rather a representation – a scanning – of its most strategic bits of information. The prototypes are supposed to be open, connectable in every dimension, breakable, reversible, and always modifiable, just like the medium of architecture they are modeling; actually they represent spaces of experimentation.

Our discussion is organized in two core and complementary parts, namely a theoretical and an applied one. Given the direct relationship and continuous interaction in the analysis of these two poles, it was necessary for both parts to be researched jointly by the two authors. In this framework, it is critical that the thesis is read and understood as a single piece, since theory and application continuously rest on each other for the final outcome. Below, the contents of each part are discussed in more detail.

Part 1, which includes the chapters 1, 2 and 3, deals with the core theoretical question, namely how we can conceptualize the identification and collection of the information. Chapter 2 analyzes the role of information in architecture, the way it can function in order to interpret society data into architecture. It reviews the role and use of conventional architectural materials, such as the earth, the wood, the metals, the glass as well as the concrete and argues about the role of information as the new fundamental construction material of today. Through a broad reference to recent architectural history, it also analyses the efforts already made through the years in the form of experimental, utopian architectural projects.

Chapter 3 deals in a more systematic way with the notion of information. We investigate the different kinds of information, both in architecture, as well as in other disciplines. It distinguishes between the *apparent* and the *implicit* information. The apparent information is in essence the basis of traditional architectural theory, the reading of the existing (like soil, topography etc.), which actually has changed through globalisation and shifts in geopolitics. The implicit information is the not seen but felt kind

01.2 Thesis overview

of information, the unforeseen one, which is gathered through qualitative participation. We maintain that information could be enriched through the involuntary, unasked, of even unforeseeable information. Nowadays society is multifaceted, incessantly changeable and therefore full of dormant energy that needs to be extracted. This thesis aims to discover the *dormant* information that participants may have, allowing them to realise their right to express themselves. It is this acknowledgement that directs to provoking a direct participation and measuring all the subversive consequences that this implies. Once analysed this, we move in investigating the procedures required in order to extract the information needed, namely the sequence of *speculation, provocation* and *participation*. The analysis of these three procedures appears in this chapter on a theoretical basis, but it also is referred to in the second part of the dissertation, in order to accentuate the interaction between theory and praxis – the same way we come up against the terms of phenomenology and contingency.

Part 2 includes the chapters 4 and 5 and analyzes the means we use in order to materialise the studied theories. We refer to the term *relational aesthetics*, and how it deals with the terms already sought and analyzed in the first part, namely participation and provocation. After having analyzed the non-standard, conceptual only architecture of the 60s, we quote some paradigms of nowadays *participatory, provocative* architecture. Then, we present the practical ways in order to extract information, namely our case studies, our experimental prototypes. We aim to prove our points through the prototypes by drawing on material and problems addressed in the first part of the dissertation. This volume presents an on-going effort in a project of inquiry, rather than its

.036

Pic.01
Prototype ICH

finalization in the achievement of the proposed goals.

Finally, in chapter 5 we discuss the conclusions reached from both the theoretical and applied analysis. …(it is not necessary to reach a concrete result or a formula – even posing the questions means that this thesis has achieved its goal).

Chapter 02

The Sixth Material

This chapter introduces the first step of our analysis towards interpreting society data into architecture. We start by investigating the meaning of "society data" as well as what, according to our opinion, is the required element in order to be able to first reveal and then collect and probably further use these data. In this context, our analysis in this chapter contributes in exposing the actual pursuit, the seeking of this thesis. In other words, it presents the ultimate objective of this dissertation, the reason why we believe that the involvement of information in architecture is indispensable.

02.1
Chapter
introduction

> In late 1960s, Bernard Tschumi addressed the need for an architecture that might be able to change society, namely an architecture that could have a political or social impact.

This pursuit was, indeed, not in isolation of the social and political developments of the late 1960s and 1970s that in turn were driven by a wave challenge and confrontation with the established order and conventional wisdom. In 1968 the largest wildcat strike in history brought the economy of France to a virtual standstill, while the upheaval flared across Western and Eastern Europe, as well as the American continent. The Situationists International could claim that they were in a position to foresee that such a revolutionary wave was becoming possible. They could also claim to have written most of the leaflets and texts during and after the events. During these struggles, the *social question* dominated life to varying degrees. However, the impact of the events of 1968 has been to demonstrate, both through facts and through serious critical analysis, the formidable difficulty of an imperative like the one Tschumi was interested in. From Marxist commentators to Henri Lefebvre and

to the Situationists, the modes of analysis changed considerably, but all shared a sceptical view of the power of architecture to alter social or political structures.

We argue that in order to arrive to the architecture that could change society, namely the architecture that Tschumi was also concerned about -or, at least an architecture that could verbalize and address society's needs – we need to reconsider and revisit the materials that architects have at their availability. This is because the conventional architectural materials commonly used until today are quite restrictive and not capable to express today's constantly changing pulse of the society.

In this framework, we introduce the material needed in order to achieve the aforementioned required form of architecture: the non-conventional, non-tangible, non-countable material: that is the information.

The chapter is organised as follows:
We begin with an analysis of the notion of social data, namely the society spirit that we aim to interpret into architecture. Following a review of the conventional architectural materials, we introduce information as the sixth construction material, as this dissertation theorizes. As repeatedly mentioned before in order to succeed in the extraction information, we combine theory with experimental praxis. Yet the idea of experimenting in architecture is not something new. Therefore our analysis moves on to provide a review of the paradigms of the 1960s and 1970s experimental architecture. As far as these architectural experiments are concerned, we should be cautious in dealing with the terms attributed through a discourse of a past so near.

Indeed, during the 1960s and 1970s, participation in architecture was intensely discussed and sought after by varying experiments.

The purpose of this dissertation is not to repeat the utopian paradigms of the 1960s, but rather to create real architectural instruments. In the end of the chapter, we also refer to the notion of virtuality in architecture, a notion that cannot be ignored when we talk about experiment and utopia in architecture. Virtuality has a direct relationship with architecture, either when thought as modeling through the use of computers (very common in today's architectural projects), or when thought as something that we conceptualize without being able to physically experience – this is the reason why we argue that virtuality is inextricably bound with the experimental and utopian architecture.

02.2
Interpreting society pulse into architecture

Energy is charged with hidden implications. It reflects that subtle underlying force that has the ability to make nature work. Energy, as work formerly, has become something that individuals and societies need. Werner Heisenberg states in his 1950s Gifford lectures that "the substance out of which all elementary particles and all things are made...that which causes change, and changes, but is never lost... that which can be transformed into movement, heat, light, tension...that is energy".[22]

Energy is entropy. It includes the activation of forces and efforts, the vehiclisation of bits of information. There are certain processes, phenomena or situations capable of producing – or introducing – positive energy within the system. Energy can be seen as open, non-disciplined, (re)information rather than as linear progress. It can be seen as catalyst of potentials, as actions or constructions, and propulsions, of the environment.

As Manuel Gausa states "a stimulus is a catalytic force or vitalizing impulse".[23]According to Gausa, there are two forms of stimulating rather than imposing – and when he talks of stimulating, he refers to seducing, convincing or encouraging. The first form of stimulating is by providing energy; and in this case, there is a need, a call for programming actions. The other, the second form of motivating provides hope, by narrating and suggesting potentials. Gausa closes his definition of *stimulus* by saying that a third form of motivation would be a coupling of the two other forms, namely the provision of both energy and hope, which is probably the best as well as the most difficult way of stimulating.

[22]The Gifford Lectures, 1955-1956: Physics and Philosophy, Werner Carl Heisenberg in: http://www.giffordlectures.org/Author.asp?AuthorID=77

[23]The meaning of "stimulus" in: Gausa, M., Guallart, V., Müller, W., Spriano, F., Porras, F., Morales, J., (2003), *The Metapolis Dictionary of Advanced Architecture,* ACTAR Barcelona

.044

Places have energy of their own. It is built up through their history, their peaceful or turbulent past, the succession of inhabitants, cultures, religions, even the change of the natural environment. These among others are the factors that – as Schulz also argues in his book – form the genius loci, the *spirit of place* which, since ancient times has been recognized as the concrete reality man has to face and come to terms with in his daily life. This energy of every place, its *language*, its pulse, represents its potential that will determine also its course in the near or farther future.

According to the laws of physics, energy is neither created, nor destroyed; it only transforms. Schulz emphasizes that architecture can be understood to visualize the genius loci and given this the mission of any architect is fused in creating meaningful places. In this framework, the role of architecture would be to immerse these energy vibrations, this tension and put space in it. In this case, "a space that has a distinct character", which is, "in the true sense of the word, a place".[24] Man tends to inhabit the environment that is substantial to him, where he can identify himself, where he feels comfortable. Until today, this effort to inhabit and to create meaningful places has been carried through the employment of mostly conventional materials. Yet, since the energy of every place embodies an information potential, then it is critical to investigate strategies in order to understand and use this potential, so as to arrive at an updated and interactive architecture; an architecture that may query whether the mere use of the accustomed materials is competent. Our time requires an architecture defined and driven by a desire to act, to interact. An architecture that is ready to activate, to generate, to produce, to express, to move, to exchange and to relate.

[24]Nordberg-Schulz, C., (1980), *Genius Loci. Towards a phenomenology of Architecture*, Rizzoli International Publications

Taking this argument further, we could borrow from Wolf Prix, and his propositions during Dresden lecture in 1995 where he argued, that "architecture begins where space ends".[25] Indeed, as Prix underlined, at the turn of the millennium there existed many new concepts regarding architecture. One such concept about the new era of architecture, put forward by Coop Himmelb(l)au suggests the finishing of the Tower of Babel. It is well known that the escalation and confusion of languages' by the authorities prevented the first great building of mankind from being built. According to Prix, Coop Himmelb(l)au's "idea to finish the Tower of Babel would mean introducing a new form of language confusion. Those who built the Tower of Babel did not have any reinforced concrete. We need the material of confused language to complete it."

The forgoing clearly indicate that Coop Himmelb(l)au propose the introduction of a non-conventional, non-countable, non-tangible material.

Such a proposition follows quite closely the theoretical reasoning of this thesis, since our research pursues the question of communication between that variety in actual languages, the question of the negotiation and translation between the social speeches, the capturing of the places' energy, the "reading between the lines" of the social data. In other words, we too, like Coop Himmelb(l)au, believe that a new material is essential, a non-conventional, maybe not yet thought material, something that can play the role of the abovementioned "new form of language confusion".[26]

Today's environment is rapidly changing. Almost nothing can be taken for granted – the data inherited from the history of architecture are constantly and expeditiously being questioned. Rem Koolhaas argues

[25]Kandeler-Fritsch, M., Kramer, T., eds, (2005), *Get off of my cloud. Wolf D. Prix, Coop Himmelb(l)au, Texts 1968-2005*, Hatje Cantz

[26]Ibid

.046
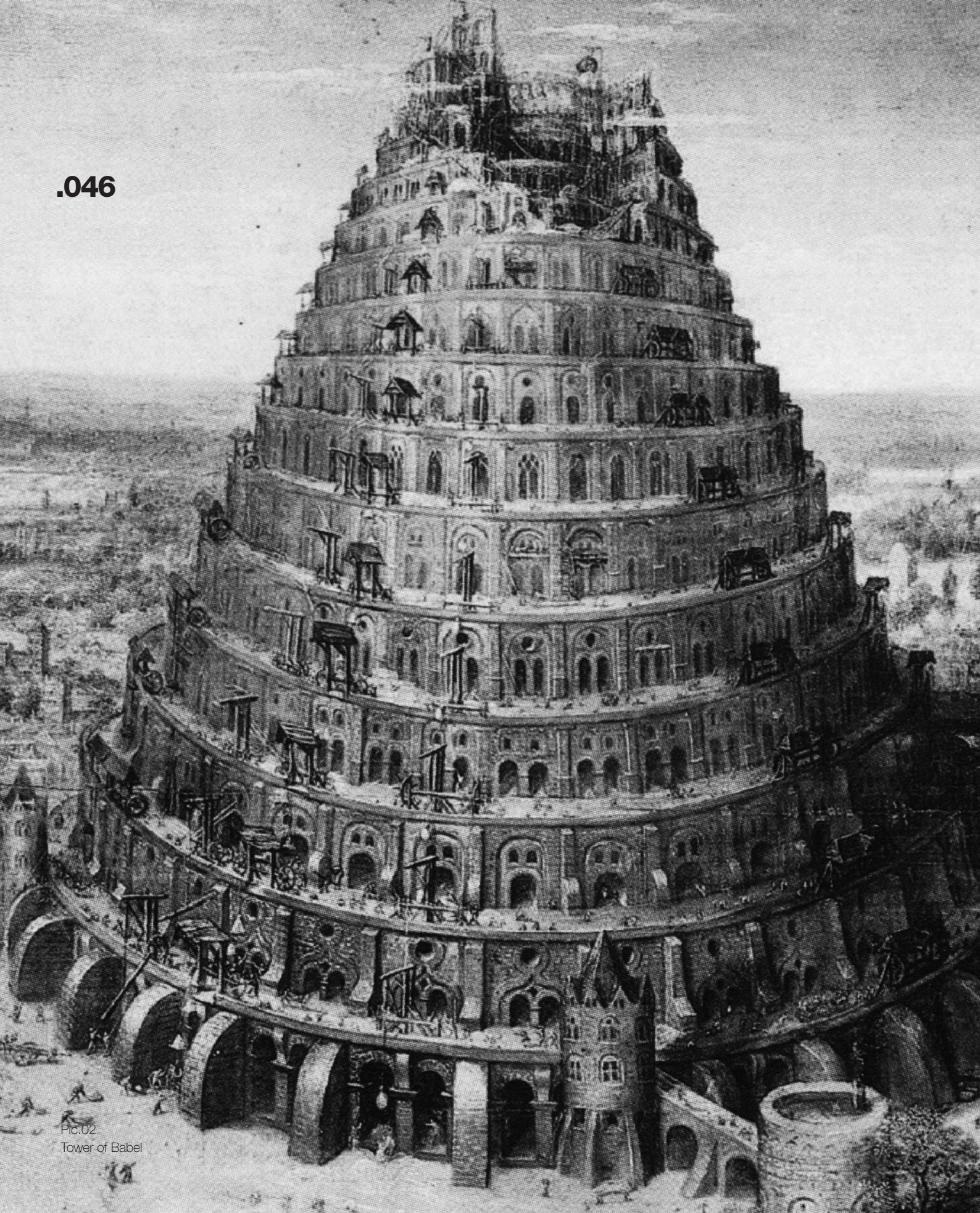
that "globalization destabilizes and redefines both the way architecture is produced and that what architecture produces. Architecture is no longer a patient transaction between known quantities that share cultures, no longer the manipulation of established possibilities, no longer a possible judgment in rational terms of investment and return, no longer something experienced in person – by the public or critics".[27] Globalization lends virtuality to real buildings, keeps them indigestible, forever fresh.

The pace of nowadays life, as well as the variation of stimuli combined with the frenzied ways in which communication and information travel, lead to the need for planners and architects to incessantly translate.

They must invent alternatives in order to bridge the sound-picture continuum of the cities and the constantly occurring of urban misunderstandings. The goal of these translations and the study of the associated potential and limits within languages is not the production of a durably valid dictionary, which would suggest the possibility of a translation which can be simply attained into the manual of architecture and town planning. What is to be achieved is to listen to them and to register so far not noted events, thoughts and stories; a model for noting voices, for listening and translating also the often voiceless expressions within the urban language tangle.

It is therefore consequent that the procedure in order to explore this material, the actual objective of this dissertation suggests the simultaneous theory research and experimental praxis, the creation of a prototype that will be a constantly changing the architecture landscape, which enters up the pulse of the city and its inhabitants and energizes new relations.

[27]O.M.A., Koolhaas, R., and Mau, B., (1998), [1995], *S, M, L, XL*, The Monacelli Press

.048

Pic.03
Mute room

02.3
Materials in Architecture – Information as construction material

We have until now often referred to the notion of the spirit. However, the relation between architecture and spirit is both external and quite abstract. For architecture's materials and methods are much more dependent on the medium's brute physical properties and the mechanical ordering of these than are the other art media. In particular, architecture does not, without adjuncts, create illusionistic space. It can represent no other space but that of its own physical presence. This means that reference to any specific spiritual content will be arbitrary and indirect. It is this external relation to spirit, which makes architecture into a symbolic art form.

The spirit, as such, is a key term also in Hegel's philosophy. In this case, it does not simply mean *mind* or *thinking subject*. Rather, it involves the relationship between a subject and something other than it. Through opposing or negating the other, or (if the Other is another thinking subject) through being recognized and acknowledged by it, the subject attains consciousness of itself. In other words, according to Hegel, spirit is self-conscious, which, in turn, is achieved and articulated through interaction with the Other. On the other hand, following Hegel's reasoning again, although the Art has many functions in human existence, its definitive trait is to answer a *need of spirit* by giving expression to Beauty.
Therefore for Hegel, architecture is a fine art to the degree that it involves the shaping of sensuous material so as to give it spiritual content. However, it is not a thoroughly spiritualised medium and this is because the sharing of its material is fundamentally determined by mechanical and mathematical principles. In the framework of this dissertation, it is exactly this sensuous, spiritual material what we refer to: the one beyond all conventional materials.

.050

As regards the available architectural materials, Jonathan Hill accurately stresses that "architects are caught in a vicious circle". Indeed, in an effort to defend their own idea of architecture, most architects will often end up adopting and introducing practices, forms and materials, which have already been identified with the work of architects. In fact traditionally, "architectural matter is understood to be the physical substance of buildings, and architects employ a limited palette of materials such as steel, glass, brick and concrete".[28]

Hill states that the aim of his book *"Architecture – the subject is matter"* is to explore the independence of the subject and matter of architecture. He argues, like we have also already mentioned, that today there are many types of architecture.

> The substance of architecture is not always physical. Rather it can be whatever architecture is made of "whether words, bricks, blood cells, sounds or pixels. Architecture is far more than the work of architects".[29]

The forgoing suggests that architecture can no longer be considered simply as the designing of buildings, nor is it any longer merely the jurisdiction of the architect. For now that it includes within its scope electronics and philosophy, as well as, the physical and social sciences, architecture has increasingly become the joint production of technologists, scientists, and sociologists, as well as architects. It is this inevitable synthesis of efforts, this collaborative context, as well as the emergence of an international network of architectural communication that has led to an explosion in architectural thinking.

[28]Hill, J., ed., (2001), *Architecture - The Subject is Matter*, Routledge

[29]Ibid

In view of the abovementioned arguments, the question that emerges regards the architectural materials. We have already referred to non-conventional, non-directly-tangible materials, but which are the so-called conventional ones? Recent years have witnessed a bourgeoning discussion over "new, clever, perceptive" materials, but which is the procedure that leads to the evolution of the architectural materials?

To address the above questions we should start by exploring further the notion of the global history of architecture. It is quite difficult to address this issue; we could even argue that the very phrase deals with more than one issue, since "there is no single way to define the words *global, history* or *architecture*".[30]

The global is not just defined by its geographical parameters. Nor is it merely a notion juxtaposing to the regional or the local. The global can also be understood as a function of the human imagination. As much as architecture is concerned, it is necessary to see the connections, tensions, and associations that transcend local perspectives.

Even in periods during which communication, interaction and information exchange was quite far from the point that it is today, there existed buildings and built environments that formed a so-called typological entity.

There exist many illustrations of such typological entities, yet typical example is that if the Eurasian building campaign that stretched from the Near and Middle East to Eastern and Western Europe. Specifically from Japan (Katsura Imperial Villa), through China (Beijing and the Ming

[30]Ching, F. D. K., Jarzonbek, M. M., Prakash, V., (2007), *A Global History of Architecture*, John Wiley & Sons, Inc.

Tombs), to Persia (Isfahan), India (Taj Mahal), Turkey (Suleymaniye Complex), Italy (St. Peter's basilica and Villa Rotonda), Spain (Escorial), France (Chambord) and Russia (Cathedral of the Intercession of the Virgin on a Moat). As also stressed by Ching, Jarzonbek, and Prakash the synchrony of these buildings prompts us to think further over what the constructors knew of each other, how information traveled or how architectural culture moved and afterwards was "translated" according to its new environment.[31]

Every specific architectural work is always embedded in a larger world that affects it directly or indirectly. These effects could be either a consequence of the forces of economy and trade; of war, of conquest, and colonization; or the exchange of knowledge, whether forced, borrowed, or bought. We cannot overlook the power with which the movement of people, ideas, and wealth has brought and bound people together since the beginning of history. In writing the history of each place, it is important to preserve its own identity, while marking the ways in which every single place maps its own global imagination.

Architectural production has always depended on time and location. Every period in history faced its own challenges, and the history of architecture should be treated as the history of successive and often dramatic changes spurred on by new materials, new technologies, changing political situations, as well as changing aesthetic and religious ideals.

Spiro Kostof also claims that "all buildings of the past, regardless of size or status or consequence, should ideally be deemed worthy of study",[32] stressing in this way how buildings are embedded in their physical and social context.

[31] Ibid

[32] Kostof, S., (1995), *A History of Architecture, Settings and Rituals*, Oxford University Press

The very essence of architecture itself has been the subject of considerable debate, particularly among architects, architectural historians, and critics. Some have argued that architecture arises out of an urge to protect oneself from the elements, others that it is an expression of symbolic desires, or that it is at its best only when it is embedded in local traditions.

It is true that the need for architecture springs from the pragmatic need for shelter. Once this function has been fulfilled, the role of architecture then serves other purposes such as identifying place, belonging and ownership. After all, as we have already mentioned, we tend to dwell the environments that we feel comfortable in. Objectives like identification, ownership and belonging are actually concerned with the spiritual part of life, with abstract notions such as identity and the understanding of the self, rather than the physical and are recognized by the mind and recalled in memory.

Kostof organizes the study of (the history of) architecture, by following four points,[33] namely:

_ The *oneness of architecture;* wherein he regards structure and aesthetics as inseparable;

_ The *setting of architecture;* buildings cannot be studied in isolation from immediate context;

_ The *community of architecture;* cultural values of the society, which prevent architecture from being merely a build form;

_ The *meaning of architecture;* wherein he discusses the reason, time and purpose behind the building being what it is.

We refer to these points, since they actually categorize and groups all the aforementioned parameters of architecture. Architecture is actually a type of cultural production. It is at the same time a functional and a visual

[33] Ibid

art. It should every time be put in its various contexts – social, political, economic, artistic, technological, and environmental.

One of the most critical factors that have influenced, more than any other, the shape of architectural character are the actual construction materials used. Even the simplest, everyday materials have been used in order to create architecture. If clay alone was available in abundance, people used tamped earth or made bricks. If people lived in areas that were heavily forested, they built in wood. The ancient Greeks were among the most skilled carvers of stone because of the abundant local marble.

In the history of architecture, the first and for a long time principal building material have been the earth materials, pure natural; that is the mud brick, formed in wooden moulds (adobe) and the stone. Earth structures are extremely durable, and account for some of the oldest existing buildings in the world. The significant prehistoric architectural achievements of Western Europe were megalith constructions, composed of large stones or boulders (megalith literally means "great stone"). Mud and stone, the absolutely natural building materials were used extensively in the beginning of the constructions' history. Even if there were no metal tools, in the Neolithic era, quite elaborate stone structures were built with ingenuity using dry-stone-walling techniques. The most remarkable Neolithic structure in Western Europe is the iconic monument known as Stonehenge, regarded by some archaeologists as displaying methods of timber construction translated into stone. The buildings for a long time after that were constructed with sloping courses to avoid the need for formwork. The grandest buildings were constructed in stone, often from

massive masonry blocks. In antiquity, there were the four Mediterranean cultures that led the evolution steps; the Egyptians, the Etruscans, the Greeks and the Romans.

Wood, timber construction was the next natural material that was widely used. It was extensively employed for centuries; actually, most buildings in Northern Europe were constructed of timber until circa 1000 AD. Over a long span of centuries, buildings were typically in timber or where it could be afforded, in stone. Wood is one of mankind's oldest building materials and has always been considered to be inferior to stone, as it doesn't last as long, is not as sturdy and burns easily. Therefore it is possible that even masterpieces of wooden architecture such as the Norwegian stave churches or the temple in the Forbidden City will always stand in the shadow of the large stone buildings of architectural history. There is a remarkable diversity of the shapes and surface textures of wooden buildings which were created in centuries past by builders, who mostly remained anonymous. Wooden architecture literally changed the world. For example, it is hardly conceivable today that the word 'Holland' actually originated from 'Holtland' (wood country). Wood has unique qualities of form, colour and structure, yet is often undervalued or ignored in histories of architecture its enormous contribution remains largely hidden. The story of wood in architecture is an epic one that spans the globe and unites the very beginnings of architecture with its 21st-century future, in which new buildings are making a powerful aesthetic and environmental case for wood as a material for all time.

The seventeenth century saw the birth of modern science, which would have profound effects on building construction in the centuries to come.

The most notable development emerged towards the end of the century when architect-engineers began to use experimental science to inform the form of their buildings. In this context, the major breakthrough in this period was the manufacture of glass.

The architecture of Neo-Classicism seems to have emerged out of two different but related developments, which radically transformed the relationship between man and nature. The first was the sudden increase in man's capacity to exercise control over nature, which by the mid-17th century had begun to advance beyond the technical frontiers of the Renaissance. The second was a fundamental shift in the nature of human consciousness, in response to major changes taking place in society, which gave birth to a new cultural formation that was equally appropriate to the life styles of the declining aristocracy and the rising bourgeoisie. Whereas technological changes led to a new infrastructure and the exploitation of an increased productive capacity, the change in human consciousness yielded new categories of knowledge and a historicist mode of thought that was so reflexive as to question its own identity.

From the second half of the eighteenth century, construction was totally transformed by the interaction of a number of unprecedented technical and socio-economic forces, many of emerged in England. These grand developments, accompanied by a sudden drop in mortality due to improved standards in nutrition and medical techniques, gave rise to unprecedented urban concentrations throughout the developing world.

Although iron was also increasingly employed in structures even before,

its extended use was the major breakthrough of the eighteenth century. Indeed, during the second half of the eighteenth century, the decreasing costs of iron production allowed the construction of major pieces of iron engineering. Steel was used in the manufacture of tools, but could not be made in sufficient quantities to be used for building. It was though mass-produced from the mid-19th century and since then extensively used in the construction.

The history of the development of cast iron followed by strip steel and sheet steel can be read directly against efforts to push metal building techniques as far as possible, and to present the metal building not only as a useful by-product of the factory but as something dynamic in itself resulting from the inherent dynamism of iron and steel production.

With iron, an artificial building material appeared for the first time in the history of architecture. It went through a development whose pace accelerated during the course of the 19th century. This received its decisive impulse when it turned out that the locomotive could only be utilized on iron rails. The rail was the first unit of construction, the forerunner of the girder. Iron was avoided for dwelling-houses, and made use for arcades, exhibition halls, railway stations, buildings which served transitory purposes. Simultaneously the architectonic areas in which glass was employed were extended. But the social conditions for its increased utilization as a building material only came into being a hundred years later. In Scheerbart's "Glasarchitektur"[34] (1914) it still appeared in the context of a Utopia.

[34]Scheerbart, P. 1914. Glasarchitektur. Berlin: Gebr. Mann Verlag, 2000

In the 1920s glass was seen as the great gestural material. To be able to

see through substance became more and more magic as techniques of production were able to give larger and larger uninterrupted spans. When glass was first used in architecture and construction, the limitations of masonry and weaker building materials meant that its prominence was restricted to small windows. With developments in construction, this began to change and by the Medieval Era glass started to be used as more of a decorative feature than simply a way to let light in. The trend for tall, stone Gothic churches facilitated the use of elaborate glass windows made up from fragments of coloured glass and depicting striking biblical scenes. These windows related the stories of the bible to an illiterate populace and spurned the architectural trend of searching for transparency, luminosity and weightlessness through glass. The introduction of iron and other materials during this time meant that glass could take on a whole new role in architecture. Thanks to the materials now existing to hold it in place, coupled with the new ability to mass produce large sheets, the possibilities for the use of glass in construction became nearly limitless. Architects began to experiment with things like conservatories and entire walls of glass that were held together by high trussed steel arches and finger fixings. The Crystal Palace constructed in 1851 represents the most ambitious glass architectural projects of its time – a construction made up of 300 000 sheets of glass. Architects use of glass continued to evolve throughout the 20th century although most of the larger, ambitious projects were confined to large office buildings with massive budgets. The idea of transparency and dematerialization was dominant during this time and architects the world over tried to use glass to create "honest" buildings that focused on a sense of light and space. One of the biggest changes during these years was the move away from seeing glass as only the

material for the openings within a structure, but rather as the material for the structure itself. Glass skins became the challenge to tackle whereby a thin steel structure literally supported skyscrapers of full glass walls.

Even evidence of the use of concrete can be traced back to the Roman ages, it was its combination with iron or steel, which produced the reinforced concrete that changed once and for all the history of construction. The technology of concrete arose after the economic restrictions that followed the French Revolution of 1789, the synthesis of hydraulic cement by Vicat around 1800 and the tradition of building in *pisé* (rammed earth). The first consequential use of the new material was made by François Coignet.[35] In 1861 he developed a technique for strengthening concrete with metal mesh, and on the basis of this, he established the first limited company to specialize in ferroconcrete construction.

Often the technology development takes place not only due to the new materials that are in our disposal, but also as a consequence of social changes, fashion, political changes, etc. It is no coincidence, that even in 1969, Françoise Choay in the book *"The Modern City: Planning in the 19th Century"*[36] already mentions that with the development of increasingly abstract means of communication, the continuity or rooted communication is replaced by new systems, which continue to perfect themselves throughout the 19th century, allowing the population greater mobility and providing information that is more precisely synchronized with the accelerated rhythm of history. She mentions that: "Railway, daily press and telegraph will gradually supplant *space* in its previous informative role".

[35]François Coignet's own all-concrete house in Paris (1862), with the roofs and floors reinforced with small iron I-beams, still stands. This is the first use of iron-reinforced concrete. However reinforced concrete development began with Joseph Monier in 1867.

[36]Choay, F., (1969), *The Modern City: Planning in the Nineteenth Century (Planning and Cities)*, George Brazilier

.060

Recapitulating the history and properties of the main, conventional construction materials throughout the history of architecture, we could argue that every new stage of material gradually embodied and revealed more information, both actually and metaphorically. In the beginning, the use of the first, earth materials could only provide information about their origin, their use (according to their size mainly) or the geographical conditions under which they were used. Certain structures were even made possible due to the character of the land upon which they are built. With time the more sophisticated that materials became, the more they would "let the information be seen" – through more refined constructions, maybe with bigger openings, until we arrive to the glass constructions, where even more information went public, even about the inside of the construction.

+ In the context of the above, we could further argue that traditional materials carry the information that their creator wishes to communicate or transit.

The information is transported through the materials' very own properties. For example a stone structure has a certain character, it is undoubtedly heavy and robust, while a glass structure is transparent implying visibility and clarity. At the same time an iron-based building can be perceived as solid, powerful, but still flexible. What is clear under all cases of conventional materials is that the *transmission of information* is of a *one-way* direction. That is they are communicating the message *from* the creator *to* the public only, not vice versa. Therefore the relationship between the traditional materials and the user is not one based on interaction and dialogue.

Today, it is the information itself that is becoming the essential component of our (constructed or not) environment. For this the abovementioned relationship between the construction and the user needs to be refreshed, *updated*. Hence we arrive to the key argument of this research: the relationship between the conventional materials and the communication / interaction with the user is not satisfactory – it is in this point exactly that we need the "new form of language confusion", or maybe it is the "language extrication"?

The extension of the media of architecture beyond pure tectonic building and its derivations has been used in other field for ages. Thus we have today *sewn* architecture, as we have also *inflatable* architecture.
All these are, however, still material means, that is they are still building materials. Overall, it could be argued that little consistent experimentation has taken place of over the actual and potential use of non-material means (such as light, temperature, odour) to determine an environment, to determine space.

For the above change to materialise architects need to go beyond the thinking of architecture in terms of buildings only. Built and physical architecture, freed from the technological limitations and confines of the past, will more intensely work with spatial qualities, as well as, with psychological ones. The process of erections will get a new meaning, spaces will have more consciously. They will have haptic, optic and acoustic properties. As correctly stressed by Hollein "a true architecture of our time will have to redefine itself and expand its means. Many areas outside traditional building will enter a realm of architecture,

as architecture and "architects" will have to enter new fields: All are architects. Everything is architecture".[37]

Closely related to the above is the concept of the net, which is one of the most commonly used images of our times. It is a symbol of our longing for a non-hierarchical society in which a network of supply, traffic and information channels enables every person to have access to everything and in which the individual is thereby integrated into a web of relationships with the universal. Thanks to the World Wide Web, we seem to come unexpectedly close to achieving the dreams of the simultaneity of all subjects and objects.

Networks are based on communicational systems. One could argue that no access to mobile telephony and no Internet connection can lead to exclusion from certain areas of social life in developed industrialized societies.

The classic network is trade in material commodities, which is crucially influenced by the development of transport technology. New networks destroy old units, as the railway breaks up the physical substance of a city and takes away its individual time, as cars erode its borders and data lines form a scatter pattern of urban fragments. Globalization is often only associated with the movement of information and we think no least of the enormous amount of money that flows around the world every day like a tide. But the movement of commodities remains the basis of globalisation and the ship's container with all its related equipment is the decisive factor in the transfer of production from one continent to another and in the dramatic changes that ports are undergoing. Networks are an

[37]Hollein, H., (2006), *Alles ist Architektur / Everything is Architecture* in Prix, W. D., (ed.), *Stadt=Form Raum Netz / City=Shape Space Net, The Exhibition Magazine*, Springer Wien New York

organizational structure that has sometimes drastic effects on physical reality.

The development of world metropolises makes it impossible for us to continue seeing the city as a whole. The city has become an interactive process – similar to the complex development of the human brain. Its network ranges from a personal weave of relations through to a steadily changing infrastructure. This network connects space and form into what is experienced through the retina as "city system". Mobile connections dissolve permanent locations and new forms of urban life can be recognized in these system's simultaneity.

In this context, the traditional definitions of architecture and its means tend to lose their validity. Nowadays, the environment as a whole is the goal of our activities. The extensions of the human sphere go far beyond a built statement. As Hans Hollein underlines "today, everything becomes architecture, "Architecture" is just one of many means, is just a possibility. Man creates artificial conditions. This is Architecture".[38] And he goes on by saying that: "Physically and psychologically man repeats, transforms, expands his physical and mental sphere. He determines "environment" in its broadest sense. According to his needs and wishes he uses the necessary means to satisfy these needs and to fulfil his dreams. He expands his body and his mind. He communicates. Architecture is a medium of communication".

The information and communication technology of nowadays open a completely new world for the constructions. It is information above all, that is becoming an essential component of the new architecture and

[38]Ibid

the new urban environment. Forward-looking architects around the world are attempting to create a generation of buildings and spaces that are 'conscious' of the changes in the operational and social framework caused by information technology and capable of expressing this revolution. Information is nowadays extremely interwoven with the everyday life. On the other hand, architecture has to socially and spatially cope with the flux and vagaries of the everyday life, namely with the information bits that incessantly "update" the daily routine's frame. Just as modern architecture is indebted to reinforced concrete, steel and glass, our age has not yet invented a material that changes the deep-rooted principles of construction. The process of re-information of the physical world means developing intelligent, re-active materials that recognize the environmental or functional phenomena occurring around them and react with them.

It is true that the drive behind this new development is the digitalisation of the data. But the whole procedure wouldn't have this impact if it wasn't for the thinking mind, which is the true issue of the information revolution. The key issue of their mutual influence is interactivity.

Under these circumstances, we could undoubtedly argue that information has the "leading part" in creating architecture, its role is almost as important than the ones of the conventional, "classic" construction materials,

information is architecture's new construction material – actually the sixth basic building material after the earth (stone, adobe…), wood, metals, glass and concrete!

It is information the par excellence factor in order to investigate the reality through interactive experiments during this dissertation project.

In his closing remarks at the 1930 Werkbund congress in Vienna, Mies Van Der Rohe stated that "new time is a reality; it exists irrespective of whether we accept or reject it. It is neither better nor worse than any other time, it is simply a fact and per se unaffected by values. What matters is not *what* but merely *how*.[39]

+ In order to investigate new ways of how to do architecture, we invest in information – actually its collection, classification, diffusion, transmission and above all formalization and operation.

This is the driving force that can help us define the users' need and formulate the architecture hypotheses.

The physical organization of space, the architectural product is as the most direct and concrete means of communicating via materialized systems. On the other hand, the main "citizenship function" of human beings is the making conscious transformations of their environment.

Even the most ephemeral structure has the power to form a sign that we identify as place, which in turn is linked intricately with other powerful concepts of occupations and definitions of territory (maybe not). As temporary structures were the first forms of architectures to be erected, they have the potential to make a direct connection with every person's ability to make architecture in a way that more complex forms cannot.

[39]Neumeyer, F., (1986), *Mies van de Rohe: Das kunstlose Wort: Gedanken zur Baukunst*, Siedler

.066

Ephemeral interventions have the peculiar value in contributing to our understanding of the built environment, which has been created over centuries. The most tenuous, transient portable artefact can reveal something new about the mass of an ancient building, and temporary structures can convey a powerful contemporary presence in supposedly prohibited new construction locations.
Like Kronenburg states

> "all architecture is tested in relation to human experience an all human experience is, in its simplest sense, ephemeral in that it is on a day-to-day, even a thought-to-thought basis".[40]

Architecture may affect the physical space functioning as a literal and metaphorical "parasite" in the society web. In this case, the identity of any parasite cannot be completely determined. It is mobile and localized at the same moment. When being mobile, it can acquire its full meaning only through its installation. Its receptacle changes because of this temporal addition.

"The impact of architecture can be lasting, even if the physical element itself has been temporary in duration. It is the power of experience, rather than its duration that is more important in gauging its meaning and effect".[41]

The experience of making and remaking architecture is significant, both for those involved and for those watching the process. The erection of a building that takes place over a comfortable attention time-span has more power to be retained in the memory as an event. Temporary

[40]Kronenburg, R., (1999), *Portable Architecture (Architectural Design),* John Wiley & Sons

[41]Ibid

structures, built quickly and in connection with a specific occasion, have this intrinsic connection with the establishment of event phenomena, fir they tap into essential "of the day" ephemeral qualities. Such structures appear to have a latent energy encoded within their fabric – when dissembled there is the potential for erection into a usable form; when in use, there is knowledge that one day soon they may be taken apart.

Information management used as a regulatory system allows design and construction to acknowledge what they really are…

There is no single mathematical construct, no modular or classical system of proportions and relationships that is either necessary or desirable for control and order in this new world of architecture. Geometry is now only one small facet of a far more vast regulatory structure that is grounded in information science.
"The development of this fully integrated web of tools to conceive and manage architecture will be the enabling structure, the new modulo of this twenty-first century way of making. The results will not be sameness but differences. There will be no types".[42]

The fragmentation, questioning, dissolution and the production of new relationships of a constructed and coincidental environment can, however, appear only simultaneously with the knowledge of urban and trans-global (electronic) communication. A critical reflection of social reality can take place only in connection with the idea of an experimental and visionary alternative in the field of architecture and urban planning which not only foresees changes in our environment, but also implies them in artistic designs.

[42]Kieran, S., and Timberlake, J., (2004), *Refabricating Architecture: How Manufacturing Methodologies are Poised to Transform Building Construction*, McGraw Hill

The whole procedure starts as an experiment, searching for the result. Architecture in this case is used as a means and as an outcome as well. At this point, it would be useful to look back at the history of the experimental architecture.

Summing up our discussion in this section, we have argued that information is as essential as any of the conventional materials that architecture has at its disposal for the design and construction of building and built environments Indeed, today's society is more than ever based on the information exchange. Therefore, the use of information in the architectural practice and construction should be viewed not only an option, but critically as a requirement.
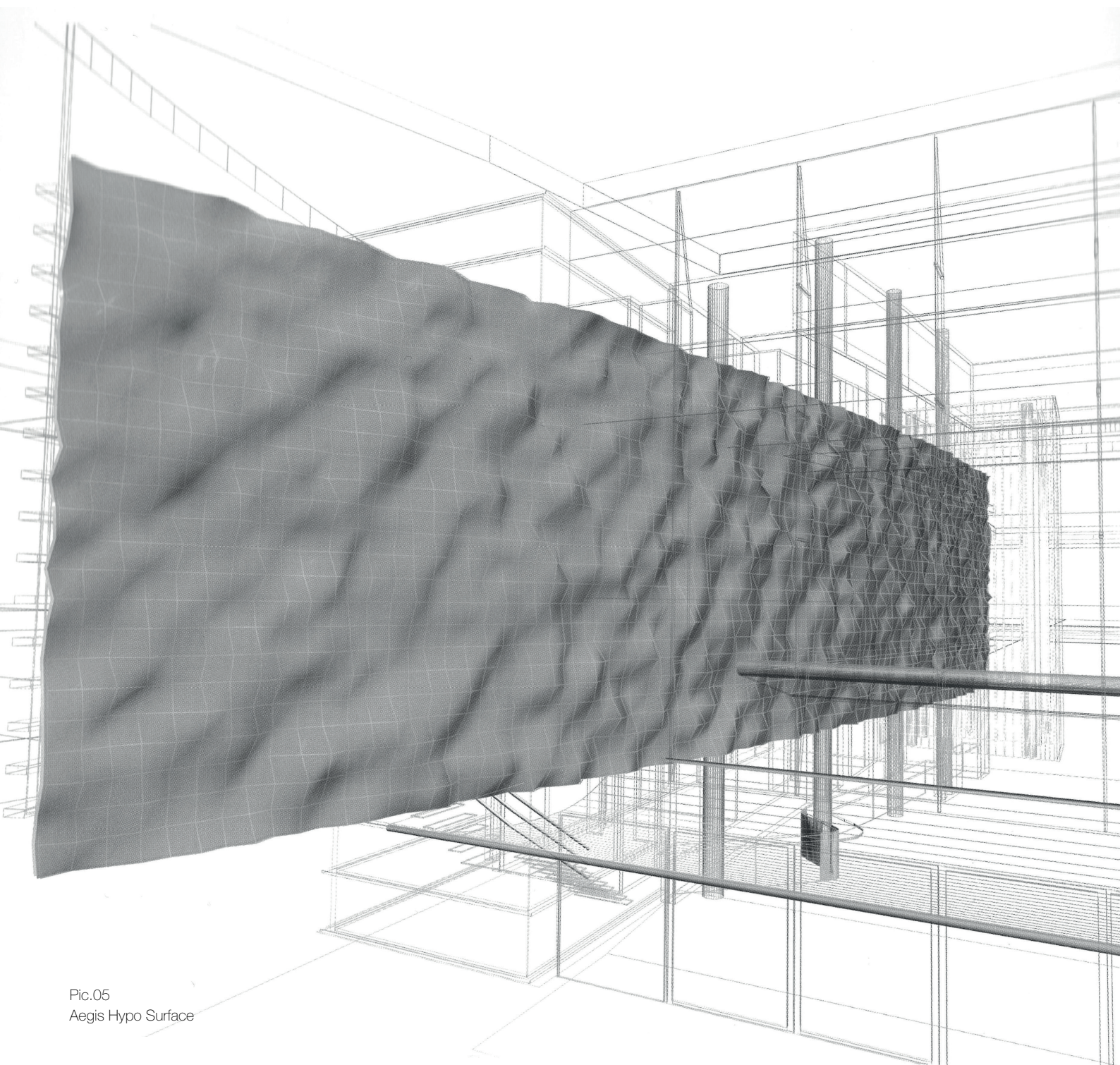
Pic.05
Aegis Hypo Surface

02.4 Experiment and Utopia in Architecture[43]

The idea of experimenting in architecture is not new. Indeed the history of architecture has enough examples of plucky architectural quests to display. And any such reference to experiment and utopia in architecture, should lace primary emphasis on the experimental utopias of the 1960s and the 1970s. Even the term *experimental architecture* itself was brought into discourse by Peter Cook,[44] one of the leading figures of the utopian projects of that period. In this section we review and briefly analyze some of the most notable examples of that time, arguing also that they will be used as a reference point to our experimental research, presented later in the thesis.

The progressive ideals of the 1960s and 1970s experimental architecture were based on challenging the conventional, on spontaneity, alleviation of boredom, and the desires of popular culture, declared a future in which humans benefited directly from technologies over which they had personal control.

Since early modernity, visual artists have been intensely interested in the idea of the ideal city. Utopian-architectural designs and free artistic works have thereby often entered into indissoluble alliance.
The idea of the ideal city was always tied to the question of how the world should best be set up. Thinking about the ideal city often developed in parallel with political-societal utopias.
Archigram's *Plug In City*, Constant's *New Babylon* and Yona Friedman's *Spatial City* rank among the incunabula of the 1960s. Combining visionary architecture, pop art culture, art, and situationist rebellion, they became known far beyond the narrow confines of urban planning.

[43]Subtitle from Alison, J., Brayer M.-A., Migayrou, F., and Spiller, N., eds, (2007), *Future City. Experiment and Utopia in Architecture*, Thames and Hudson, London

[44]Cook, P., (1970), *Experimental Architecture*, Universe Books, New York

The Situationist International (SI), formed in 1957, brought together architects, writers and artists who were profoundly critical of existing architecture and social structures. In the immediate post-war era, the functional requirement of architecture to service reconstruction had led to a swift corruption of the ideals of Modernism. The Situationists passionately believed in the need for a radical re-thing of society.

In 1958 Yona Friedman published his first manifesto: "Mobile Architecture". It described a new kind of mobility not of the buildings, but for the inhabitants, who are given a new freedom.[45]

Mobile architecture is the "dwelling decided on by the occupant" by way of "infrastructures that are neither determined nor determining". Mobile architecture embodies an architecture available for a "mobile society". To deal with it, the classical architect invented "the Average Man". The projects of the architects in the 1950s were undertaken, according to Friedman, to meet the needs of this make-believe entity, and not as an attempt to meet the needs of the actual members of this mobile society. The teaching of architecture was largely responsible for the classical architect's under-estimation of the role of the user. Friedman proposed teaching manuals for the fundamentals of architecture which would be available to the general public. The *Spatial City*, which in turn represented the materialization of this theory, makes it possible for everyone to develop his or her own hypothesis.

Friedman has been the main originator of the "megastructure" (a term invented during the 1970s by the English architectural theorist and historian Reyner Banham), which can move across any kind of terrain – and, if necessary, poise itself above already existing cities. Through

[45]Friedman, Y., (1958), "L' Architecture Mobile", *Bauwelt*, Berlin

Spatial City (1960 – 1970), he has made a succession of amendments to his central idea of an ideal structure: he states that since man needs to maintain equilibrium between his internal and external environment and the means to maintain this equilibrium are often rare, a rational distribution becomes necessary. The physical shape of towns is an obstacle to this distribution and in order to overcome the obstacle he postulates a spatial town contained in a many-level space frame grid high above earth level supported on pylons 200-250ft apart. These pylons contain vertical circulation and the units of dwellings or offices fill in 50 per cent of the structured space. In evolving the details of the urban mechanisms and by using a computer to find out more about the exact possibility of optimum conditions, optimum flexibilities and to calculate possible degrees of infil, he has brought a dramatic utopian gesture through to a real discussion. He has pushed forward from a dramatic proposition to a scientific and truly experimental process.

The spanning technique, which includes container structures, ushers in a new development in town planning. Raised plans increase the original area of the city becoming three-dimensional. The expanding of the spatial city on several independent levels, one on top of the other, determines "spatial town planning" both from the functional and from the aesthetic viewpoint. The lower lever may be earmarked for public life and for premises designed for community services as well as pedestrian areas. The piles contain the vertical means of transport (lifts, staircases). The superposition of levels should make it possible to build a whole industrial city, or a residential or commercial city, on the same site. In this way, the Spatial City forma what Yona Friedman would call an "artificial topography". This grid suspended in space outlines a new cartography of the terrain with the help of a continuous and indeterminate

homogeneous network with a major positive outcome: this modular grid would authorize the limitless growth of the city.

In Yona Friedman's own words: "The city, as a mechanism, is thus nothing other than a labyrinth: a configuration of points of departure, and terminal points, separated by obstacles".[46]

The *Spatial City* was not the only megastructure of the time. After all, the reformation / rethinking of the urban net was one of the main questionings of the time. From 1956 to 1974 the Dutch artist Constant Nieuwenhuys, devoted himself to the idea of 'unitary urbanism' to create New Babylon, the first project for a global city. Characterized by disorientation, New Babylon is a *dynamic labyrinth*. For Constant, mobility meant migration; the movement of individuals drives the transformation of architecture. Anticipating the contemporary era of global communication, Constant's vast meta-city, realized in countless models, drawings and photomontages, is populated by inhabitants who are constantly on the move. The artist famously declared: "we are all nomads now".

New Babylon's *sectors,* that is Constant's districts, are raised of the ground on struts and piles, slide labyrinthine in and out of each other, and form a dense mesh of levels and passages, tensions and supports. There is no orientation or master plan. New Babylon has neither a centre nor a beginning or end.

New Babylon was not merely an artistic urban vision expressed through sculpturally formed models. There were also detailed plans, technical drawings, ground plans and other Constant was convinced that the first sectors of his mega-structure would be built in the foreseeable

[46]Ibid

Pic.06
Spatial City
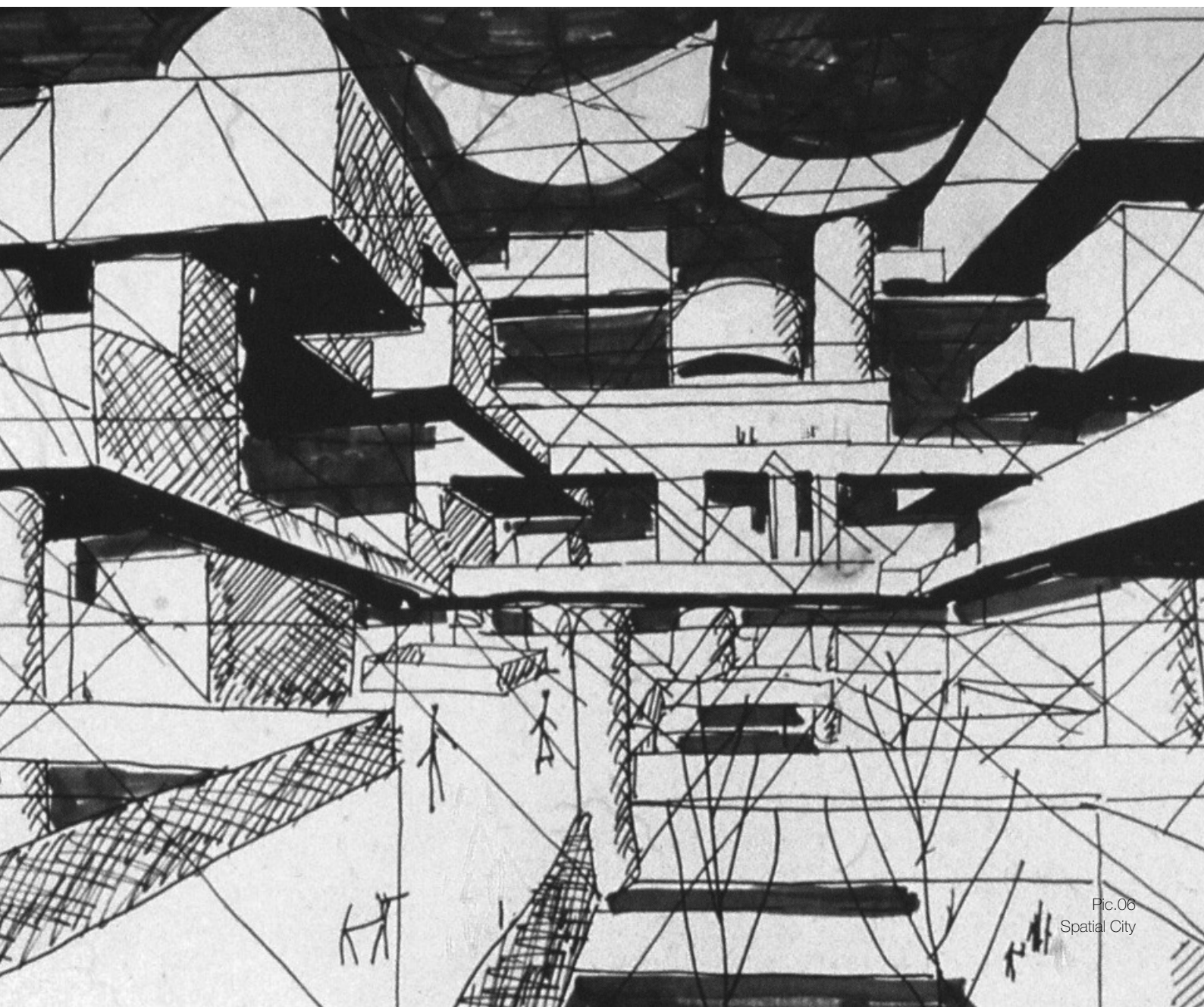
future. They were supposed to spread like rhizomes, stretching above the traditional cities and the landscape, gradually growing together into a network spanning the world. Inside, the New Babylonians, free by automated production from the need to work or remain settled, could do as they pleased within the labyrinthine passages, determined only by the power of their imagination and creativity. New Babylon represents the end of all cities, and equally the end of art which, now practiced collectively, flows directly into life.

There are certain similarities between Constant's New Babylon and Friedman's Spatial City. First of all, they present their concepts in rather similar ways, in the form of drawing-like collages and sculptural models. Furthermore, New Babylon and Spatial City are both raised on slender supports above the earth; they are independent structures suspended over the old cities and the landscape. What distinguishes the two concepts is the participatory aspect, since New Babylon had partly an authoritarian character.[47]

Yona Friedman defines the Spatial City as "spatial infrastructure", which he explains as follows: "a multi-storey space-frame-grid, which is supported by widely-spaced piles […]. This infrastructure forms the fixed element of the city. The mobile element consists of walls, base-surfaces and dividing walls, which make the individual division of the space possible; it would be called the "filling" for the infrastructure. All elements, which came into direct contact with the users (i.e. those they see, touch etc.) are mobile, in contrast to the infrastructure, which is used collectively and remains fixed".[48]

[47]Two collages of the Spatial City from:
http://www.megastructure-reloaded.org/en/yona-friedman/

[48]Friedman, Y., (1960), *Architecture Mobile*, quoted in Eaton, R., (2002), *Ideal Cities: Utopianism and the (Un)built Environment*, London

At that time there were several attempts to move away from the old order that was inscribed so deeply in the city's foundations in order to find a new type of community and freedom in an über-city supported by a public infrastructure. Between 1959 and 1961 Nicolas Habraken, Yona Friedmann and Constant set out their concepts. These did not advocate rebuilding, and consequently destroying, the existing city. Their idea was the addition of layers to the existing city complex by means of an independently growing stratum inside a spliced technical framework.

The architect's dilemma was how to plan diversity, because the totalizing models of classical modern architecture were no longer plausible. Even much earlier than the examples that we just referred to, Friedrich Kiesler's *City in Space* was part of the official Austrian contribution to the *Exposition des Arts Décoratifs 1925* in Paris.[49] *City in Space*, the architecture for an exhibition of new theater techniques, amazed audiences with its free walls attached to neither floors nor ceiling. As common on the stage, Kiesler worked in a black space to lift the border between inside and out.

He described the suspended construction of panels and beams without supports as a "system of tension in open space." The visitor to the exposition was able to walk through its matrices of interconnections, since Kiesler believed that "space is only space for someone who is moving in it". Kiesler was interested in creating a continuity of spatial interrelationships. The City of space exhibition formally embodied the visionary utopias of the Bauhaus and De Stijl artists. Upon seeing *City in Space*, Theo van Doesburg is said to have remarked to Kiesler, "You have realized that which we dreamed could one day be accomplished".[50]

[49]http://www.kiesler.org/cms/index.php?lang=3&idcat=18

[50]Weibel, P.,ed., (2005) [1997], *Beyond Art: A Third Culture*, Springer-Verlag, Vienna

City in Space was the first demonstration of time-space architecture by Kiesler: he thought of it as an unconscious three-dimensional realization of a neo-plastic picture by Piet Mondrian.
A latent idea in many of Kielser's installations was the need to engage the passive viewer in the reception of works of art. In many of his exhibitions, he sought to produce an engaged dialogue between the embodied observer and works of art though diverse kinds of challenges (often physical).

Urbanism and the seeking for the ideal city were intriguing; therefore, we have enough paradigms of the kind. At the beginning of the 1960s, Architecture Principe (Claude Parent and Paul Virilio) published their theory of a sloping city, 'The Function of the Oblique'. Their tilting site was intended to stimulate and encourage human social activity. They saw the city as a symbolism of all human civilization and characterized movement through it as circuits of cycles, equivalent to human habitation. For Parent and Virilio, the 'function of the oblique' was a 'device' that would unify the physical movement of its inhabitants because their movement was made easier in extensive, continuous spaces. In fact, Claude Parent stressed that "architecture is not biological, it is creation. Architecture rallies: it is the very essence of human groups. Architecture is not integrated in the site. It exists in itself and establishes with the landscape a qualitative and dimensional relationship. Architecture must never be neutral or indeterminate. It must be active; man in architecture must be concerned constantly, take part in an action or a spectacle. He belongs to the continuity of architectural worlds (buildings to be scaled and vanquished)".[51]

[51]From Alison, J., Brayer M.-A., Migayrou, F., and Spiller, N., eds, (2007), *Future City. Experiment and Utopia in Architecture*, Thames and Hudson, London

Architecture Principe (Paul Virilio and Claude Parent) stressed the urgent need for architectural culture to come to terms with the transformed spatial conditions ushered in by the Second World War and exacerbated by post-war developments in military and communications technologies. "The function of the oblique" reconsidered the importance of human orientation in relation to the inclined plane and the oblique axis, a development that the group heralded as the platform for creating a "new urban order", if not the "total reinvention of the architectural vocabulary". Programmatic texts were routinely paired with theoretical diagrams and with panoramic drawings of the new urban order they envisioned.

Also in 1960, 'Metabolism' was published, a booklet that connected the metabolism of living creatures with that of architecture and the city. The Metabolists saw the metropolis as being in a constantly changing state of dynamic equilibrium, in the same way as a living organism.

Moving on from the conceptualization of "cities – megastructures" (Spatial City, New Babylon, City in Space, Sloping City), we come to the Italian experimental scene of the 1960s, which was not to ignore. In 1966, after the exhibition 'Superarchitecture' held in Modena, the movement of the radical architecture in Italy was inaugurated. Italy's 'radical school' shared with *arte povera* the use of installations and appropriations from everyday life.
The so called Superstudio was founded in Florence by Adolfo Natalini and Cristiano Toraldo di Francia in 1966. They maintained that architecture needs to be involved in a different kind of thinking rather than "just creating luxurious objects, or introducing people into the world of consumer objects"; architects should be worried about issues like:

.080
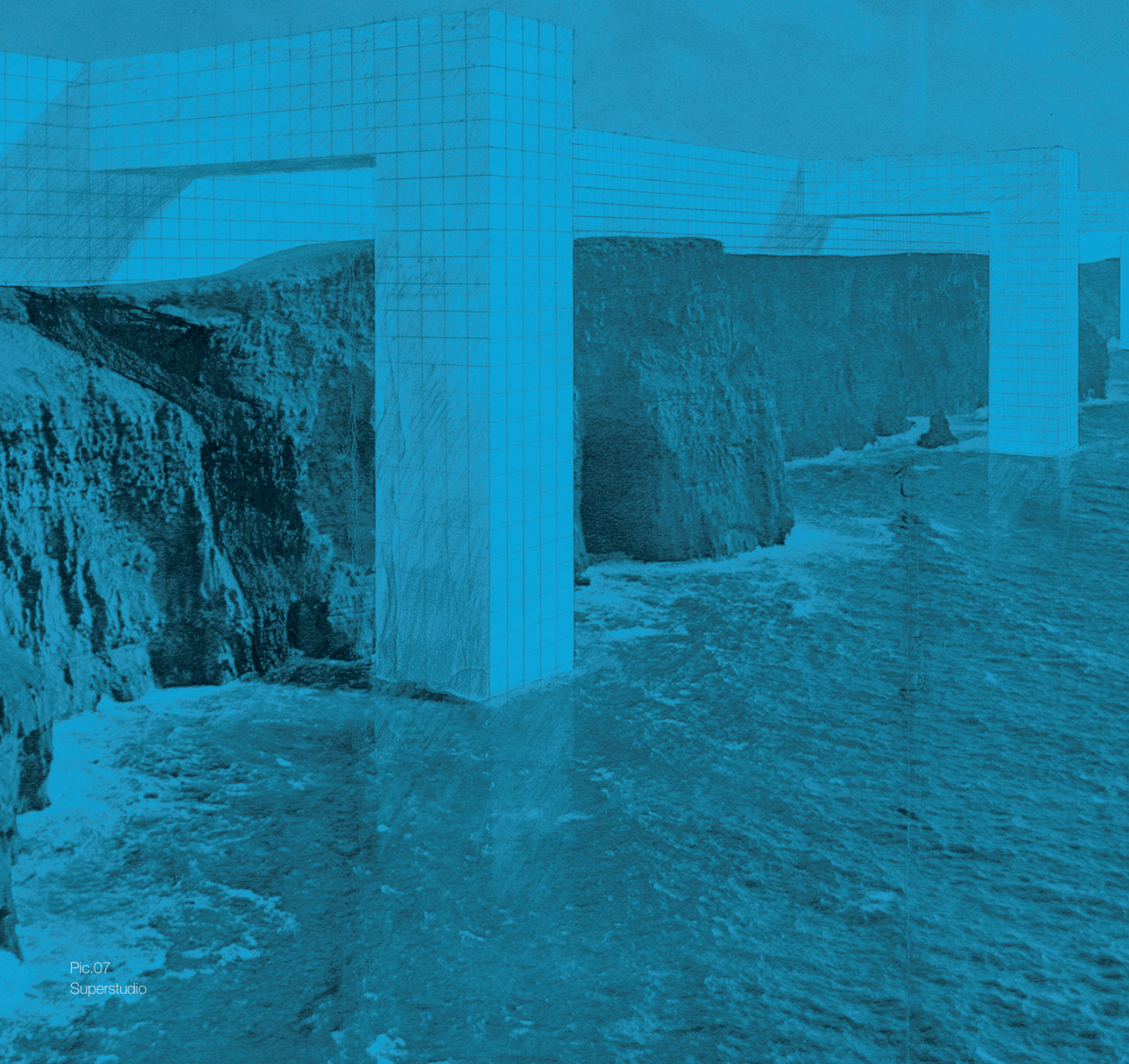
"What is architecture?" Superstudio worked in the field of 'operative criticism' between 1971 and 1973, making films in order to popularize utopian projects. They were seeking the path to a philosophical and anthropological re-foundation for architecture. The basic element of most of their work is a black grid on a white background. It shows up in early designs for villas, minimalist furniture, and (most memorably) the Continuous Monument, a series of photomontages that show Midtown Manhattan or the Taj Mahal wrapped in the grid.

Superstudio wrote that ultimately the grid would form a "single continuous environment, the world rendered uniform by technology, culture, and all the other inevitable forms of imperialism". This would allow for a truly democratic human experience. This is because every point on the grid is identical, no place is better than any other. Histograms of Architecture (1969) and Continuous Monument (1971), an architectural model for total urbanization, were two of Superstudio's most notable projects. In them, architecture became a system of abstract conception of 'neutral and available entities'. In Continuous Monument architecture utilizes a radical tool for criticism, through an uninterrupted monumental structure, intended as a course for traveling the planet. The Histograms of Architecture are a catalogue of three-dimensional isotropic diagrams with homogenous surfaces. They are a theoretical proposition, which can be transferred to any scale, exploring different semantics, yet all the while remaining self-same. They are 'seeking an inalterable image', an immutable representation of architecture. Their radical nature achieves the disappearance of the notion of 'quality' in architecture: architecture is nothing more than a mental diagram, a grid without beginning or end.

Archizoom, was founded (like Superstudio) in 1966 in Florence by

four architects: Andrea Branzi, Gilberto Corretti, Paolo Deganello, Massimo Morozzi and two designers: Dario Bartolini and Lucia Bartolini. Non-Stop City intertwines architecture with objects and the customer society, giving an interpretation where the repetition of a single central element, a building or a group of objects makes up, through a play of mirrors, a catatonic environment, a boundless supermarket, a future to be composed. Non-Stop City is a city with no qualities, in which the individual can achieve his own housing conditions as a creative, frees and personal activity.

Archizoom's No-Stop City (1969) is a critical utopia, a model of global urbanization, in which design is conceived as a conceptual tool for modifying the quality of life and territory. The city presents the same organization as a factory or a supermarket. Interior spaces, with air-conditioning and artificial lighting, allow city-dwellers to organize new typologies of open and continuous habitation, intended for new forms of association and community.

Superstudio's Histograms of Architecture and Archizoom's Non-Stop City were derived form the Modernist concept of the uniform grid. But it extended into an idea of total global urbanization through an infinitely spreading urban system. Through this idea, architecture was seen as a socially critical act. Its identity was debated and it became regarded as an attempt to transform reality.

Moving on to the Austrian experimental scene of the time, we come to Vienna, where Walter Pichler and Hans Hollein exhibited together in 1963. The Viennese school of architectural experiment was born under the influence of the exemplary conceptual projects as Pichler's Compact City (1963) and Hollein's Project for a City as a Hub of

Communication (1963). Introducing this joint exhibition, Hollein stresses that "man today is the master of infinite space".[52] In his project Aeroplane Carrier City (1964), an aircraft carrier is set in a landscape. The aircraft carrier symbolizes the tension between human technical creation and natural space and is a metaphor for the modern city's hidden complexity and latent monumentality. The 'compact city', a theme that led to Pichler's contribution to this exhibition had become a recurring theme in architectural discourse of the period. Constructed in the shape of a tower, the city offers the possibility of infinite expansion. The 'compact city' enjoys the benefit of artificially conditioned climate, and buildings are protected from nature by solid transparent envelopes. The project expresses a radical critique of society, namely that the intervention of architects is limited to an interior space that excludes all possibility of individual expression.

Hans Hollein's master's thesis from the University of California, Berkeley is entitled *Plastic Space*. In a poetically succinct treatise including numerous ink drawings and clay models, he develops space from the plastic properties of physical forms. The collage *Überbauung Wiens* (Superstructure above Vienna) from 1960 tests the results on an urban scale in an effort to overcome the constraints of the present day by detaching from the existing city.
Hans Hollein assumes space to be mobile by its very nature and has stated in his thesis that "space is constantly in motion, what stays static is three-dimensionality".[53]
The Aircraft-Carrier (1964) from the "Transformations" series is another example of the examination of urban forms. This projects' series introduced his belief that with the densely compacted city we gain tracts

[52]Hollein, H., (1963), "Forms and Designs" by Hans Hollein and Walter Pichler, in Arts & Architecture, and in http://www.hollein.com/eng/Writings/Texte/Architecture

[53]Hollein, H., (1960), "Plastic Space", Thesis submitted for the degree of Master of Architecture, College of environmental design in the graduate division of the University of California, Berkeley, in http://www.hollein.com/ger/Schriften/Texte/Plastic-Space

.084

Pic.08
Superstructure Over Vienna

of open land. Hollein's planting of an aircraft carrier on a green field also represents an ironic commentary on the relationship between city and nature. Through concentration on a mobile object, Hollein also finds expression for the city's energy. Regarding his projects, Hollein states that: "The fascinating inherent formal potential for a spatial sculptural architecture as well as the complex overlay above a basic symmetry by dominating asymmetrical elements provide a tension, which is augmented by the dialectical between the autonomous urban object and nature".[54]

The use of a ship as a model for the spatial complexity and economy of the city recalls Le Corbusier. In 1923 he celebrated liberation from outdated images in architecture in the aesthetics of the ocean liner. It also brings to mind Buckminster Fuller who in 1932 with an aircraft carrier further extended the city's space and mobilized the coordinate system with the help of the most recent means of transportation.

Kiesler presented the international audience with this architectural installation not as an exhibition architecture, but rather as a visionary megalopolis poised in space.

Shortly before 1970, new plastic materials created possibilities for balloon molding, and architects began to mould urban space as if they were artists. In Austria once again, Coop Himmelb(l)au made the (actual this time) city their main subject. From the early 1960s their radical action – architectural installations and happenings – took shape in urban spaces. Their radical approach aimed to project basic emotions and sensations into space so as to achieve an 'open architecture' and create complex spatial situations, as variable 'as clouds', like they declared in 1968: 'Design architecture as floating and changeable as

[54]Hollein, H., (2006), *Alles ist Architektur / Everything is Architecture* in Prix, W. D., (ed.), *Stadt=Form Raum Netz / City=Shape Space Net, The Exhibition Magazine*, Springer Wien New York

the clouds'. Villa Rosa (1968-1969) was a prototype for an inflatable, traveling habitat, displayed in different locations in Vienna. Composed of eight plastic bubbles, Villa Rosa recreated, at each presentation, a sensory space with which one could experiment. Its volumes could change shape, various sounds, colors and fragrances renewing one's perceptions of each location. Villa Rosa was both a purified space, a relaxation chamber, providing a décor for performances, and a wave of sensory experiences engaging the entire body. Architecture took on the role of a flexible interactive membrane that stimulated cognitive as well as sensory experience.

Villa Rosa was conceived as a pneumatic living unit, a prototype / the pneumatic prototype of a supply structure.[55] Its design ideas were those for an architecture that is as variable as a cloud. Pneumatic construction permits changes in volume due to a new "building element": air. And the new forms – supported through projections of colour, sound, and fragrance – influence the quality of experience within the spaces.

The pneumatic prototype is composed of three spaces. The pulsating space with the revolving bed, projections, and sound programs. Appropriate fragrances to accompany the changing audiovisual program are blown in through the ventilation system. The pneumatic, transformable space: eight inflatable balloons vary the size of the unit's space from minimum to maximum volumes. The architectural space is the space in the suitcase – the mobile space. From a helmet-shaped suitcase, one can inflate an air-conditioned shell, complete with bed.

Neither pillars nor rafters nor the construction itself is the goal of architecture. Since the erection of the first totem pole, the goal has been dematerialization. The dream has always been release from the force of gravity.

[55] Noever, P., (2007), *Coop Himmelb(l)au. Beyond the Blue*, Prestel Verlag

Coop Himmelb(l)au declared: "Our architecture has no physical ground plan, but a psychic one. Walls no longer exist. Our spaces are pulsating balloons. Our heartbeat becomes space; our face is the façade".

Or, according to Rudi Dutschke's: "It is not that we should change in order to live in society, but society has to change so we can live in it", Coop Himmelb(l)au said that:

> "It is not that we should change in order to live within architecture, but architecture has to react to our movements, feelings, moods, emotions, so that we want to live within it".

Moving on to the English experimental scene, Peter Cook and Ron Herron's Instant City (1968-70) (Archigram) was an aerial city that attached itself onto an existing city and moved like an air balloon. According to Archigram themselves: "The Instant City is a "traveling metropolis", a package that comes to a community, giving it a taste of metropolitan dynamic – which is temporarily grafted on to the local centre – and whilst the community is still recovering from the shock, uses this catalyst as the first stage of a national hook-up. A network of information – education – entertainment – "play-and-know yourself' facilities". It is a way of enjoying the physical nature of the metropolis, staying where we are.

The Instant City is both collective and coercive: by definition there is no perfect set of components.

This created a media event for the enjoyment of the general public, linking architecture to Pop Art. Archigram was creating new architecture with the rise of consumer and leisure society. an architecture of communication nurtured by references to advertising, popular culture, the beginnings
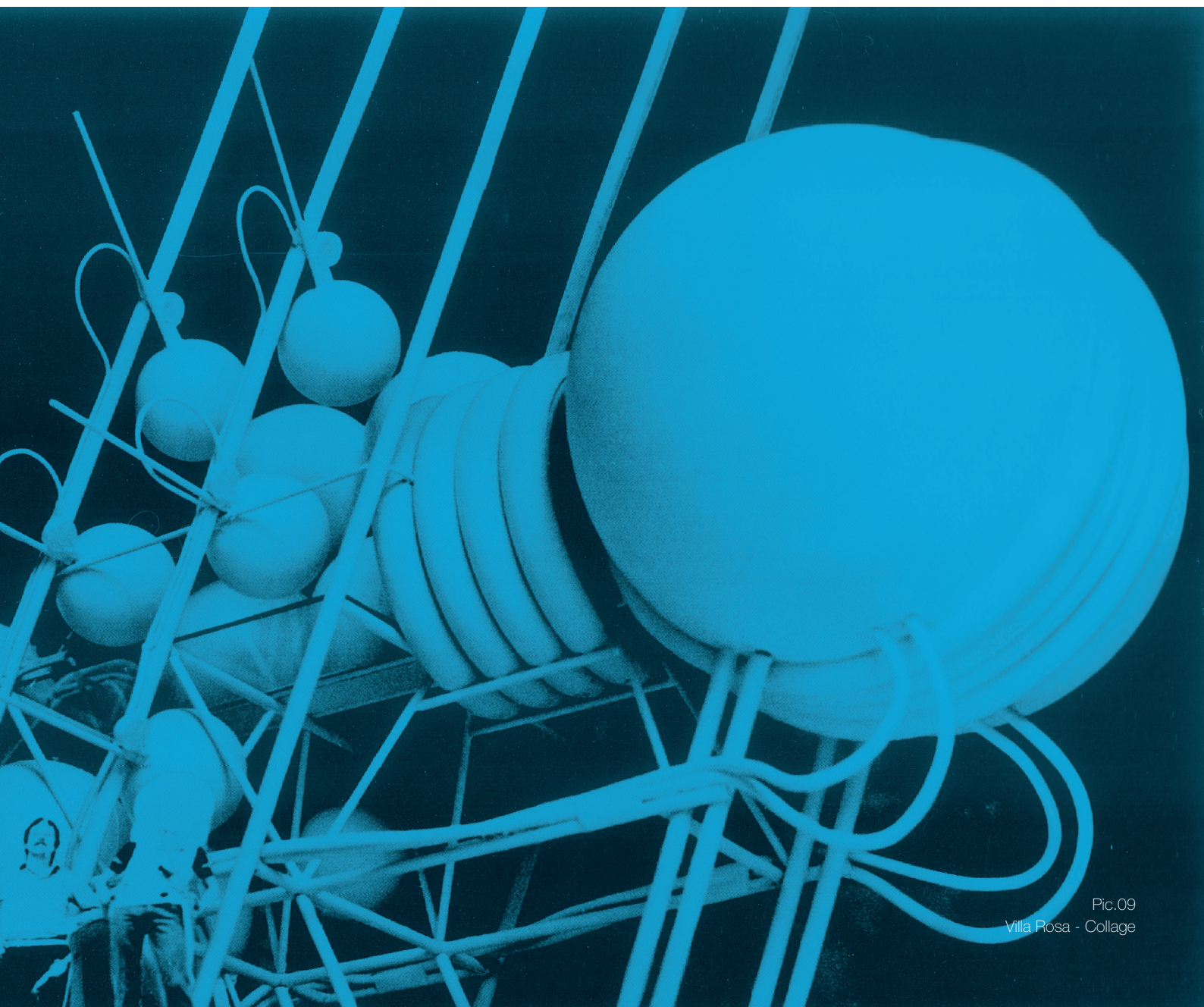
Pic.09
Villa Rosa - Collage

of computer technology and science fiction. Thought as a service offer, architecture was to be consumed at the speed of images. Graham Stevens produced the first inflatable structures, which appeared in the early James Bond movies. Instant City consummates the disappearance of architecture, which was transformed into environment. Architecture gives way to the image, the event, the audiovisual, to gadgets and other environmental simulators. This city fleetingly superimposes new spaces for communication in the existing city: an audiovisual environment (words and images projected on suspended screens) and blends with mobile objects (dirigibles with hanging tents, capsules and mobile homes) and technological objects to create a city of information consumption, intended for a population in motion. The first stage of an information network, of education, leisure and facilities, Instant City transforms architecture into and event.

The Instant City was the sequel of a series of Archigram's projects: The Living City of 1963 is "not a blueprint for a city". The aim is to capture a mood, a climate of opinion, to examine the phenomena of city life, to create awareness within the spectator of himself, his attitudes and the significance of the throwaway environment about him. Living city takes the form of a complete structure, an organism designed to condition the spectator by cutting him off from the everyday situation, where things are seen in predictable and accepted relationships. This city stimulator is a "conditioning chamber, like the corner of some giant brain or analogic computer, and has compartments we have called "Gloops". Each gloop defines an area of basic constant and reasonably predictable fact. Man, Survival, Crowd, Movement, Communication, Place, Situation: all contributing and interacting one on another and

sum totaling to Living City."

The Plug-in City evolved from several smaller earlier projects, which had suggested the idea of replac eable dwelling units, plug-in offices, and a diagonal megastructure containing elevators. It pulled together a series of seemingly disconnected notions, reinforcing and qualifying the theme and eventually suggesting a total project – "a portmanteau for several ideas". The Plug-in City is set up by applying a large-scale network-structure, containing access ways and essential services, to any terrain. Into this networks are placed units, which cater for all needs. These units are planned for obsolescence. The units are served and manoeuvred by means of cranes operating from a railway at the apex of the structure. The interior contains several electronic and machine installations intended to replace present-day work operations.

Architecture is only a small part of city environment in terms of real significance; the total environment is what is important, what really matters. The object was to determine the effect total environment has on the human condition, the response it generates – and to capture, to express, the vitality of the city. We must perpetuate this vitality or the city will die at the hands of the hard planners and architect-aesthetes.
The re-creation of environment is too often a jaded process, having to do only with densities, allocations of space, fulfilment of regulations; the spirit of cities lost in the process.

Through the intellectual tradition of these idealists, western culture saw their revolutionary future as a point in time underpinned by human-centred technology. A rational and healthy civilization in which needs
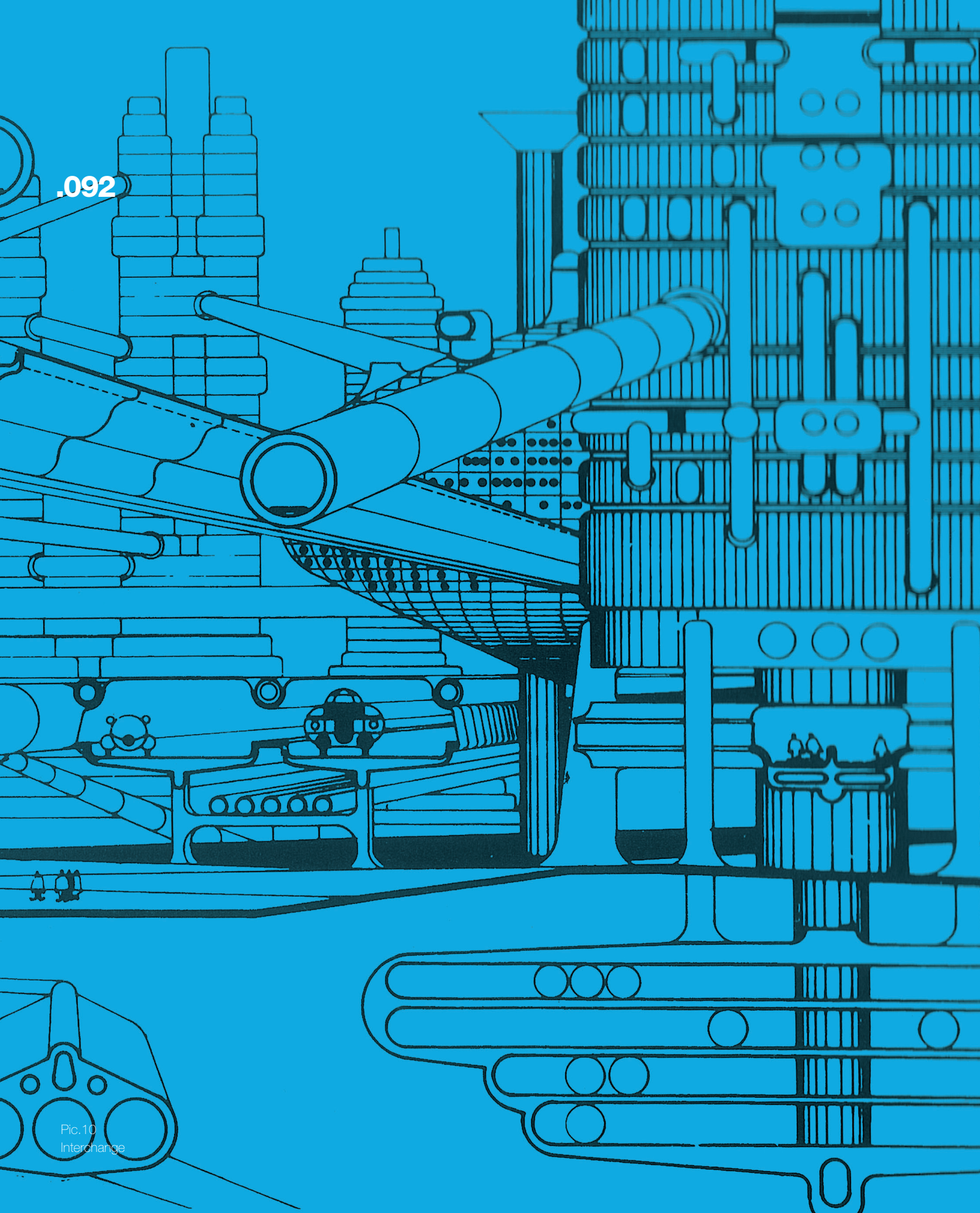
Pic.10
Interchange

INSTANT CITY CONSUMMATES THE DISAP-PEARANCE OF ARCHITECTURE, WHICH WAS TRANSFORMED INTO ENVIRONMENT.
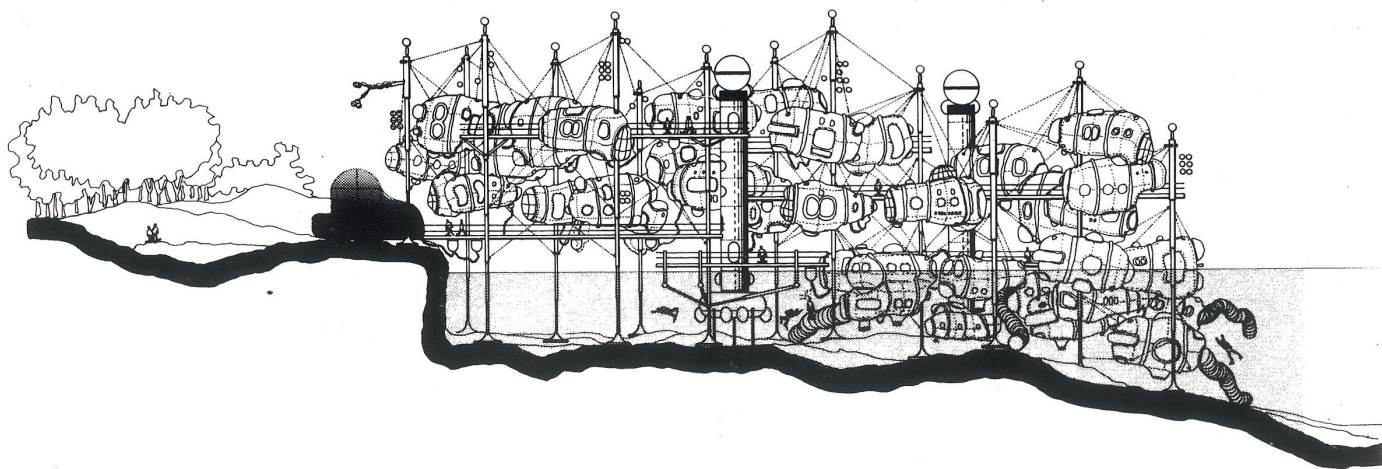
Pic.11
Kapsel Pier

were met, environment and leisure were chief and from which collective activity could emerge - such as cinema-going, recreation, entertainment culture and games - were paramount. Yet, for Archigram, the Situationists and the Superstudio, architecture was also the instamatic camera, the photobooth, and the collage. Photography, film and video worked to represent the contemporary world and one's life in it. Media was in the hands of the modern masses and architecture was no longer the privileged structuring of space according to the dominant classes, but the playful expression of an urbanism in which everyone would participate.

Claude Parent stated that "Architecture will re-become the domain of proof. It will be indisputable, undisputed. It will no longer refer to the domain of the avant-garde. It will be. People will recognize it as theirs. The other arts will find in it both coherence and reality." However, these among other architectural designs of the period were rarely realized, being primarily utopian manifestos, taking place mainly on paper and models, not on the ground.

At this point, it would be meaningful to briefly analyze the term "utopia" and its history. Utopianism – the concept of an ideal and perfect society – is generally considered to be one of the oldest varieties of western thought. But the formal literary utopia invented by Sir Thomas More added something new: it launched a distinctive tradition of social thought, which has been one of the most powerful and pervasive forms of social theory in the West.
Krishan Kumar, the historian of utopias, explains: "Utopia has been a subversive form: that is perhaps the first point to make in "mapping"

utopia. The very incertainty over the intention of the author – is this satire? Is it wish fulfillment? Is it a call to action? – has provoked authorities to blanket suppression.[56]

The word "utopia" was coined by Thomas More (1478 – 1535) as the name of the imaginary country he described in his book published in 1516. More's idea of utopia is the product of the Renaissance, a period when the ancient world (namely Greece and Rome) was considered the peak of mankind's intellectual achievement, and taken as a model by Europeans; but it was also the result of a humanistic logic, based on the discovery that the human being did not exist simply to accept his or her fate, but to use reason in order to build the future. Out of the ruins of the medieval social order, a confidence in the human being's capacity emerged – not yet a capacity to reach a state of human perfection (which would be impossible within a Christian worldview, as the idea of the Fall still persisted), but at least an ability to arrange society differently in order to ensure peace. This broadening of mental horizons was certainly influenced by the unprecedented expansion of geographical horizons. More wrote his "Utopia" inspired by the letters in which Amerigo Vespucci, Christopher Columbus and Angelo Poliziano described the discovery of new worlds and new peoples; geographical expansion inevitably implied the discovery of the "Other".
More used the emerging awareness of otherness to legitimize the invention of other spaces, with other people and different forms of organization. In order to create the new word needed in order to describe this new situation, More resorted two Greek words – ouk (which means not and was reduced to u) and topos (place), to which he added the suffix ia, indicating a place. Etymologically, utopia is thus a place, which

[56]Kumar, K., (1991), *Utopianism (Concepts in Social Thought),* University of Minnesota Press

is a non-place, simultaneously constituted by a movement of affirmation and denial. In the end of his book, More creates also the word Eutopia (deriving from the Greek ευ – meaning "good" or "well" – and topos, that is "place" as already mentioned), which means: the good place. By creating two words-concepts, which are so close in their composition and meaning, as well as in their pronunciation, Thomas More created the duality of the meaning of utopia as the place that is simultaneously a non-place (utopia) and a good place (eutopia).

It is a fact that More did not invent utopianism (considered as the aspiration to a better life), as it has also been present in the ancient as well in the Christian traditions (for example in Plato's "Republic", and in St Augustine's "The City of God"). However, while Plato does not go beyond mere speculation about the best organization of a city and St Augustine's ideal is projected into the afterlife, in More's concept of utopia, there is the tension of the affirmation of a possibility.

Henry Lefebvre makes a distinction between "utopian" and "utopist". Utopist thought, claims Lefebvre is concerned with abstract utopia and explores the impossible, while utopian thought is concerned with concrete utopia that aims to "liberate" the possible.

Although the abovementioned projects were in the sphere of utopianism, they became part of the architectural history though, since what they actually asked was what the "consumers" really wanted from architecture, what exactly architecture is. Simon Sadler states (regarding Archigram)[57] that one of these architects' accomplishments was to reorient architecture toward changing social and ideological patterns, recognizing that individualism and consumerism were the prevalent

[57]Sadler, S., (2005), *Archigram: Architecture without Architecture*, MIT Press Ltd

postwar European and American social movements. Socialism had earned a tenured place in mainstream European politics, and radicalism made impressive breakthroughs, as in 1968, but the collectivity and state control that informed the ideology of modernism from the 1920s to the 1950s generally lost their allure.

None of the early utopian ideals of the twentieth century has materialized, its social aims have nor succeeded. Blurred by reality, the ideals have turned into redevelopment bureaucratic policies. The split between social reality and utopian dreams has been total, the gap between economic constraints and the illusion of all-solving technique absolute.

Situationists were certain that they had a set of revolutionary devices – psychogeography, drift, détournement, situations, and unitary urbanism – but were unable to arrange them into a coherent program. It was never made clear, for instance, whether unitary urbanism was a project for the here-and-now or for post-revolutionary society, nor indeed whether it was simply a metaphor for a better world.

Most of the architecture and spaces that were endorsed by situationists existed by chance rather than by design: back streets, urban fabric layered over time, ghettos. Perhaps situationists exemplars could not adequately by synthesized, abstracted, or even "détourned" – only preserved the passing of time itself being an architectural agent, the fourth-dimensional attribute of use, weathering, and legend that psychogeoghraphers keenly noted. Probably most situationists realized the near-impossibility of constructing truly situationist architecture.

The situationists assumed that anyone who has really lived understands psychogeography and that anyone will understand it once they have

experienced *real life*. This simply assumed that we all want the same things from the city, and that our experience and knowledge are homogeneous; in short, that we are the sort of person that was attracted to the SI or that we should be that sort of person. Situationists' writing was full of such assumptions.

The creation of personal senses of place, sheltered from the endless energy of the public domain, was almost entirely refused by situationist collectivist dogma. Constant only allowed places for temporary privacy and rest in New Babylon, denying us space for permanent private habitation and ritual.

During the early 1990s architects became seduced by the potential of cyberspace. Computer technology had advanced to the stage that urgent debated were held about whether it was possible to create a spatial architecture that would exist purely in the virtual world. Nowadays computed-aided design is commonplace. A future is envisaged when architects will no longer be constrained by mass production and the limitations of standardized factory components. Forms that could only be dreamed about in the 1960s are now becoming realizable with the help of specialist software and computer driven machine tools. In the postindustrial, informational, globalized age, many of the marvels that all these architects predicted eventually became accessible through the screen of the computer. Architecture today rolls, flows, inflates, breathes, expands, multiplies and contracts, finally hoisting itself up, as Archigram predicted in the early 1960s, to go in search of its next user. Today, we have the means to realize their visions using the new construction material provided from our technology-time: information.

We live in an information society: after the digital evolution, we are in the midst of the period where cyberspace, virtuality, biotechnology and even nanotechnology all have a potential impact on architecture.

Architects have thought in terms of utopia and ideological program. They have thought in terms of transgression and formal play. The virtual introduces another style of thought. It has nothing to do with an ideology, a belief in an encompassing order, real or utopian. It thinks in terms of arrangements of body and soul, irreducible to any such symbolic order, any such law of possibilities.

Concluding our discussion of the history of experimentation and utopia in architecture, we would like to stress that the extended reference to all these paradigms (most of which are already part of the history of architecture), was mainly done in order to then juxtapose to these pure utopian projects, our experimental urban prototypes, which will be presented in chapter 4. Through this thesis, and the experimental prototypes that come along with it, we want to insert chance where there is only probability. In the 60s, utopias were deployed, but no realistic urban behavior models. Few of these projects manifested themselves three-dimensionally or with such flair. We demarcate the utopian projects of the 60s: we make no closed utopias; we rather live from the moments, which are constantly actualized.

The idea is to create architecture that is free, because it is neither ideal, nor impossible.

Pic.12
The fifth Element

02.5
Virtuality in
Architecture

As already mentioned, it is difficult not to mention the notion of virtuality when talking about experiment and utopia in architecture. It is therefore indispensable to unfold also the different aspects of the term virtual and how it affects architecture.

We experience at present a technology leap of the microelectronics, into which the information and communication technology are embedded. It is a technology breakthrough, comparable with that of the invention of printing and the introduction of electricity. There are technical innovations, which have changed fundamentally the working sphere, the education and the society.

If the processing capacities of digital media were widely embraced by architecture in the 1950s and 1960s, the most recent generation of information technology has radically transformed the discipline once again. Research into the earlier, historical turn to electronic technologies, however, offers not only prehistory of contemporary interest in information technology and virtual space, but also important lessons regarding their historical and political implications in architecture.

Exemplifying an earlier engagement with new technologies – not only structural, but cybernetic, information, and transportation technologies – the work does seem relevant to a contemporary condition characterized by the capitalist project of globalisation, expanded media networks, and increasingly immaterial forms of labor and aesthetic practice.
Communication is the driving force behind a new phase of architecture and that is a fact linked to the IT revolution. It is an aspect that is often underestimated and misunderstood. Information is the real added value

of any product. And what makes it competitive is the real added value. Information also means narration, image and design.

A lot of discussion takes place nowadays regarding the term *virtual*. What is the idea of the virtual as multiple potentials for new connections or unseen relations?

A starting point lies in the distinction drawn by the philosopher Gilles Deleuze between the virtual and the possible, or the actualization of the virtual and the realization of the possible. It is part of a larger attempt to understand the notion of potential outside the given identities of form, function, and place, and it leads to the principle that the world that is best is the most "multiple", the most virtual.

Gilles Deleuxe uses the term virtual to refer to an aspect of reality that is ideal, but which is nonetheless real. An example of this would be the meaning, or sense, of a proposition, which is not a material aspect of that proposition (whether it be written or spoken) but is nonetheless an attribute of that proposition. Deleuze's continental philosophy concept of the virtual has two aspects: first, we could say that the virtual is a kind of surface effect produced by the actual causal interactions, which occur at the material level. When one uses a computer, an image is projected on the monitor screen, which depends upon physical interactions going on at the level of hardware. The window is nowhere in actuality, but is nonetheless real and can be interacted with. This example actually leads to the other aspect of the virtual, which Deleuze insists upon, which is its generative nature. The virtual is here conceived as a kind of potentiality that becomes fulfilled in the actual. It is still not material, but it is real.

The virtual is thus not an abstraction, a generality, or an a priori condition. It doesn't take us from the specific to the generic. It increases possibility in another way. And this is that it mobilizes as yet unspecifiable singularities, bringing them together in an indeterminate plan.

The actual and the virtual are thus not logically congruent or commensurable. Actualization is never in the image of the virtual force that it effectuates. Unlike the possible, whose realization always leaves us the same, the virtual is something we must always experiment and work with in order to see. It confronts us as with a question or problem to which we don't know how to respond in advance.

Henri Bergson, over 100 years ago left us a conception of virtuality much different than what is understood today. Our modern notions have been deeply inspired by the technology of the computing device.
– But is virtuality reducible to the rinse of the digital media, in all its various configurations? - His conception of virtuality was more profound than the standard notions we have today.

Bergson though stated that perception is virtual action. This concept was embedded within a model that established the relationship between subject and object in terms of time. For Bergson, the virtual is synonymous with intuition. He remarks that: "In concrete perception, memory intervenes, and the subjectivity of sensible qualities is due precisely to the fact that our consciousness, which begins by being only memory, prolongs a plurality of moments into each other, contracting them into a single intuition".[58]

According to Bergson, perception is prior to any conscious activity of

[58]Bergson, H., (2012) [1896], *Matter and Memory*, Forgotten Books

choice. It is an automated, motor process, a special and primary function of memory: "There is no perception which is not full of memories. With the immediate and present data of our senses, we mingle a thousand details of our past experience".[59] The interpretation of memory with perception is a process in which memories are transformed from their nascent state into an active state intermingled with the action in which perception is engaged. In this state, a memory is said to be actualized: "A...memory only becomes actual by borrowing the body of some perception into which it slips".[60] By "body" Bergson means not only a "shape" in a spatial sense but, above all, in a temporal sense: as a line of movement which the actualized memory follows and enhances. This temporal depth is, more than anything else, the vital service memory provides to perception.

The immanent intersection between perception and memory designates the virtual. But there is more to the intersection than the provocation of memories projected into perception. Bergson closes the gap, so that perception is returned with a virtual memory – image of itself instantaneously and continuously. As its most immediate point the virtual is like a mirror that distorts perceived objects in a halo of temporality. This is what Deleuze means by "a more profound, internal repetition within the singular".[61] The origin of the virtual is thus fully immanent and its development is directed toward the perception it reflects. The virtual memory image that moulds over the perception, infusing it with qualities and temporal depth, is what Deleuze calls a "virtual object". Gilles Deleuze uses the term virtual to refer to an aspect of reality that is ideal, but which is nonetheless real.

[59]Ibid

[60]Ibid

[61]Deleuze, G., (1994), *Difference & Repetition*, Columbia University Press

" Both Bergson and Deleuze build their conception of the virtual in reference to a quotation in which Marcel Proust defines a virtuality, memory as "real but not actual, ideal but not abstract".

A dictionary definition written by Charles Sanders Peirce gives striking support to this understanding of the virtual as something that is "as if" it was actually – real and the everyday usage of the term to indicate what is "virtually" so, but not so in fact.[62]

What would it mean for the virtual to be part of the very idea of construction?

Before we answer his question, we should explore ways in order to collect the required information.

[62]Peirce, C.S., (1902), «Virtual». *Dictionary of Philosophy and Psychology*, Macmillan, New York

.106
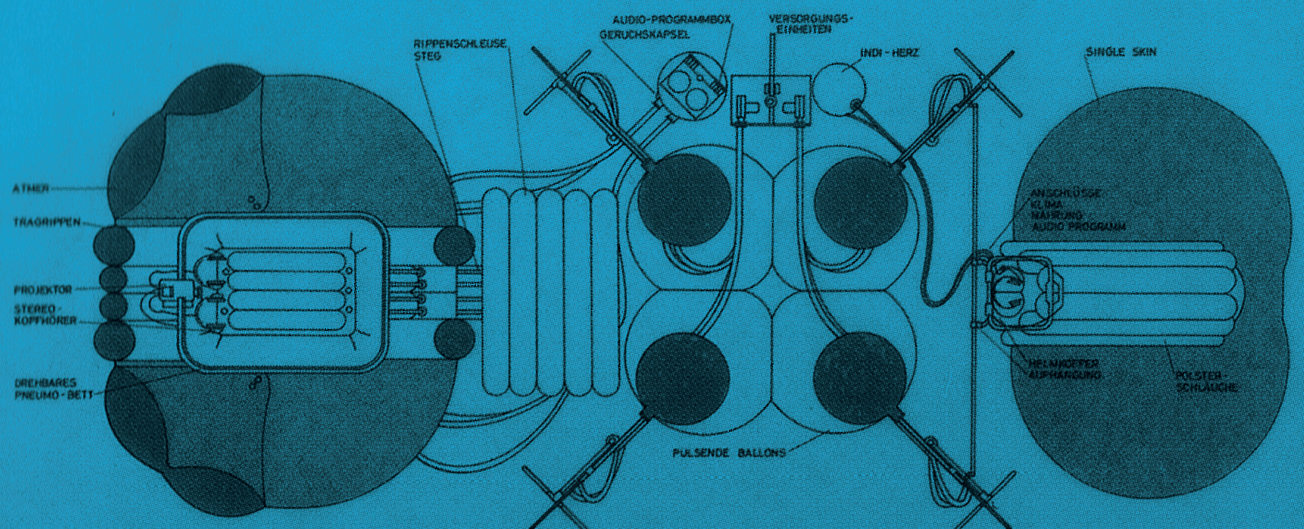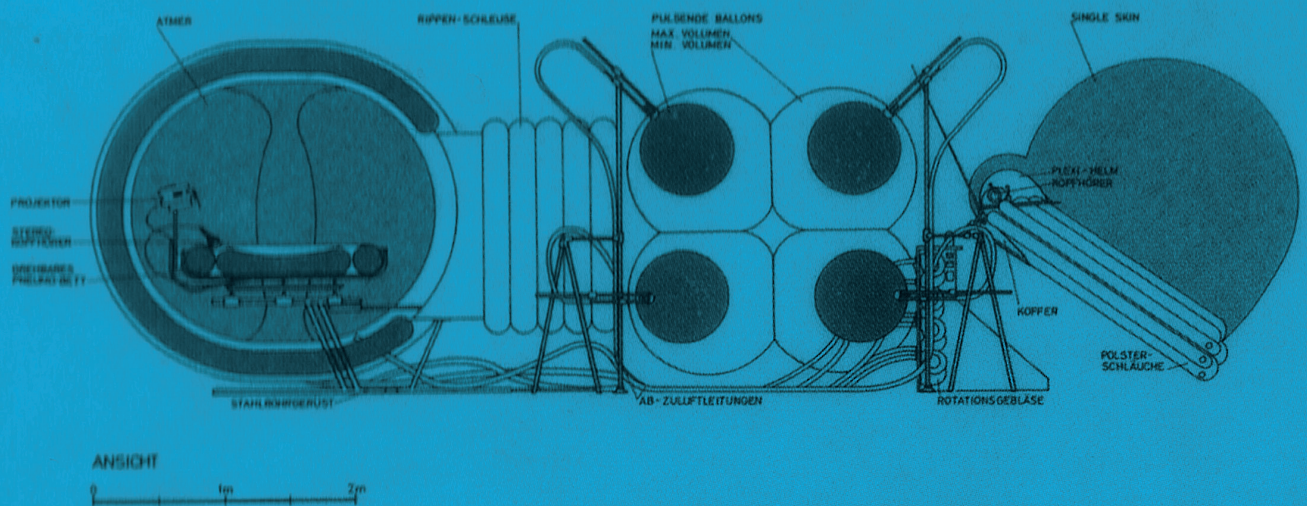
02.6
Resuming this chapter

In this chapter, we reviewed the role and use of the conventional architectural materials, such as earth, wood, metal, glass and concrete and argue that information is such an important element of today, its presence is so requisite in the architectural production, that is can be considered the sixth of the main construction materials.

Since our theoretical research is in constant interaction with experimental projects, an analysis of paradigms of experimentation, utopia and virtuality in the architecture of the 1960s and 1970s was also provided.

In the late 1960s Foucault described a discipline as a "field in which formal identities, thematic continuities, translation of concepts, and polemical exchanges may be deployed".[63] But he understood that "regularities" in such a field were not only as a homogenizing force, but also as a force of difference. His disarticulation of a discourse's regularities from its historical context – regularities being understood neither as fixed or universal (extrinsic to history, like a "great, unmoving, empty figure") nor as a fully determined by their time – suggests that architects' investigations into the formal and critical strategies of experimental architecture might take account of more complex political relations between design and historical forces, as well as between the discipline's past and its present.

Since the further goal of this dissertation is to use these experimental prototypes in order to extract the information needed – the par excellence core material in today's architecture – we devote the next chapter, chapter 3 in analyzing the conceptualization of information in architecture, its forms, as well as the possible ways in order to approach it.

[63]Foucault, M., (1972), The Archaeology of Knowledge &The Discourse on Language, Pantheon Books, New York

Chapter 03

The Collection of Information

The Sixth Material

The Collection of Information

Information is increasingly recognized to hold a critical role in the theory and practice of new architecture and the new urban environment. Borrowing from Antonino Saggio we could argue that information has indeed become "an essential component" of today's architecture, as well as of the overall built environment.[64]

There exists a range of ways, through which, this essentiality of information as an architectural component is realized. Firstly information, by nature and character has the ability to become a tool for communication that is a tool for interaction and knowledge sharing. It allows for buildings to tell a narrative story and thereby educate, entertain or advertise, while at the same time information also allows users to project to buildings their intentions and purposes of actual and potential use. As such, information acts as a communicative tool, which architecture employs to interact with its users. Secondly, information has the ability to prompt architects into developing buildings and spaces that are somewhat more "conscious of the changes in the operational and social framework caused by information technology and capable of expressing this revolution".[65] Finally and closely related to previous paths, information becomes a production infrastructure.

As a concept, information comes into a world trailing clouds of glory. It would not be an exaggeration to argue that it is a requirement of our survival, since it permits the necessary exchange and interaction across a spectrum of different entities, levels and contexts, from those between individuals or groups of people, to those between people and theirs surroundings, or even those between the soundings, people and the overall environment. Perhaps owing to this wide ranging and all-

03.1
**Chapter
introduction**

[64]Gausa, M., Guallart, V., Müller, W., Soriano, F., Porras, F., Morales, J., (2003), *The Metapolis Dictionary of Advanced Architecture – city, technology and society in the information age*, Actar, Barcelona, p.343

[65]Ibid.

encompassing character, there exists a fundamental ambiguity in the use of the concept of information and importantly in the ways identified for its extraction among the theorists and scholars of the concept of information. Indeed, T. S. Eliot's choruses from "The Rock" (1934) seem to be appropriate when asking "where is the wisdom we have lost in knowledge? Where is the knowledge we have lost in information?"[66]

In this chapter we address the core theoretical question of this thesis namely the extraction of information and the available theoretical and applied methods to this end. Given the multidisciplinary and most critically extensive nature of the subject, our analysis focuses on specific strands of the literature and attempts to identify a number of core assumptions from different approaches in order to build a theoretical basis for our experimental research.

The objective of our analysis, in other words, is not to delve into the full theoretical depths of the concept of information and its collection. Rather, and most importantly, in view of the specific context of this theoretical endeavour – namely the role in and the extraction of information in the context architectural praxis – the objective is to synthesise existing approaches into developing a foundation for our experimental research.

This chapter deals with the information as a concept but also as an objective, and explores the alternative ways in which it is used and employed by different disciplines.
Given that the primary concern of our research is not merely to understand, but critically extract the information, in this chapter we also explore the different types of information, namely the obvious, the apparent one and

[66]*The Rock* was a pageant play with words by T. S. Eliot, first performed aa Sadler's Wells Theatre in London (28/5/1934). Elio, T.S., (1934), *The Rock*, Faber & Faber, London

the implicit information. We argue that our aim should focus in deriving the unforeseeable, the implicit information. Therefore, we first analyse the theoretical approaches to the collection of information and then we discuss our proposed procedure in order to gather the requested information. Since we cannot approach the collection of information theoretically without considering to the philosophical approaches to the notions of mimesis and dialectic, we inevitably "trespass" the boundaries of other disciplines, like philosophy and social science. Nevertheless, as also emphasised in our introduction, this philosophical analysis is strictly limited to the framework of this thesis. In other words, while borrowing from philosophy, this thesis retains its character of a thesis on architecture and therefore it is only the disciplines of theoretical and applied architecture, where we really deepen into.

03.2
The concep-
tualisation of
information in
architecture

Information, the word itself, but also its meaning and concept has been a matter of study across all kinds of diverse disciplines. Despite the interest that it has attracted, however, it appears that there is no agreement, or indeed, consensus among analysts and the scholars over the exact meaning of the concept. Considering the enormous breadth of its expressions, attributes and applications the inconclusiveness over exact meaning of information is somewhat not surprising.

In the field of the mathematical theory of communication for instance,[67] information is approached purely as a physical phenomenon. The central question in this strand of the analysis lies in whether and how much uninterpreted data can be encoded and transmitted efficiently by means of a given alphabet and through a given channel. As such in this case, importance and emphasis lies not as much in identifying the meaning, relevance, reliability and usefulness of interpretation of information, but rather in achieving the finest the level of detail and highest level of frequency.

Philosophical approaches on the other hand, give to information a more semantic context.
Indeed, (the concept of) information takes key and even catalytic role in the analysis of several philosophical problems. However, again there appears to exist no single, unified definition of it. The *Cambridge Dictionary of Philosophy* defines information as *"an objective (mind independent) entity. It can be generated or carried by messages (words, sentences) or by other products of cognizers (interpreters). Information can be encoded and transmitted, but the information would exist independently of its encoding or transmission"*,[68] whereby even in this

[67]Shannon, C. E., (1948), "A Mathematical Theory of Communication", *The Bell System Technical Journal*, Vol. 27, October

[68]Audi, R., ed. (1995), *The Cambridge Dictionary of Philosophy*, Cambridge University Press

explanation, the variety of the information components is not clear.

We have repeatedly stressed that this thesis focuses on the concept information solely in its relation to architecture. We recognise, however, that information in its many forms and concepts is somehow cross disciplinary, which would suggest that a definition given to information according to a specific discipline (in our case architecture) may articulate or prompt also the conceptualisation of information expression in another. In this context, Luciano Floridi argues that

> "information is such a powerful and elusive concept that, as an explicandum, it can be associated with several explanations, depending on the cluster of requirements and desiderata that orientate a theory".[69]

Given the above, and concentrating in the information that is directly relevant to architecture, we borrow some of Aaron Sloman's reflections on the matter that he presents in his article "What's information, for an organism of intelligent machine? How can a machine or organism mean?"[70]

> Sloman compares information with energy, in the sense that as concepts both information and energy are rather indefinable, since there is no way of writing down an explicit definition about them.

However, he argues neither that this shortcoming in defining the two concepts means neither that the words are meaningless nor that we

[69]Floridi, L., (2005), "Is Semantic Information Meaningful Data", Philosophy and Phenomenological Research, Vol. LXX, No. 2, from http://philsci-archive.pitt.edu/archive/00002536/01/iimd.pdf

[70]Sloman, A., (2009), "What's information, for an organism of intelligent machine? How can a machine or organism mean?", University of Birmingham, from http://www.cs.bham.ac.uk/research/projects/cogaff/misc/whats-information.pdf

cannot say anything useful about them.

Concerning information in architecture though, the overwhelming majority of the relevant bibliography associates the use of information in architectural praxis with the use of the information technology in designing and producing architecture, a tendency so widespread over the last few decades. Increasingly, contemporary architecture focuses on integrating and embodying through its works the complex system of relationships between territory, society and the human beings who inhabit it. This formidable undertaking rests heavily on the real conceptual basis of architects' praxis. In other words, what really matters is not simply the construction of a single work, but the architects' attempt to represent and interpret the reality, as they perceive it. Central in this overall effort is information, and how each practitioner extracts it from their surroundings (territory, society and the human beings) and thereby employs it to develop their own representation and interpretation of reality. This approach is to a larger or lesser extend applicable to all architectural praxis, and has been reinforced in recent years by the acceleration of digital information exchange. The ever faster flow of information in digital form, not just as technology, but as a system of thought is of vital importance and should be emphasised. However, it can amplify reality by putting different experiences and traditions in relationship to each other, so that they can be simultaneously confronted with collective memory.

In due recognition of the above reasoning, we distinguish our approach in that the focus of our research lies on non-digital information collection methods. Borrowing form Sloman's,[71] "in order to understand the

[71]Ibid

concept of information, we make use of it". Thereby, we attempt to collect samples, bits or reality, not through digitalised methods, but through experimental prototypes, namely devices that can collect and record the unforeseeable information from the individual and from collective memory. That said, it should be recognised that as a starting point, the whole procedure sometimes borrows from digital media their mental aptitude, which aims in a spatial intervention in the landscape.

03.3
Apparent and implicit infor- mation

In this section, our analysis turns to alternative aspects in the nature of information as relevant to architecture and architectural practice. To address this issue, the analysis distinguishes between two broad *types* of information, namely the *apparent* and *implicit* information. The characteristics and implications of each are elaborated further below.

Apparent information in architecture can be understood to contain all information that is *given*. In this context, it consists of all environmental conditions such soil, climate, natural disasters, and other, as well as social and political conditions such as ideologies, regimes, and needs of the period as these are reflected in the rhythm of every period, including its style. In other words, apparent information contains the information that represents the spirit of the times (Zeitgeist) as this is expressed through architecture. Apparent information is indeed critical in understanding the shape of the world. Notwithstanding its importance, this thesis maintains of the existence of a further type of information, namely that of implicit information. We argue that while the apparent deals with what is given, the implicit addresses what lies beneath. In other words, it consists of the bits of information that people may not even know to possess. This would mean that it can be subconscious, or indeed unrealized, which in turn gives it additional value in developing insight into the shape of the world and thereby for architectural praxis.

Apparent information, as defined above, is in essence the basis of traditional architectural theory.

Starting with given facts about the environment, and the spirit of the times, traditional theory decodes architecture by identifying factors that

drastically influence its development throughout its history. Understood in this way, architecture's effects – the range of conceptual and practical possibilities it both enables and limits – as well as the irreducible affects it presents are a valuable index of the historical and social situation itself.

The natural environment is a factor somehow objective and unchangeable for every place, at a given time. The soil and its layers, the slopes, the views and the boundaries guide and confine in a number of ways the conduct, approach and final outcome of the architectural praxis. At the same time, the climate strongly directs and thereby becomes reflected on the typology and the form of the built environment. The materials that are in abundance in a place and their specific expressive and constructive potential have always influenced the architectural expression.

The religious and political ideology (or their negation) have also always been reflected in architecture. Almost in every historic period across the world, the most prominent buildings have been the ones related to religion and its practice. On the other hand, in authoritarian and totalitarian regimes, it is the state buildings and national monuments that attract respect and attention.

The socioeconomic circumstances have always influenced architecture and urban planning, which is rather logical, taking into consideration that people build not only in order to cover their direct viable needs, but also in order to support or project their social status. Social structures and financial systems are directly reflected on cities and generally the built environment. The manners and customs of a folk (which derive directly from its social structure, its culture and its ideology), also affect architecture, especially when it comes to dwelling. Analyzing

architectural work becomes almost impossible if we ignore the financial circumstances that dictated its realization. It is commonly accepted that architectural activity is inextricably linked to economic circumstances. Throughout history, expansion in architectural development has always coincided with periods of economic growth.

The forgoing dictates the most commonly employed sources in extracting the apparent information either with view to study the architecture of the past, or to conceptualize future architectural elements. Nevertheless, the spread of globalization nowadays has brought an expansion of horizons beyond natural borders (economic, political, technological), and with it also an increased sense of vulnerability as one is open to factors and phenomena outside the national borders. History has witnessed numerous episodes and forms of globalization and the multiplication of cross border interaction, through the expansion of networks of power, trade, and transportation in all parts of ancient world or indeed in more recent years the invention of the telegraph, the telephone, as well as innovations in maritime, railway and airway transportations not to mention the promotion of international commercial codes and the harmonisation of weights and measures in the 19th century. Nevertheless, what may be considered as having a catalytic importance today is the prime role assigned to information.

While the movement of ideas was key in all earlier globalisation episodes, today the speed, magnitude and ease of information exchange (through the digital reality and communication revolution) has helped in magnifying even more the sense that we live in a globalised world.

This new reality, combined with the worldwide movement of populations renders most of the above-mentioned factors related to apparent information rather uncertain.

The weather conditions of a particular place may not be as decisive, if one accounts for electricity and artificial temperature controlling systems (air-conditioning etc.) The construction materials also are not necessarily geographically limited anymore, not only owing to the ease of trade and transportation but especially since the revolution of the concrete. The movement of the people through voluntary and involuntary immigration, but also owing to the expansion of tourism has the potential to alter the traditional social and ideological manners of a population. Finally, financial and economic integration is deepening more than ever before, as also attested by the recent global economic crisis.

In this framework, it is clear that the apparent information factors are no longer so *trustful*, which in turn makes it even more difficult to discover the real user's needs, the information hidden behind the statistics factors. In order to seek and extract the information regarding the dormant people's needs, we need first to address a number of methodological questions.

A key issue that needs to be understood from the outset concerns the identity of the user – namely who the user is, to whom we as planners address. Nowadays, the typical characteristics that used to be attributed to nationalities, social classes or even religious groups are neither so localized, nor so intense as before, primarily due to the population movements that alter the recipient society, and secondary due to the worldwide facility in moving around the world or having

access to every other existing cultural belief, not to mention the changing form of the economical circumstances that incessantly generates new social relationships. Thereby, it becomes obvious that a classification of needs calculated in relation to an imaginary *average man* (a typical representative) opens up no prospects of substantial research.

An alternative that Giancarlo De Carlo proposes in his essay "Architecture's public"[72] is "to opt for a concrete condition of society identifying a particular type of user – in this case the discovery becomes a political operation". But as De Carlo himself then states, this procedure opens up no prospects of substantial renewal since it does not take into account the fact that completely different social activities (which may occasionally also be in many ways opposed) can be of diverse importance depending on whether they are considered from the point of view of those with power of those without.

Juxtaposing to this, Tim Richardson and Stephen Connelly set out in their essay "Reinventing public participation: planning in the age of consensus"[73] the argument regarding the possibility of consensus, emphasizing on the need to understand *pragmatic consensus*, that is how consensus is built and used. In this framework, it is essential to address challenging ethical and practical implications, in order to pay attention to the *quality* of public participation and not just uncritically support the field of rash participatory activity.

A way forward, which would address the above considerations, would be to develop a toolkit of participation techniques, and increasingly engage a larger number of people. Nevertheless, the mere involvement

[72]De Carlo, G., "Architecture's public" in Blundell Jones, P., Petrescu, D., and Till, J., eds, (2005), *Architecture and Participation*, Spon Press, London & New York,

[73]Richardson, T., and Connelly, S., "Reinventing public participation: planning in the age of consensus" in Blundell Jones, P., Petrescu, D., and Till, J., eds, (2005), *Architecture and Participation*, Spon Press, London & New York,

of an ever-increasing number of people through some participation toolkit does not automatically lead to a qualitative form of participation and in this sense participation does not necessarily lead to consensus. As Richardson and Connelly also point out "if planning is to be inclusive and just, it needs to engage critically with participation as a means of working with differences of interest. Planners need to be ready to pursue overall aims of social and spatial justice in a milieu of conflict, rather than expect to find consensus every time they launch a participatory process".[74]

Given the foregoing analysis, interest should lie primarily not simply on the given and apparent information, but rather on the implicit one. This thesis is primarily concerned in investigating the user's needs, and how they can be translated into architecture. Since this procedure is not only a prerequisite of the process, but also a matter of focusing basic choices, in order to first determine who the user is, it is important to ensure *qualitative participation* through random involvement. As such, it is critical not to categorize the participants in representative groups, social or age classes and so on, since the objective is not necessarily to generate statistics. In other words, the research method here is rather qualitative, than quantitative. And that is because it is the qualitative research method that allows us to explore attitudes, behavior and experiences and attempts to get an in-depth opinion from participants. Through the qualitative research, we gain an understanding of underlying reasons and motivations, as well as we provide insights into a setting of a situation, generating ideas and hypotheses. The aim of this research is to develop initial understanding and sound base for further decision making.

[74]Ibid

Borrowing from Shannon's argument that a single concept of information would hardly address satisfactorily the numerous possible applications,[75] we maintain that information could be enriched through the involuntary, unasked, or even unforeseeable information.

+ Nowadays society is multifaceted, incessantly changeable and therefore full of dormant energy that needs to be extracted.

The variety of society languages (in literal and metaphorical sense) raises the questions of communication between that variety in actual languages, namely the question of the negotiation and translation between the social speeches.

In the frame work of this social discrepancy, it is indispensable that planners and architects must engage in a continuous quest, which would involve incessantly translating, as well as invent alternatives in order to bridge the sound-picture continuum of the cities and the constantly occurring of urban misunderstandings. The goal of these translations and the study of the associated potential and limits within languages is not the production of a durably valid dictionary, which would suggest the possibility of a translation which can be simply attained into the manual of architecture and town planning. What is to be achieved is to listen to them and to register so far not noted events, thoughts and stories. In other words, to develop a model for noting voices, for listening and translating also the often voiceless expressions within the urban language tangle.

[75]Shannon, C. E., (1993), *Collected Papers*, edited by N. J. A. Sloane and A. D. Wyner, IEEE Press, New York

.126

It is in this area that this thesis aspires to contribute. In particular, it focuses on the implicit and involuntary information, which participants, as already argued may not even know to possess. It is recognized that our consideration rests on the assumption that the implicit information although not known or not yet identified, it is in fact there. This is indeed a fairly strong assumption. However, we maintain that this does not necessarily represent a limitation to our analysis. This is because the absence of the information, the void that it leaves open through its non existence is in fact a finding in itself.

With these considerations in mind, this thesis aims to discover the *dormant* information that participants may have, allowing them to realize their right to express themselves. It is this acknowledgement that directs to provoking a direct participation and measuring all the subversive consequences that this implies. This is discussed further in our next section.

03.4
Theoretical approaches to the collection of information

Information has been a subject of study and analysis across all or nearly all disciplines. Given the very nature of the concept and its implications, information is of interest in all fields of science, from philosophy to mechanical engineering, from economics and medicine, to psychology and sociology, from architecture to mathematics and biology. It could be argued that in most cases information is taken as something *given*, or in other words as a fact (or set of facts) with certain characteristics that in turn are interpreted to provide certain results for the verification or contradiction of theoretical assumptions. In this context, irrespective of the focus of the study or field of analysis, the core questions that cut across all disciplines can be broadly grouped into addressing:

o   the nature of information
o   the ways of extracting it
o   the methods of its interpretation

For the purposes of our analysis, this section focuses on the second question, namely the collection or extraction of information. The scope of this question is indeed quite extensive, most of it lying beyond the span of this thesis. Our interest lies primarily in the available theoretical tools that can be employed and applied in collecting information for the purposes of architecture and architectural praxis. Given this, we focus on the concepts of *mimesis* and *dialectic*, as initially developed by Plato and Aristotle and later on developed further by others not only in the field of philosophy, such as Hegel in the early 19th century and Jacques Rancière today, but also in other disciplines and in different forms, like Claude Shannon in the field of mathematics and engineering.

Both terms (mimesis and dialectic) have been subject to different interpretations. In broad terms, mimesis refers to the act of representation, namely the exact (or not) mirroring of a situation, thereby providing specific facts that reflect it. Dialectic, on the other hand, is essentially based on the principle of interaction. It is concerned much more with the extraction of information through dialogue and conversational discourse.

In this context, it is clear that the two terms (mimesis and dialectic) have particular and direct relevance to architecture and its relationship and interaction with people (its users) and the wider environment.

Being a creative form of art architecture could be argued to be mimetic, as are all the creative arts.

In other words, it attempts to reflect (mimic) the needs and demands of its environment and users as it (the architecture), or its practitioner, perceives and understands it. However, and as argued repeatedly in this thesis, architecture is constantly changing and in constant dialogue with its users and environment. In other words, its transitory nature is also dialectic, since throughout its life (from concept and design to construction, use and even demolition) architecture and its practice interacts with the participants and users of the built environment, letting alone its continuous interaction with the actual environment (the space it occupies, the soil it rests upon, the volume that it fills). The choice therefore of the two concepts is critical, as it allows us to approach the collection of information in architectural praxis from different angles and considering diverse parameters.

Starting with the concept of mimesis, while various thinkers have reflected upon its meaning throughout history, the first comprehensive analysis of the concept traces back to Plato. Specifically Plato maintained that mimesis consists of the servile copy of the outer reality, thereby offering little value to objective analysis. Being primarily concerned with art and poetry, Plato criticised their methods as being mimetic because they discouraged debate and any type of argument. In *The Republic*, Plato maintained that this type of communication is limiting when applied to a system that should be based on a much more precise method of communication and classification, favouring an investigation into the facts and objective principles of reality.[76]

On the other hand, Aristotle, while accepting the reservations of mimetic form as regards to the objective principles of reality, viewed that this contained no contradiction. The mimetic form, Aristotle argued deals by definition with an invented reality, that is a reality developed by the practitioner (artist or poet) as related to the recipient (audience) and depended on the given circumstances of the day.[77] Viewed in this context, mimesis provides a practical, albeit with given limitations, tool for analysis.

The finding that Plato and Aristotle have so different reactions regarding art and its mimetic nature is not surprising, if we accept that the art imitates (or is supposed to imitate) that reality, whilst both philosophers have totally different opinions about what reality actually is.
For Plato the physical world, the one we experience through the senses does not represent the reality – "this tangible world is an imperfect reflection of the universal world of Forms".[78] Therefore, art is an imitation

[76]Grube, G.M.A., trans., Reeve, C.D.C., rev., (1992), *Plato Republic*, Hackett Publishing Company, Inc.

[77]Butcher, S.H., trans., (2000) [1961], *Aristotle's Poetics*, Hill and Wang, New York

[78]Conway, s., (1996), "Plato, Aristotle and Mimesis" in www.subverbis.com/essays/mimesis.rtf

of an already deficient world and in this sense; it is completely irrelevant to what is real. This is also the reason why Plato disdains the mimetic character of art.

Aristotle on the other hand claims that "the world exists in an infinitely diverse series of parts".[79] In this framework, he argues that we should embrace the particular, in order to gain a sense of the universal. However, there is no universal system of investigating each part of the whole, no unique method of inquiry. In his *Poetics*, Aristotle states that each person "learns his lessons through imitation and we observe that all men find pleasure in imitations".[80] Art is a manifestation of the human desire to imitate; and this attempt amplifies Aristotle's concept of reality. In this procedure is where the philosopher's curiosity about art comes from.

Aristotle describes imitation as a creative process of selection, translation, and transformation from one media to another. Plato on the other hand claims that the artist is "an imitator who is very far removed form the truth",[81] but he is experienced at manipulating the emotional responses of an audience.

Similarly to Aristotle, a more recent pragmatic approach to the mimetic principle has been put forward by Jacques Rancière. In his celebrated *Politics of the Aesthetics* Rancière stressed that "the mimetic principle is not at its core a normative principle" rather should be consider primarily as "a pragmatic principle that isolates, within the general domain of the arts (ways of doing and making), certain particular forms of art that produce specific entities called imitations". According to Rancière the resulting imitations become stand-alone entities (or facts) and critically are "extricated... from the ordinary control of artistic products by their

[79]Ibid

[80]Richter, D.H, ed., (1989), "Aristotle. Poetics", in *The Critical Tradition: Classic Texts and Contemporary Trends*, St. Martin's Press, New York

[81]Richter, D.H, ed., (1989), "Plato. Republic, book X", in *The Critical Tradition: Classic Texts and Contemporary Trends*, St. Martin's Press, New York

use and from the legislative reign of truth over discourses and images".[82]

Regarding the effect of mimesis, J. Pallasmaa argues that "learning a skill is not primarily founded on verbal teaching but rather on the transfer of the skill from the muscles of the teacher directly to the muscles of the apprentice through the act of sensory perception and bodily mimesis".[83] He goes on by arguing that, in the same way that the capacity of mimetic learning is attributed to the human mirror neurons, the embodiment of knowledge and skill continues to be the core of artistic learning.

The foremost skill of the architect is, likewise, to turn the multi-dimensional essence of the design task into embodied and lived sensations and images. Eventually the entire personality and body of the designer becomes the site of the design task, and the task is lived rather than understood. Architectural ideas arise *biologically* from unconceptualised and lived existential knowledge rather than from mere analysis intellect. Architectural problems are, indeed, far too complex and deeply existential to be dealt with in a solely conceptualised and rational manner. Profound ideas or responses in architecture are embedded in the lived reality of the task itself and the age-old traditions of the craft. The role of this fundamental, unconscious, situational and tacit understanding of the body in the making of architecture is grossly undervalued in today's culture of quasi-rationality.

By contrast to the mimetic form, according to Plato, the only intellectual process for dissecting hypotheses and ascending to first principles in order to obtain valid knowledge is that of the *dialectic*. The term was originally associated with the philosopher Socrates' method of argument

[82]Rancière, J., (2007), *The Politics of Aesthetics*, Continuum, New York, p. 21

[83]Pallasma, J., (2009), The Thinking Hand: Existential and Embodied Wisdom in Architecture, John Wiley & sons Ltd

through dialogue and conversation. According to Simon Blackburn the Socratic dialectic can be described as "the process of eliciting the truth by means of questions aimed at opening out what is already implicitly known, or at exposing the contradictions and muddles of an opponent's position".[84] It is though this continuous conversing interaction, Plato maintained, that knowledge and information is obtained.[85]

The dialectic is a process, and through its continuous progress it leads to the further attainment of knowledge. As such, it is based on active participatory users. It also needs a common ground, while it requires participants to reflect and engage further. And finally it reaches a point where a synthesis of ideas is reached.

Throughout the history o philosophical thought, the concept of dialectic has been a matter of extensive study. Most formidable of approaches has been the Hegelian dialectic, which refers to an interpretive method in which there is a thesis, giving rise to its reaction, an antithesis, which contradicts or negates the thesis, and the tension between the two being resolved by means of a synthesis. In other words, the Hegelian dialectic could be understood as giving rise to an outcome (synthesis) through the constant provocation and its reaction. For Hegel, the purpose of dialectics is "to study things in their own being and movement and thus to demonstrate the finitude of the partial categories of understanding".[86]

A vital contribution in Hegel's analysis is the transition from quantity to quality – an important dialectical principle achieved through the tension of thesis and antithesis and defined as the measure. The measure is the qualitative quantum; the quantum is the existence of quantity. This

[84]Blackburn, S., (1996) *The Oxford Dictionary of Philosophy*, Oxford University Press

[85]Grube, G.M.A., trans., Reeve, C.D.C., rev., (1992), *Plato Republic*, Hackett Publishing Company, Inc.

[86]Hegel, G., Wilhelm F., (1874) *The Logic. Encyclopaedia of the Philosophical Sciences*, 2nd Edition. Oxford University Press.

type of transition, as argued by Mc Taggart and Mc Taggart changes as the dialectic progresses and advances. They stress that "in a system in which matter and form are so closely connected, that the gradual changes of the matter, which forms the content of the system, should react on the nature of the movement by which the changes take place".24 In this dynamic relationship all tools, though their use become affected and such change or indeed modify their operation and manner of working through time.

Overall, it should be emphasized that the central foundation in the dialectic debate is the implicit acknowledgement that what is important is not the verification or not of the initial assumptions. Above all, assumptions or doctrines, stands the higher value of the dialogue itself. Opinions and positions can change, as do the ideals also. However, the very continuation of dialogue guarantees that the pursuit of knowledge will continue, possibly reaching new equilibriums in different stages. This is also why it should be strongly considered the utility of the dialectic for today, since it provides a model in which the *medium is the message*.

[87]Mc Taggart, J., Mc Taggart, E., (2000), *Studies in the Hegelian Dialectic*, Batoche Books, Ontario, Canada

[88]Caney, R.P., (2002), "The Dialectic Today: Critically Interrogating the Socratic Method for Contemporary Use", Illinois State University, from http://lilt.ilstu.edu/critique/spring2002docs/rcanney.htm

Summing up our discussion on the dialectical method, it could be argued that it requires a number of factors to be at play.[88] First, it requires active participation and equal status of those involved. Secondly, it needs the starting of the dialogue with commonly held views and ideas. Thirdly, it calls for discussion in order to reach a point of critical reflection in the participants. Finally it requires the connection of ideas in order to articulate an informed representation of reality.

In addition to the forgoing rather qualitative approaches to how

information that leads to knowledge can be extracted through forms of art, a further important account of the subject has been put forward from the quantitative modern theory of information as founded by Claude E. Shannon in his essay "A Mathematical Theory of Communication".[89] This theory answered on the basic queries of the theory of information that is to the quantification of the information.

Shannon modelled information as a sequence of facts happening with certain possibilities, an approach that is opposed to how we understand the information in our everyday life. What we usually consider to be "information" or *message* are facts, data or testimonies. According to Shannon's theory though, information lies in what we don't know. That is, the most uncertain a fact is, more information comes along with its actual realization and respectively, the most probable a fact is, the less information it includes.

According to Shannon, the information contained in any kind of message could be measured in binary digits, or bit.[90] A key measure of information in Shannon's theory is known as entropy, which is usually expressed by the average number of bits needed for storage of communication. According to Shannon's work, the entropy measures the uncertainty associated with a random variable. That is, the term entropy in this contact refers to the situation of a system while at the same time it represents the measure of its disorder, while disorder is by no means an entirely objective value. Shannon's theory of information altered the way we comprehend Nature ever since: it cannot be considered to consist just of material and energy. A third component has been added in the attempt to comprehend the world that is the information.

[89]C. E. Shannon, «A Mathematical Theory of Communication», Bell System Technical Journal, vol. 27, pp. 379-423, 623-656, July, October, 1948

[90]Waldrop, M., (2002), *The Dream Machine: J C R Lickider and the Revolution that made Computing Personal*, Penguin

Overall, Shannon's theory could be understood as synthesising the core elements of both mimetic and dialectic principles.

His theory quantifies, in the sense of an expected value, the information contained in a message. This quantified outcome can be expressed in diverse units of information (e.g. bits), depending on the base of the logarithm used in its calculations. In this context, the stings of bits used are like verses for the ancient Greeks, like the "mimetic form exploited rhythm, meter, and music and achieved the desired psychological response in the listener".[91] This is because it provides a *rhythmic*, a standardised and technical frame for the coding and decoding of information, thereby enabling a certain interpretation of reality. These mimetic attributes could in turn be contrasted to the dialectic attributes entailed in the concept of entropy. Given the randomness identified with entropy, the units of information will by definition give rise further units of information. This process can be either synthetic or indeed antithetic giving rise to further tension, which in turn provokes transition progressing the dialectic process.

Shannon's "Mathematical Theory of Communication" laid out the basic elements of communication:

[91]McLuhan, M., and Fiore, Q. (2001), *The Medium is the Massage: an inventory of effects*, Ginko Press, Corte Madera

- o An information source that produces a message.
- o A transmitter that operates on the message to create a signal, which can be sent through a channel.
- o A channel, which is the medium over which the signal, carrying the information that composes the message, is sent

- o A receiver, which transforms the signal back into the message intended for delivery.
- o A destination, which can be a person or a machine, for whom or which the message is intended.

03.5
Extracting the implicit information

Given the above analysis on apparent and implicit information and having in mind that if planning is to be comprehensive and precise, it needs to engage critically with participation as a means of working with differences of interest, in this section we explore theoretical approaches to extracting the implicit information.

As already mentioned, the primary concern of this thesis lies with the unforeseeable information, the kind of information that possibly not even the participants know to possess. The procedure of extracting this kind of information requires focusing in basic choices. This kind of participation introduces a plurality of objectives and actions whose outcomes cannot be foreseen. This is not only due to the evolution of society towards the abolition of classes, the population explosion or the continuing development of technology, but mainly due to the unceasing information and communication exchange. Today more than ever before the heraclitian point of view is constantly reaffirmed. That is everything is constantly transforming the time and space: the transformation never stops and therefore nothing remains stable from one moment to another (*τα πάντα ρει* – everything flows). This is also why we name the kind of information extracted through this process unforeseeable.
Changing the whole procedure of extracting information, changing the whole range of given requested society data opens a process which has no prescribed itinerary and most likely no final solutions.

How might it be possible to encourage urban upheavals – "to design the conditions" rather than "to condition the design".[92] Tschumi states that: "a theoretical concept may be either *applied* to a project or derived from it".[93] Quite often, this distinction cannot be made so clearly, when, for example, a certain aspect of film theory may support an architectural intuition, and later, through the arduous development of a project, be transformed into an operative concept for architecture in general.

There is no architecture without action, without activities, without functions. Architecture should be seen as the combination of spaces, events, and movements without any hierarchy or precedence among these concepts.

The procedure in order to arrive to the required information includes three stages, namely:

- o speculation
- o provocation
- o participation

The speculative stage is based on theoretical (or logical, deductive) reasoning, as opposed to practical (active, willing) action. The distinction between the two can be traced back to Plato and Aristotle, who distinguished between theory (*theoria*, or a wide view of a topic, or clear vision of its structure) and practice *(praxis)*, as well as productive knowledge *(techne)*.[94]
Speculative reason is contemplative, detached, and certain, whereas practical reason is engaged, involved, active, and dependent upon the

03.5.1
The procedure: speculation – provocation – participation

[92]Tschumi, B., (1996), *Architecture and Disjunction*, The MIT Press

[93]Ibid

[94]Deleuze, G., (1985), *Kant's Critical Philosophy: The Doctrine of the Faculties*, University of Minnesota Press

specifics of the situation. Speculative reason provides the universal, necessary principles of logic, such as the principle of contradiction, which must apply everywhere, regardless of the specifics of the situation.

If architecture is still in search of a theory, then this theory should focus on questions of strategy. That is a strategy behind any form and any program, behind any procedure and any argumentation. Because, it is strategy that mediates between work and the world, between intention and attention and that decides on success or failure of any effort. It is strategy that – as Foucault has argued – is realized as improving tactics, but that most certainly implies a subject (an author, a designer, or a curator), a public, and speculation.[95] It is strategy that suggests Rem Koolhaas being "perpetually torn between realism and a kind of speculative fervor",[96] but not in an idealistic way.[97]

Modern culture, above all architecture, is also such a region of speculation, of mobile values, of risk and gain, with strategic bears and bulls, and with magicians. Speculation in this context is not a form of contemplative and philosophical reflection, but of strategic and risky acting that produces differences. Thus, the architectural experience becomes the experience of actions that are organized and strategized through architecture. Like Bernard Tschumi states in his Six *Concepts – Excerpt from Architecture and Disjunction:* "Strategy is the key word in architecture today".

Speculation can be understood as subjective manipulation of values in order to reevaluate them. It is strategies of difference that provoke the break and that provide the new in contrast to the old. The strategies in

[95]Foucault, M., (1994), *The Order of Things. An Archaeology of the Human Sciences*, Vintage Books Editions

[96]In this quotation Koolhaas refers to himself
http://www.thestranger.com/seattle/Content?oid=1615

[97]Mahall. M., and Serbest, A., (2009), *How Architecture Learned to Speculate*, igmage, Stuttgart

order to create *something new* remain speculative. They consist of the continuous, fashionable revaluation of values.

Even in the 1970s, there was an architecture that aimed at "putting planning back into politics" by promoting freedom, social mobility and participation.[98]

The important drive of participation that originated in the 1970s, has nowadays become the force behind practices that encourage "community participation", which unfortunately lack specificity and thus they regenerate stereotypical approaches.[99] Thus participation becomes an organized (and potentially manipulated) part of any regeneration project, and it is accepted uncritically, idealized and centred on concepts and consensus. This is a typical example of "planning for the people" and nor "with the people", what we could call "pseudo-participation". Jeremy Till suggests that the question would be

> "how to move from it to a transformative participation, how to suggest a positive transformation of architectural production that benefits architects and users alike".[100]

This transformative participation "makes confrontation with difference inevitable, as the users will bring to the table their personal beliefs. In the negotiation of the personal with the social, the individual with the collective, political space emerges".

Following the idea of Stephen Wright maybe it is possible to have a "stealth architecture". This would suggest an architecture which would deal with architecture-related activities, rather than architecture-specific ones, which would consider architecture in terms of its specific

[98]Hughes, J., Sadler, S., (eds.), (1999), *Non-Plan: Essays on Freedom, Participation and Change in Modern Architecture and Urbanism*, Architectural Press

[99]Till, J., "The negotiation of hope", in Blundell Jones, P., Petrescu, D., Till, J., (eds), (2005), *Architecture and Participation,* Routledge

[100]Ibid

means (tools, competences, processes), rather than its specific ends (constructions and buildings).

> What would it be, this architecture which "crops up in the everyday" not to give it a form, but to inform it?[101]

Participation, according to Gabriel Marcel "is possible through a special type of reflection in which the subject views himself as a being among beings, rather than as an object".[102]

Participation is also a formative process. Residents are initiated through dialogue and interventions into becoming an active part of their immediate surroundings. They start to shape their own policies, to articulate their own voices and preferences, to organize themselves independently. By facilitating this process, we might manage to pass on tools that will allow them to re-shape their world. We learn together to *make do* with the available resources. This energy generated through people acting out in their own environment should lead to a network of support, a critical reading of one's own surroundings and an involvement within the changes taking place.[103]

A participation process should also enable users to constitute themselves as active-reactive subjects, as subjects in transformation. Participation should concern not only the realization of sustainable spaces but also what Deleuze and Guattari have called *subjectivation processes*, creative understandings of the subjects themselves in relation to their environment and the ways they inhabit it. The outcome of the subjectivation process cannot be planned, cannot be referred to any pre-existing or projected form of knowledge and power. This

[101]Wright, S., "The Future of the Reciprocal Readymade: An Essay on Use-Value and Art-Related Practice", http://www.turbulence.org/blog/archives/000906.html

[102]Gabriel Marcel (1889-1973) in the Interner Encyclopedia of Philosophy, in http://www.iep.utm.edu/marcel/

[103]Petrescu, D., "Losing control, keeping desire", in Blundell Jones, P., Petrescou, D., Till, J., eds., (2005), *Architecture and Participation*, Routledge

process is unpredictable as an event.[104]

Within a real participation, the architect should accept losing control. Rather than being a master, the architect should understand himself as one of the participants.

For an architect-user, "use" is no longer separated from the design process. Such a position takes critically Jonathan Hills' assumption that "architecture is made by use and by design".[105]

Lefebvre writes: "The user's space is lived – not represented (or conceived). When compared with the abstract space of the experts (architects, urbanists, planners), the space of the everyday activities of users is a concrete one, which is to say subjective".[106]

One of the values to be evaluated can be the changing of the involvement range in architecture practices, what would open a process, which has no prescribed itinerary and no final solutions. Collective participation introduces a plurality of objectives and actions whose outcomes cannot be foreseen. Initially it is possible only to prefigure a line of behaviors and tendencies to set the process on its way.

The big difference that characterizes the architecture practice in this process is whether the planning is *for* the users or *with* them. When we plan *for* people, we tent to freeze the eventual consensus into permanent fact. But if we plan *with* people, consensus remains permanently open. It is renewed by interaction with the project along its existence and, reciprocally, it renews the planned event by adapting it to the redefined demands.

[104]Ibid

[105]Hill, J., (2003), Actions of Architecture: Architects and Creative Users, Routledge

[106]Lefebvre, H., (2007), *The Production of Space*, Blackwell Publishing, Oxford

Participation transforms architectural planning into a process. This process takes place in three phases: discovery of the users' needs, formulation of a formal and organizational hypothesis and actual use. The three phases not only follow sequentially but can often also have a cyclical relationship.

The discovery of the users' needs is not only the prerequisite of the process but also a matter of setting basic choices. It means acknowledging the users' right to express themselves. It means provoking a direct participation. But on the other hand it also means being able to deal with the consequences that this implies. That may include the questioning of the traditional value systems, which, since they were built on non-participation, must be revised, adjusted or even replaced as participation gradually becomes part of the process.

In non-participation planning, formatting the hypothesis means translating functional and expressive objectives that have been defined once and for all into organizational and morphological structures. On the other hand, in participation planning, the objectives find their definition in the course of the process itself: they are defined through continual interaction between the pressure of real needs and images of spatial configurations. In this process, needs are refined until they reach a point of equilibrium that permits the materialization in physical space. Since it is a non-ending procedure, some instability remains due to the innate mobility of the process.

In the phase of the actual use, the user is the fundamental protagonist of the operation. The process does not end with the construction

of the architectural object. Instead, from that moment a new line of development begins through the interaction between the architectural object and those who use it.

The architectural object changes with the transformations, which the use imposes on it; but the user also changes with the stimulation, which the architectural object transmits, to him or her.

In this framework, we believe that in order to arrive to the implicit information we need to provoke direct participation. Hereby though arises a new issue, namely what provocation actually is and especially what provocation in architecture is. Provocation as a word defines an act that causes a response. The architectural provocation has been widely analyzed during the 1950s and the 1960s, when the avant-garde architecture was at its peak, proposing rather unrealizable constructions, dictated though by idealistic concepts dealing with the theme of advanced technologies, mobility and, above all, the city as a living space. The analysis of these concepts will be an issue of a next chapter; what should be mentioned in this point regarding the utopias that were deployed in the 1950s and the 1960s though, is that our aim is not to reanimate these progressive pursuits. We intend to make no closed utopias, but rather live from the moments, which are constantly actualised.

"New knowledge neither grows out of a special method, nor the special mind of a genius nor from new theoretical monologues… but from the voices of ordinary people in conversation".[107] What the provocation process in the framework of this research process does, is to provide a context for those conversations to be initiated. This is why we do

[107]Billig, M., Condor, S., Edwards, D., Gane, M., Middleton, D., Radley, A., (1988), *Ideological Dilemmas: A Social Psychology of everyday Thinking,* , SAGE Publications, p.162

not confront the participants with direct interviews or questionnaires. Rather and in fact following the example of the Hegelian dialectic we believe that the primary task is the construction of concepts and subject positions, and therefore we aim at provoking actions in order to receive reactions and thereby be able to synthesize what the necessity is.

Katarani argues that "philosophers since Plato have returned over and again to architectural figures and metaphors as a way of grounding and stabilizing their philosophical systems".[108] Following this procedure backwards, we borrow some assumptions from the aforementioned philosophical approaches in order to ground our approaches in the methodology of extracting information.

Developments and changes of the modern world imply that the provocation bounds have changed. Through the communication explosion and the digitalization of data, the boundaries of local and global have completely transformed. That is why in the procedure of provocation, it is crucial to pay attention to the quality of the public participation. "It is important to note that participation is not just a form of "agora" that gathers people together to make a common decision. It must be a dialogue about differences and about differences as production, even if it leads to confrontation. It must be a search for collaboration that can change representation to produce new differences and new dialogues. These processes are not about identity and rediscovering a common origin, bur about creating and sharing a common space".[109]

Sloman argues that "it is not to be assumed that anything that uses information expresses it in something like sentences, algebraic or

[108]Karatani, K., (1995), *Architecture as Metaphor – Language, Number, Money*, MIT

[109]Querrien, A., "How inhabitants can become collective developers: France 1968-2000" in Blundell Jones, P., Petrescou, D., Till, J., eds., (2005), *Architecture and Participation*, Routledge

logical expressions. For example, some information may be expressed in the level of activation of some internal or external sensing device, some in patterns of activation of many units, some in geometrical or topological structures analogous to images or maps, some in chemical compounds, and many more. Exactly how many different forms exist in which information can be encoded is still to be discussed".[110]

In this framework and in order to define new forms, in which, information can be encoded, we have designed a number of diverse micro-architectures (or systems), which, through their construction and installation will produce data in order to analyse urban behaviour. These experimental architecture devices function as provocation factors in the city – in the reality itself – through their physical interactivity, namely the fact that the architecture itself changes. Our main concern through this approach is the definition of new procedures for the transformation of the human environment that are based on direct action.

Our experimental research elements function in a mimetic way in the sense that they can overcome the limits of a formal exercise in order to assume the role of reality's cognitive and interpretive foundation.

We can consider at this point that our experimental research elements function in a mimetic way quite closely to the way that Aristotle described it: as a creative process of selection, translation and transformation from one media to another.

[110]Sloman, A., (2009), "What's information, for an organism of intelligent machine? How can a machine or organism mean?", University of Birmingham, from http://www.cs.bham.ac.uk/research/projects/cogaff/misc/whats-information.pdf

03.5.2 Instruments in order to extract information

There is an inherent suggestion of action in images of architecture, the moment of active encounter, or a "promise of function"[111] and purpose.

> The "objects which surround my body reflect its possible action upon them", writes Henri Bergson.[112] It is this possibility of action that separates architecture from other forms of art.

As a consequence of this implied action a bodily reaction is an inseparable aspect of the experience of architecture. A meaningful architectural experience is not simply a series of retinal images. The *elements* of architecture are not visual units or *gestalt*; they are encounters, confrontations that interact with memory.

Architecture is not an end in itself. It frames, articulates, structures, gives significance, relates, separates and unites, facilitates and prohibits. Consequently, basic architectural experiences have a verb form rather than being nouns. Architectural space is lived space rather than physical space, and lived space always transcends geometry and measurability. Modern architectural theory and critique have had a strong tendency to regard space as an immaterial object delineated by material surfaces, instead of understanding space in terms of dynamic interactions and interrelations.

"It would be ideal to build architecture without objectives and then release it for free use. There are no longer any enclosed spaces in these interlacing, opening buildings: only vaguely designated areas. Divided and developed however the occupants choose.
The differentiated spatial situations no longer separate – at most, they

[111]In the mid 19th century, the American sculptor Horatio Greenough gave with this notion the first formulation on the independence of form and function, which later became the ideological corner stone of Functionalism. Greenough, H., (1966), *Form and Function: Remarks on Art, Design and Architecture*, University of California Press

[112]Bergson, H., (2010) *Matter and Memory*, Digireads.com

present the challenge of taking possession of the space.

We can't prove it, but we strongly surmise that self-confident forms, made available to use and shape freely – not repressively administrated, but run in a friendly way – must have consequences for an occupant's development of a creative self-concept".[113]

As discussed earlier, it is not the intention of our experimental research to ignore or deny the technological changes of our times. We are undoubtedly experiencing the technology / communication / information revolutionary age. It was the conscious choice of our analysis to *disconnect* our research methods from the technological virtuality and to separate the information science from the real information. That is why we produce experimental urban prototypes that are tangible, rather than virtual micro-architecture elements. These interventions in 1:1 scale are meant to *sting* in order to arrive to the (whichever may be every time) required information.

Our prototypes resemble the acting of the Virtual House, as described by John Rajchman: not another unreal realm that only doubles or "simulates" the nature we already know or see. Rather they suppose something singular yet to be constructed in the arrangements that determine our nature. Like Rajchman stresses "to virtualize nature is this not to double it but, on the contrary, to multiply it, complicate it, release other forms and paths in it. The virtual house might therefore be very smart after all, even delirious, while remaining perfectly real".[114] This is exactly what we aim to do with our experimental urban prototypes.

This thesis aims to expand the sequence of hypotheses, enlarging the

[113]Kandeler-Fritsch, M., Kramer, T., (eds), (2006), *Wolf D. Prix & Coop Himmelb(l)au: Get off of my Cloud*, Hatje Cantz Publishers

[114]Rajchman, J., *Constructions*, (1998), MIT Press Cambridge

image beyond the margins of the framework imposed. To show what we could (should) achieve if, instead of obeying a condition of preordained subjection, we allowed an objective confrontation with real things.

For Bergson, and later for Deleuze, there are two kinds of multiplicities – the quantitative and the qualitative ones. Quantitative multiplicities are homogenous and spatial. By contrast, qualitative multiplicities are heterogeneous and temporal. A qualitative multiplicity is therefore heterogeneous (or singularized), continuous (or interpenetrating), oppositional (or dualistic) at the extremes and progressive (or temporal, an irreversible flow, which is not given all at once) – indeed, for Bergson, a qualitative multiplicity is *inexpressible*. Because Bergson connects duration with mobility, in the second half of the 20th century, philosophy (especially Deleuze and Foucault) will dissociate the Bergsonian concept of qualitative multiplicity from time and associate it with space.
Using architectural elements that function in and through space, generate, hide, create space, as well as they interact with space, we attempt *to express qualitative multiplicities* (even though Bergson considers them inexpressible).

The term *situated knowledge* comes from Donna Haraway. According to Haraway[115] situated knowledge sees opportunities in the particular and does not look for problems to be solved in the universal scheme of things. It works with the particular, but this is seen as a strength, not as a weakness: "the only way to find a larger vision is to be somewhere in particular". There is something inherently optimistic in this approach, but this optimism is situated, not idealistic. Situated knowledge is partial knowledge (partial is being both not complete and also partisan), but this

[115]Donna Haraway, "Situated Knowledges: The Science question in Feminism and the Privilege of Partial Perspective," in Haraway, *Simians, Cyborgs and Women* (London: Free Association Books, 1991)

self-confessed partiality, in all its honesty and modesty, is a bonus, not a deficit. It does not presume to have universal relevance or authority, but this does not mean it is irrelevant. Situated knowledge works more humbly, gathering the past in order to shape better (but not perfect) futures, "from points of view which can never be known in advance, which promise something quite extraordinary, that is, knowledge potent for constructing worlds less organized by axes of domination".[116] Situated knowledge is thus responsible, particular, and partial, and in all these three qualities forms a basis on which to make the choices that the contingent world throws up.

Resting on Haraway's approach of situated knowledge, we create spatial experimental prototypes and project their qualities, sequence as well as their outcome. We also choose to *fully design* our prototypes since design nowadays seeks to shape the gaze of viewers in such a way that they become capable of discovering things themselves.

[116] Ibid

03.6
Resuming this chapter

This chapter focuses on the process in order to collect the information required. In order to analyze the whole procedure, we initially refer to the conceptualization of information in architecture. Information is a quite extensive notion and can be traced in a lot of disciplines; in the framework of this thesis, we refer to its concept in the mathematical theory, as well as in philosophy, in order to then "seclude" its role in the theoretical and applied architecture.

After having analyzed the perception of the notion of information, we differentiate its two kinds in the way we perceive them in the framework of this dissertation. Usually, when we refer to the information in architecture, we tend to consider obvious that we refer to the "conventional" informational values of a place, namely its climate, ground and underground, population density, nature etc. This is the apparent, the overt information: anyone can have an access to it, while no specific means are necessary in order to get it (usually it even states in the encyclopedia, describing each place). However, this thesis is about and aims at extracting the non-conventional information, the "hidden", the implicit one. Since, this is not a conventional quest, its means are also unknown, and therefore

+ we have to invent the ways in order to extract the implicit information.

It the framework of this chapter, we then refer to the theoretical approaches in order to extract the implicit information, where we once more have to "betake" to philosophy, and terms like mimesis and dialectics. We associate these philosophical terms with mathematical theory, in

order to be able to arrive to quantitative information. Consequently, we investigate the procedure in order to arrive to the quantitative information. We argue that there is no architecture without action and function – like Tschumi states:. "The very heterogeneity of the definition of architecture – space, action and movement – makes it into an event, that place of shock, or that place of the invention of ourselves".[117] This can take place by designing and constructing the conditions that will create "a new city and new relationships between spaces and events". Hence, the procedure in order to arrive to the quantitative information moves from the speculation to the provocation in order to agitate the participation. Architecture is a region of speculation, in the sense that the ways in order to create *something new* (where architecture aims at) are always speculative. In order though to "design the conditions", we need the participation – this is then where the notion of provocation also comes in: we need to provoke the participation.

Since this thesis is not a pure theoretical one, but is rather characterized by its binary relationship between theory and praxis, this is the point where we introduce the instruments we use in order to provoke participation and accordingly reach the implicit information – but the description and analysis of these instruments is the topic of the next chapter.

[117]Tchumi, B., (1996), *Architecture and Disjunction*, The MIT Press

Chapter 04

Ways of extracting information / Prototypes

Ways of extracting information / Prototypes

The Sixth Material

With this chapter our analysis moves into the core praxis of our research.

We explore and analyse alternative ways and methods of extracting information through the development of a toolkit, which in turn is based on a set of innovative prototypes (projects).

Primary concern of the whole procedure involves identifying innovative ways of provoking participation, in order to get a reaction from the users and the wider public and thereby receive information feedback.

Our analysis starts with an overview of the role of participation and provocation. While these are indeed the core concepts considered under our previous theoretical discussion (in Chapter 3) our assessment here takes the analysis one step further considering the challenges emerging from introducing participation and provocation in applied art rather than simply understanding its theoretical basis. In view of this, we provide an extensive reference to the theory of relational aesthetics, given its argumentation that art is actually formulated though participation. Following this, we then refer to prototypical examples of different scales and involvement grade and examine the ways they affect their (not only) surrounding infrastructure. This reference to experimental projects differs from the analysis of the utopian projects of the 1960s and the 1970s that was provided in Chapter 2. This time we refer to actual, realised projects that were built and therefore we can examine their outcome.

On the basis of this contextual analysis we move into the presentation and discussion of our prototypes, as well as to the conceptual evolution

of design from one project to the next. All projects presented in this chapter were conceived, conceptualised and designed at different stages of our research, and thereby have a binary relationship with our theoretical quest and propositions. Indeed, the concepts of each prototype evolved as a reaction to the theoretical research, while their design, operationalisation and functioning prompted the need for further theoretical quest. This continuous provocation resulted in an open ended procedure between theory and praxis, which is discussed in more detail in the next chapter covering also the overall conclusions of our research.

We have previously referred to the notion of participation in a theoretical basis and how it is part of the procedure in order to extract the unforeseeable information. Hence, in this section, we refer to the participatory action, to the *practical* side of the participation.

In the book *Sins + Other Spatial Relatives*, where CJ Lim Studio 8 Architects present their projects through a combination of descriptions and narrations, there is an interview that challenges the relationship between the *maker* (in our case the architect) and the *addressee*. We quote this comment, since we are about to analyse the participatory architecture in praxis and this form of architecture undoubtedly questions the established relationships between the architect and its audience.

"The ground of architecture is shifting. God, I hate that word -ARCHITECTURE-. Designing object building is passé', an inevitable consequences of unimaginative thinking. I see myself as more of a social engineer. I might not be creating great monuments to my ego, but I affect people's lives in a more subversive ways".[119]

The conventional relations between art and its audience have been subject to questioning and challenge by various movements and schools of thought throughout the twentieth century. From the modernist movements in the early 20th century, such as Dadaism to the Situationists of the 1960s and the later more radical approaches emerging on the 1970s (like the examples analysed in Chapter 2) the relations between art and its audience have been a matter of continuous debate. One such interesting example the architect and artist Gordon Matta-Clark together with Carol Goodden opened a restaurant called *Food* with his colleagues as a collective project in the early 1970s. The restaurant

04.2
Did someone say participate?[118]

[118]Markus Miessen, M., and Basar, S., eds., (2006), *Did someone say participate?*, MIT Press

[119]"Interview with X", in Lim, CJ, and Liu, E., (2000), *Sins + Other Spatial Relatives*, Ind-E8 Publishing London

turned dining into an event with an open kitchen, artists as staff and experimental performances. The place and the events questioned the very notion of art. It instigated new ways of perceiving art as well as architecture in a broader sense, through provocative participatory approaches. It worked on a non-profit basis rejected the idea that art necessarily needed to be a commodity.

Since the 1960s and the 1970s, there is the desire to move viewers out of the role of the passive observers into the role of the producers. It is nevertheless recognised that "true participation is open" as Lygia Clark wrote to Hélio Oiticica.[120] Indeed we will never be able to know what we give to the spectator. In the following section, we explore the ways of the actual participation.

[120]"Lygia Clark, Letter to Hélio Oiticica, 14 November 1968", in Bishop, C., (2006), *Participation*, The MIT Press

Relational art, according to Nicolas Bourriaud, consists of the set of artistic practices that take as their point of departure the human and social relations, both in theoretical and practical terms. According the Bourriaud, the artwork can be understood to produce models of sociability. Hence the judgment of an artwork should focus in the extent and degree that it provides a chance to the viewer, participant or user to complement it.

Bourriaud derives the notion of "partial object" from Felix Gauttari, and claims that this is a key concept in understanding artistic practices today. The question is whether this embracing of the social and the spatial in art can be an opportunity for architecture as well, to rethink the tried or forgotten glimpses of possibilities.

> We know from Henry Lefebvre that space, being a social product, is always a partial product, always to be further produced through experience, sociality and constantly generated meaning.

What Nicholas Bourriaud coined as "Relational Aesthetics" in 1998 is an art practice favouring participatory projects rather than static art pieces and refers to a number of artists who got recognition in the nineties such as Rirkrit Tiravanija. Nevertheless the term is still relevant today as it in many ways fits an important part of the current discourse in contemporary art, namely the questioning of the relationship between creative production, politics and the community. He defines the term as "a set of artistic practices which take as their theoretical and practical point of departure the whole of human relations and their social context, rather than an independent and private space".[121]

04.3 Relational Aesthetics: The role of Participation and Provocation

[121]Bourriaud, N., (1998), *Relational Aesthetics*, Le Presse Du Reel, Franc

The role of the artist is actually more catalytic rather than a categorical one. Therefore, the piece of art itself is the motile that brings people together (through participation).

In Relational Aesthetics the starting point is often an event, an activity or a provocation, which invites the public to react or just simply to participate. The course of events cannot be planned. The project grows or falls with the participation of *others* that we could also call guests, outsiders, public, users, citizens, community or more simply people. As Bourriaud has claimed

> "the role of artwork is no longer to form imaginary and utopian realities, but to actually be ways of living and models of action within the existing real, whatever scale chosen by the artist".[122]

The introduction of relational aesthetics into architectural theory and practice has been extensively discussed in our days. Bourriaud considers it to be a means of locating contemporary practice within the culture at large. In this framework, the relational aesthetics are considered to be a response to the virtual relationships of the internet and globalisation, which "on one hand have prompted a desire for more physical and face-to-face interaction between people, while on the other have inspired artists to adopt a do-it-yourself approach and model their own *possible universes*".[123]

Markus Miessen and Shumon Basar in their book "Did someone say participate" re-draw the map of participatory, spatial practice that is in function nowadays, in the age of globalisation. They attempt to

[122]Ibid

[123]Bishop, C. (2004), "Antagonism and Relational Aesthetics", in http://courses.washington.edu/art361a/readings/Antagonism%20and%20 Relational %20Aesthetics%20-%20 Claire%20Bishop.pdf

.164

dismantle the idea of *the architect* being the one in charge of space, since globalisation links every (non) place potentially with every other (non) place in symmetrical or asymmetrical ways. In this framework, the need to identify and instrumentalise *spatial practices* becomes rather relevant. Mapping, making, or manipulating spaces, actually what once was seen as the defensive preserve of architects, has become a new *culture of space*, produced and shaped by an ever-increasing number of disciplines. Like the aforementioned book does, we too, in the framework of this dissertation, argue for a re-evaluation of architecture beyond the traditional definitions of built substance into the possibility of an architecture of knowledge that is being built up through eschewing conventional practice by non-architects participating in space.

In that same book, we can find a collection of essays written by practitioners and theoreticians, who actively participate in various forms of spatial production or question them. The book urges us to rethink and re-evaluate architecture beyond traditional definitions of built form. Markus Miessen and Shumon Basar support the idea of "architecture of knowledge [...] being built up, importantly, by architects eschewing conventional practice and non–architects participating in space: thus becoming, what is termed here *spatial practitioners*".[124]

Spatial practitioners gather knowledge in order to understand the situation not only from its topographic manifestation, but from deeper layers where implicit information is to be found. They produce and alter spatial conditions by involving the community and environment as members or as factors, and try to identify the broader stretches of political reality.

[124]Markus Miessen, M., and Basar, S., eds., (2006), *Did someone say participate?*, MIT Press

Collective participation introduces a plurality of objectives and actions whose outcomes cannot be foreseen.

Initially it is possible only to prefigure a line of behaviours and tendencies to set the process on its way. The big difference that characterises architectural practice in this process is whether the planning is *for* the users or *with* them. When we plan *for* people, we tend to freeze the eventual consensus into permanent fact. But if we plan *with* people, consensus remains permanently open. It is renewed by interaction with the project along its existence and, reciprocally, it renews the planned event by adapting it to the redefined demands.

Claire Bishop argues[125] that there are three concerns, which are the most frequently cited motivations for the artistic attempts to encourage participation in art since the 1960s – these are activation, authorship and community. The first concern is to create active subjects, who will be empowered by the experience of physical or symbolic participation. In this framework, these subjects will hopefully be able to determine their own social and political reality. The second concern, that is authorship, derives from the belief that ceding some or all authorial control leads to shared production, which except from being more egalitarian and democratic, it also entails the aesthetic benefits of greater risk and unpredictability. The third concern involves a perceived crisis in community and collective responsibility.

[125]Bishop, C., (ed)., (2006), *Participation. Documents of Contemporary Art*, The MIT Press

These three concerns appear also in the writing of Guy Debord, co-founder of the Situationist International, who argues that the pure spectacle (with no audience participation) is pacifying and divisive. It is

uniting us only through our separation form one another. In this framework, it is an injunction to activity that Debord advocated the construction of "situations". In this case, the audience is not simply awaked, it becomes a viveur (one who lives) and so the "constructed situations" aimed to produce new social relationships and thus new social realities.

Claire Bishop states[126] that nowadays there has been a desire to overturn the traditional relationship between the art object, the artist and the audience: the artist is conceived less as an individual producer of discrete objects than as a collaborator and producer of *situations*; the work of art as a finite, portable, commodifiable product is reconceived as an ongoing or long-term *project* with an unclear beginning and end; while the audience, previously conceived as a "viewer" or "beholder", is now repositioned as a co-producer or *participant*. Of course, these shifts are not easily actualized realities.

Giancarlo de Carlo, in "Did someone say participate?" states that the question is how to make an architecture, which can intrinsically be participated, and this, according to him, becomes a question of language:

> "How can the language be such that it favors and pushes participation?"

He believes that this question still has to be explored in many different fields and in this framework the crucial issue is to use language that people can understand, penetrate and eventually use. So the process takes a lot longer to form. In his opinion: "Participation is something that

[126]Bishop, C., (2012), *Artificial Hells. Participatory Art and the Politics of Spectatorship*, Verso

you should start – and this is something that you should not forget – it lasts forever." Based on the above argument, as well as having seen the function of our experiments, we assume that it is very possible not to arrive to a technically defined formula, a definite conclusion at the end of this thesis.

Can Altay, regarding the "relational" aspects of artistic practices argues that they "not only question but "make happen", taking sociality and spatiality to their core and acting as catalysts of relations; between the work and the people, between people and people, and between people and space".[127]

But how can we involve people or outsiders into an architectural process without giving out already too many predictable parameters?
Can there be some spatial occupation prior to the architectural thought?

In *Doing It, (Un)Doing It, (Over)Doing It Yourself: Rhetorics of Architectural Abuse*[128] Jane Rendell formulates the process of the *(re)production* of the space by the user. Rendell's article (rewritten in 2009 as *(Undoing Architecture)* has to do with how architecture can be made by every other one that the architect. Architects do architecture in the sense that they design everything for the user, but once the project is completed and the user overtakes, he actually does architecture through the way he uses the architectural object. Hill also supports the same point of view, since he claims that both the architect and the user produce architecture *one by design, one by use*. In this sense, the non-built nature of architecture is highlighted. Though architecture is not merely what we design, but rather the spaces it creates and the way they

[127]Altay, C., (2007), "Setting a Setting", presented at the *Friday Session 13 Setting a Setting*, March 6th, Public Works Studio, London

[128]Rendell, J., "Doing It, (Un) Doing It, (Over)Doing It Yourself: Rhetorics of Architectural Abuse", in Hill, J., ed., (1998), *Occupying Architecture. Between the Architect and the User*, Routledge, London and New York

correspond to the constantly changing human needs.

Iain Borden draws attention to how the inhabitant can use the city space. Mores specifically he argues that "too often we are purely passive users of these everyday spaces and structures, adapting out activities and movements to what has already been designed through direct instructions (keep left, no cyclists etc.) Or indirect conventions we are informed of, as what activities should take place in what spaces. And too often we do exactly what we are told… But the city and the architecture offers us more: the potential to do much more with our bodies than walking and driving and to enjoy urban spaces other than by shopping and working. By using forms of pleasure like play, festival, carnival…we can actively produce our own city experiences".[129] Urged form the above arguments, we believe that the provocation is requisite in order to receive reaction as these ones.

In the *Unknown City*,[130] the Borden, Kerr, Rendell, and Pivaro introduce a new way of looking to the city. They argue that the city space is an infinite ground for journeys and explorations to be made upon. Accordingly, the inhabitants have more power to *do*, produce and create space and *architecture* than they are aware of.

Similarly, Can and Deniz Altay in their essay "Counter-Spatialization of Power in Istanbul" observe and analyze four different situations within the public space. Each of them is a temporary manifestation in an everyday-life context, but the "informal acts or actions have urban-economic-socio-political consequences".[131]

[129]Border, I., "Body Architecture: Skateboarding and the Creation of super-Architectural Space", in Hill, J., ed., (1998), *Occupying Architecture. Between the Architect and the User*, Routledge, London and New York

[130]Borden, I., Kerr, J., Rendell, J., Pivaro, A., eds, (2000), *The Unknown City. Contesting Architecture and Social Space*, The MIT Press

[131]Altay, C. and Altay, D., "Counter-Spatialization of Power in Istanbul" from Guidi, E., (ed.) (2008) *Urban Makers*, bbooks,

In order to study further how Can and Denoz Altay embody their theory to praxis, in the following section we are briefly exploring one of their key projects, the Minibar. In addition, the next section also analyses two additional paradigms of urban intervention (the Urbar and the Mobile Porch), which allow us to understand better how the theory of the relational aesthetics has turned into praxis.

The city is shape, is space and net[132] - the subject areas of the Austria contribution for the 10th International Venice Biennale in 2006 (Commissioner: Wolf. D. Prix) open discussion for the city as a living space, urbanity as a shape for life, and the net as an operative connection. This thereby pursues the theory that space and shape characterize the body of the city in a complementary way, whereas the net enables the urban dweller to act in this city-body.

The **Minibar** can pop up everywhere and anytime. It is an improvised bar without structure. Young people gather before or after going to clubs in empty in-between spaces in the city for drinks and socializing. Usually people gather in places with certain physical settings, which they appropriated into places to sit and hangout (for example low windowsills etc). A corner shop is often close by.

Minibar "is only defined within the practice of its users and has no predictability; hence it is not something or some place acquainted; yet it is something or someplace invented and discovered".[133]

As C. Altay stresses "the existing buildings provide a setting, but, in terms of the intent of their planning, design, construction and occupancy, they do not do so willingly." And further on in his essay he argues that "when a user decides what an urban space will become, what it will mean and how it will function, it is a deliberate act of use." And exactly this deliberate act of use is what often architecture tries to suppress.

In reaction to these improvised, *uncontrolled,* temporary actions, local residents, disturbed by the often noisy and territorial appropriation of spaces in front of their own property, act with counteraction. Settings like a low wall ledge get fenced off, small open patios towards the street get additional walls, flowerpots or other items are added to act as barriers.

04.4
Urban intervention examples

[132]From the Press Release of the Austrian Pavilion for the 10th International Exhibition for Architecture, La Biennale di Venezia 2006, *Stadt=Form Raum Netz / City=Shape Space Net*

[133]Altay, D., (2004), *Urban spaces re-defined in daily practices: the case of «minibar», Ankara*, Thesis to the Graduate School of Natural and Applied Sciences of Middle East Technical University

But this is not the only reaction deriving from the Minibar phenomenon. New generations of entrepreneurs start to take over empty ground properties and make them "Minibar friendly" by building benches and offering drinks and cigarettes at shop prices or just slightly above. These entrepreneurs use the information (experience) they gathered through the prototypes of different Minibars popping up all over the city to define needs, and directly respond to them by creating or modify space and architecture.

The minibar is an exploration, documentation and exhibition of the transgressive use of semipublic spaces by young people. According to C. Altay, the minibars are "a utilization of physical environment for an event (outside of the intend if) the builders, designers and residents".

Gregor Eichinger's contribution to the Austrian Pavilion of the 10th International Venice Biennale, the **Urbar** (Primal Bar) – an installation in a temporary hut – is a space for a multitude of individual stories.

Urbar is based on a concrete model, the bar in the 1938 film by Marcel Carné, *Le Quais des Brumes*. At the center of the room like the one in the film, is a large table that seats six people. Projected onto the surface of the table is a film lasting approximately twenty minutes that illustrates relationships from material nets to thoughts about personal networks. The projection on the table differentiates between physical and immaterial networks—mainly in their consequences for urban dwellers.

The table is as invitation extended to visitors to form a network. It is the first place of communication. Here, people meet one another in an encounter that they know will be brief, experiencing the freedom of the modern city.

.172

It deals with a site that is only a means. Urbar, is an ephemeral place - the city is everywhere. It is a networked space merely offering the conditions necessary for the execution of more complex endeavors.

A bar made of simple boards, possibly unfinished, as if to stress the temporary character. Here, the users of a container-space introduce their own stories. These stories then interact and, in the process, generate a new narrative. This evolving space is as much of an archetype as the first hut constructed among four trees. However, its program of allowing exchanges between and among different people becomes the primary determinant. People whose paths would never cross n the course of their everyday lives do meet at this Urbar. In passing, stories grow out of chance encounters with people who briefly share the same space. Freedom and separateness find expression.

Mobile Porch, a project from Public Works (Katrin Böhm, Andreas Lang, Stephan Saffer), presented in 2000 in London and in 2001 in Munich.

The Mobile Porch is a multifunctional mobile mini-architecture that roams through city space. By offering this new urban toy to the people who use and govern the public spaces, Mobile Porch becomes a tool for contact, stimulating activity, revealing the potential of everyday situations to inform the future. Everyone is invited to use it, to shape it, to mould it, to make it, temporarily, their own. The deliberately flexible design offers a stage, a screen, an exhibition board, a workshop, a billboard, a

hangout, a bar as well as things yet to be discovered – an endlessness of possibilities to suit the people's unending supply of desires, dreams, ideas, interests and needs.

The Mobile Porch was designed for 24/7 outdoor use. The frame is made from aluminium for its weight and durability, and the first paneling was simple plywood, which could easily be replaced. The design is a response to an ambition to have a curious looking, exiting and at the same time very durable and multi-functional mobile object, that would allow to run a yet unknown public program.

The Mobile Porch is an open invitation, but at the same time a real space to be used for whatever personal or collective activity wants to go public and make use of it. Since 2000, when it first appeared, the Mobile Porch got used for public readings, spontaneous concerts, general hanging out, exhibitions, dinners and workshops. It was the starting point for many conversations about actions and suggestions towards the public realm it was living in.

Mobile Porch aims to draw the opportunities certain urban spaces offer, uncover hidden potential and develop new ideas for how space can be used by looking at all its existing structures. The playfulness of Mobile Porch appeals to local people and works on a direct one to one scale, allowing them to express their ideas and dreams concerning public space through action and participation.

The three selected paradigms (the **Minibar,** the **Urbar** and the **Mobile Porch**) are juxtaposed as they represent three different, as far as the *amount of architecture involved* is concerned. The **Minibar** represents an intervention that requires *no architecture at all* – architecture in this case is a design process that prescribes the use: its users alone form it.

.174

The **Urbar** expresses a piece of *very basic and symbolic architecture*; it has the character of something unfinished: its users have the role to determine its use and function. The **Mobile Porch** is a *concrete architectural object*, with a very specific design. Its design, its form is complete, although its use – al least at the first glimpse – is by no means obvious. However it can (and has already) welcome miscellaneous uses. The choice of these specific paradigms was made in order to indicate that there is no prescription as far as how the experimental intervention examples should look like. What is important is that the architectural objects *lets* the visitor / spectator / user have the decisive role about its use. In this sense, architecture moulds the environment, the infrastructure, or even the designed object, but the final outcome can by no chance be foreseen. It is the use that forms the architecture. In this framework, architecture (and consequently the architect) can only *speculate* its impact.
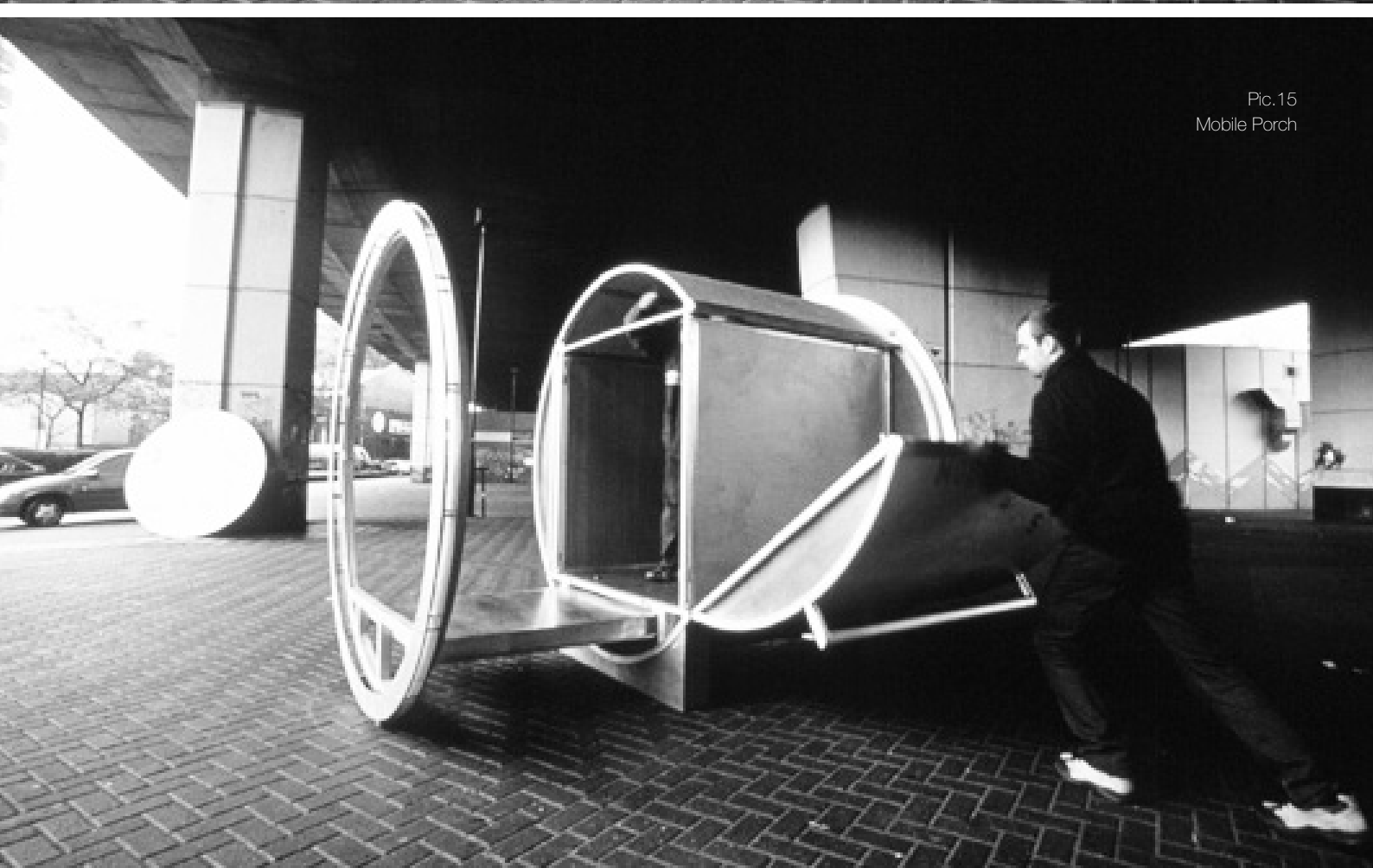
Prototypes

04.5

The Sixth Material

Case studies and Prototypes

According to G. Thomas a case study does not have a pre-described set of rules, which can be ticked off in order to get to a conclusion, but is rather an in-depth analytical research of a single event or instance, which will use different methods, often including the participation of *outsiders* (like members of the public) to extract information and data over a certain period of time to gain a more complete and vast understanding of a phenomenon.[134]

A case study can be understood as a research strategy, an empirical inquiry that investigates a phenomenon within its real-life context. It is exactly these characteristics that we adopt in order to create our tools of experimental inquiry. But, like in every case study, we do not focus on the discovery of the universal, generalised truth. Through the prototypes, emphasis is placed on exploration and description. It is an intensive analysis of an individual unit, such as for example a person, group, event, stressing the developmental factors in relation to the context.

In practice, a case study is a form of qualitative descriptive research, and therefore a method that allows us to investigate the why and how of things are happening, not just what, where, when.

Overall, case studies and similar qualitative approaches to research have not always enjoyed equal reputation to more rigorous quantitative approaches such as statistical analyses, surveys and other quantitative modelling.[135] Yet, seminal work in social and political sciences in the 1960s and 1970s have led the way for qualitative methods and case study research to be increasingly recognised and used both for

04.5.1
What is a
Case study?

[134]Thomas, G. (2011) A typology for the case study in social science following a review of definition, discourse and structure. *Qualitative Inquiry*

[135]Ragin, C., Becker, H., eds., (1992), *What is a case? Exploring the Foundations of Social Inquiry*, Cambridge University Press

hypotheses testing and for generalizing beyond the particular cases studied. Borrowing from the work of Campel (1975), Hans Eysenck (1976),[136] and others, recent work by Bent Flyvbjerg argues that case studies allow for the systematic production of *exemplars*, and a discipline without exemplars is an ineffective one. To this effect he stresses that there are five big misunderstandings regarding the method of case study.[137]

First of all, it is generally considered that general, theoretical (context-dependent) knowledge is more valuable than concrete, practical (context-dependent) knowledge. The fact is however that social science has not succeeded in producing general, context-independent theory; predictive theories and universals cannot be found in the study of human affairs. Thus, it has in the final instance nothing else to offer that concrete, context-dependent knowledge. And the case study is especially well suited to produce this knowledge. Taking the above into consideration – and since what we aim to do is to interpret the social pulse in information, our study come in a certain way under the framework of social studies and therefore a case study can produce the feedback we need.

A second argument of the polemic against case studies is that we cannot generalize on the basis of an individual case and therefore the single-case study cannot contribute to scientific development. In this case Flyvbjerg juxtaposes the argument that although knowledge cannot be formally generalized, this does not mean that it cannot enter into the collective process of knowledge accumulation in a given field or in a society. Thus, a purely descriptive, phenomenological case study

[136]Campbell, D. T. (1975). Degrees of freedom and the case study. Comparative Political Studies, 8(1), and Eysenck, H. J. (1976). Introduction. In H. J. Eysenck (Ed.), Case studies in behaviour therapy London: Routledge

[137]Flyvbjerg, B., (2006), Five Misunderstandings About Case-Study Research, *Qualitative Inquiry*, Volume 12, Number 2, April 2006

without any attempt to generalize can certainly be of great value. The fact is that whether we can generalize from a single case depends on the case and how it is chosen. As far as the practical part of our thesis is considered, the case studied used can certainly be of the required significance, since we don't just choose our case studies. We create them and consequently make them happen.

A case study is useful for both generating and testing of hypotheses, even though it is often considered that a case study is most useful for generating hypotheses, while other methods are more suitable for hypotheses testing and theory building. For example, when we want to achieve the greatest possible amount of information, we usually don't need a typical or average sample, but rather an atypical, extreme case that can reveal more information, because they activate more mechanisms in the situation studied.

The case study is usually seen as less rigorous than the quantitative methods. However, the advantage of the case study is that it can "close in" on real-life situations and test views directly in relation to phenomena as they unfold in practice. It is quite often that researchers who have conducted intensive, in-depth case studies typically report that their preconceived views, assumptions, concepts, and hypotheses were wrong and that the case material has led them to revise their hypotheses on essential points. It is exactly this feature of the case study, this "sane uncertainty" that we use in order to move on from one prototype to the next – not because our presumptions are fulfilled, but rather because there is another need that we discover. After all, falsification can help a research's progress almost in the same way as the verification.

Finally, it is often assumed difficult to summarize and develop general propositions and theories on the basis of specific case studies. This argument has some truth in it – it is actually difficult to summarize case studies, especially concerning their process rather than their outcome. However, it is also often not desirable to summarize them – good studies could and should be read as narratives in their entirety.

In order to confute the aforementioned misunderstandings, Flyvbjerg analyses that concrete experiences can be achieved via continued proximity to the studied reality and via feedback from those under study. Case studies often contain a substantial element of narrative. Good narratives typically approach the complexities and contradictions of real life.

In the framework of this thesis and its aim, it is important not to try to sum up and *close* a case study, but rather to keep it open. In order to be able to do this, there exist of a series of steps that need to be undertaken. Starting with the case study, we are not supposed to just narrate and summarize it – we rather describe the case in its diversity, allowing it to unfold from the many-sided, complex and sometimes conflicting factors that surround it. Secondly, we try not to link the case with the theories of academic specializations. Rather we relate the case to broader philosophical positions that cut across specializations – this is also why the first, theoretical research part of this dissertation is so indispensable for its development. In this way, every visitor / reader / spectator of the case study can make different interpretations and draw diverse conclusions out of our case. This way, these case studies can neither be briefly recounted nor summarized in a few main results. The

.182

case study is itself the result. It is a way of virtual reality. For the visitor willing to enter this reality and explore it, the payback is meant to be a sensitivity to the issues at hand that cannot be obtained from theory. The conception and creation of our prototypes imply exploring phenomena firsthand instead of just reading about them.

There are two approaches that can be used in order to select a case study. The random selection and the information-oriented selection. The random approach of selecting cases is used when we want to avoid systematic biases in the sample; in this case the sample's size is decisive in order to be able to generalize the outcome of the procedure.

The information-oriented case studies are preferred in order to maximize the utility of information from small samples and single cases.

In this approach, cases are selected on the basis of expectations about their information content. In the framework of this thesis, on one hand it is information that we are anyway looking for, and on the other hand (like aforementioned) we are not just choosing the paradigms, we create them. Therefore, it is reasonable to use the information-oriented selection. More specifically, in order to arrive to the information required, we should not just generally use an information-oriented case, but paradigmatic cases. The question that arises here is how these paradigmatic cases are identified as well as how we can determine whether a given case has metaphorical and prototypical value. The answer would probably be that it is not possible to determine in advance whether a certain case is paradigmatic, since a paradigmatic case is supposed to develop a

metaphor or establish a school for the domain that it concerns. What will define whether a case is paradigmatic and can have a prototypical value (except from the strategic choice of it) are its execution, as well as the reactions by the research community, the group studied and possibly a broader public.

At this point, it is important to acknowledge that we begin by considering our experimental urban research tools, our case studies, of a prototypical value – the fact remains though that it is the execution of their purpose that will define whether the have *earned the characterization*. Nevertheless, we call them prototypes in the sense that just like the prototype anticipates a product yet to be developed, the prototypology represents a spatial configuration in permanent state of evolution. Whereas a conventional typology defines a generic model of organisation, which becomes specific through its application, the prototypology is specific from the beginning. On the other hand, it never really becomes generic as it keeps on transforming itself through the information it receives. Made of pliable, learning material it adapts to changing needs of programs and users. The strengths of a case study as an approach method is primarily its flexibility. The procedure emphasizes in exploration rather than in prescription or prediction: as researchers we are free to discover and address issues as they arise in the experiments – this is actually what we aim at. That is also why the first prototypes search to form and answer broader questions, while in ICH, as well as in A21, the last and much simpler in use prototypes, the spectrum of the theoretical questions is narrowed. Our case studies are primarily conceptual concepts and later on, practical ones.

.184

✚ The method of our case studies, our prototypes, include a hypothesis, an action-interaction and the conclusion in the form of gathering information about what the actual need is – a feedback leading to the next prototype.

A hypothesis is a proposed explanation for a phenomenon. The hypotheses are generally based on previous observations. A working hypothesis is a provisionally accepted hypothesis proposed for further research, a provisional idea whose merit requires evaluation, a conceptual framework in qualitative research. Concepts are the main components of hypotheses.

After the hypothesis is made, what we are interested in is to activate, to *agitate* events, spaces, concepts and inertias. To promote interactions between things, rather than interventions on them. We approach action as a generating mechanism, as a suggestion, as an alterer of stable awareness. Action is an approach to the characteristics of architecture from unstable, shifting positions, not determined a priori, but rather dependent upon environmental factors, emotional factors and other "interveners". Actions are generators of attitudes. Hence, we then contemplate the interaction.
The conclusion is the most precarious factor of the whole procedure, and therefore the most intriguing one.

Michel de Certeau explains[138] that the consumption of a given product (in our case the prototypes) is not merely a passive act. It includes a hidden process of production, which can be discovered in the way the product is used, in what the user do with the product.

[138]Certeau, M. de, (1984), *The Practice of Everyday Life*, University of California Press

The procedure of *using* includes "actions that have their own formality and inventiveness". The different "ways of using" the provided products include an operation, the act of "making do" – and this procedure is quite an unpredictable one.

According to Pallasmaa,[139] even masterful architects do not invent architectural realities. They rather reveal what exists and what are the natural potentials of the given condition, or what the given condition calls for. In this line of reasoning

,, Alvaro Siza claims that architects don't invent anything, rather they concentrate in transforming reality.[140]

Architecture is a product of the knowing hand. The hand grasps the physicality and materiality of thought and turns it into a concrete image.

In *Art and Embodiment: From Aesthetics to Self-Consciousness,*[141] Paul Crowther argues that art can bridge the gap between philosophy's tradition striving for generality and completeness, and the concreteness and contingency of humanity's basic relation to the world. He proposes an ecological definition of art. His strategy involves first mapping out and analyzing the logical boundaries and ontological structures of the aesthetic domain and then considering key concepts from this analysis in the light of the tradition in continental philosophy. Art, in making sensible or imaginative material into symbolic form, harmonizes and conserves what is unique and what is general in human experience. The aesthetic domain answers basic needs intrinsic to self-consciousness itself, and art is the highest realization of such needs. In the creation and reception of art the embodied subject is fully at home with his or her environment.

Henri Lefebvre differentiates between perceived space (individually experienced and explored space indicating the actual location), conceived (as by planners and cartographers) and lived space. Space

04.5.2 (Theoretical) background of the prototypes

[139]Pallasma, J., (2009), *The Thinking Hand: Existential and Embodied Wisdom in Architecture*, John Wiley & sons Ltd

[140]Bohman, O., Van Toorn, R., "Desperately Seeking Siza", a conversation with Alvaro Siza in (1994), *The Invisible in Architecture*, Academy Editions, London

[141]Crowther, P., (1993), *Art and Embodiment: From Aesthetics to Self-Consciousness*, Oxford: Clarendon

consists of human interaction with the designed world. It can be conceived as an imaginative arena, where we define and are, in turn, defined by our relation to the other objects of the world. The dialectics of interior experience and exterior reality constitute the essence of phenomenological thought. M. Fortier states[142] that the primary concern of phenomenology deals with the engagement in lived experience between the individual consciousness and the real which manifests itself – as sensory and mental phenomena.

" According to Stanton Garner[143] it is phenomenology that examines how we perceive the world and how we apprehend space through our senses and especially through the body.

Phenomenology puts the individual experience of the world over the objective and scientifically proven explanation of the world. Thus, the individual finds to itself through its embodiment in space; and when in this state, the individual has access to their innermost creative energies. In that case, when Bernard Tchumi asks[144] "are objective social space and subjective inner space then inextricably bound together? is space thus one of the structures which expresses our 'being' in the world?", we can answer positively for our aim of facilitating knowledge transfer between design and performance.

Given the phenomenological and logical inseparability of the elements in our ontological reciprocity with the world, the question that arises is how we express such reciprocity, that is, how do we arrive at a *full* and *explicit* understanding of the experience? The problem here is the conflict between 'full' and 'explicit'. For when we adopt a reflective attitude we

[142]Fortier, M., (1997), *Theory / Theatre. An Introduction*, London and New York: Routledge

[143]Garnes, S. B., (1994), *Bodied Spaces. Phenomenology and Performance in Contemporary Drama*, Ithaca, N.Y., London: Cornell University Press

[144]Tchumi, B., (1990), *Questions of Space. Lectures on Architecture*, London: Architectural Association.

can analyze the elements, which are operative in a particular experience. However, by analyzing – by taking the whole apart – we change the structure of the experience. It finds expressions as a *fragmented* whole. The fullness – the qualitative unity – of the reciprocity is lost.

> Merleau-Ponty presents the "primacy of perception". We are first perceiving the world, and then we do philosophy.

What is characteristic of his account of perception is the centrality that the body plays. We perceive the world through our bodies; we are embodied subjects, involved in existence. Further, the ability to reflect comes from a pre-reflective ground that serves as the foundation for reflecting on actions. In other words, we perceive phenomena first, then reflect on them via this mediation, which is instantaneous and synonymous with our being and perception in, as, and with body, i.e., embodiment. His account of the body helps him undermine what had been a long-standing conception of consciousness, which hinges on the distinction between the for-itself (subject) and in-itself (object). The body stands between this fundamental distinction between subject and object, ambiguously existing as both. He remarks that: "I start from unified experience and from there acquire in a secondary way consciousness of unifying activity, when, taking up the analytical attitude, I break up perception into qualities and sensations, and when in order to recapture on the basis of these the object into which I was in the first place blindly thrown, I am obliged to suppose and act of synthesis, which is merely the counterpart of analysis".[145]

Several techniques can help to experience, understand and design

[145]Maurice Merleau-Ponty, *The Phenomenology of Perception,* trans. Colin Smith with revisions by Forrest Williams (Routledge & Kegan Paul, London, 1974)

space.

> Luigi Prestinenza Puglisi claims that the medium of spatiality, whilst qualitatively different form other mediums of expression, such as language, nonetheless acts to contain and project meaning.[146]

The question of interpretation of art with regard to the producer's intentions has been the subject of much debate. The traditional, commonsense view that the key to understanding works of art can be located in the intentions of the author, has been critiqued convincingly by authors such as Roland Barthes and Michel Foucault who emphasise the active role of the viewer/reader in creating meaning in visual and written texts.

Crowther himself states in the conclusion of the abovementioned book that the aesthetic domain, and art in particular, answers the needs of self-consciousness by enhancing or reflecting the necessary factors in self-consciousness. He argues that "by so doing it enables the embodied subject to engage with his or her essence at the level of perception. In this way self-consciousness intersects with itself in the fullest sense. Its ontological reciprocity with the world is complete but not rigid. It is a free-belonging".[147]

Through looking to the "lived spaces" rather than rhetoric, calculations and presumptions, we can obtain a clear and actual picture about the city-space and its users. The user has the capacity to interpret the urban space and to interact wit h it in ways different than the pre-determined; thus the user has a crucial role in the production of urban spaces.

[146]Puglisi, L. P., (1999), *Hyper Architecture. Spaces in the Electronic Age*, Basel, Boston, Berlin: Birkhäuser

[147]Crowther, P., (1993), *Art and Embodiment: From Aesthetics to Self-Consciousness*, Oxford: Clarendon

.190

Through the prototypes we generate settings, deliberately constructed situations to foster and develop ideas and discussions.

Establishing such settings can recycle the physical and mental spaces, dwelling on sociality as a generative and transformative force. Such settings do not impose a beforehand-prepared statement but rather seek out new debates and ideas in order to produce knowledge both socially and spatially.

In 1954, at the age of 85, Frank Lloyd Wright formulated the mental task of architecture in the following words:[148] "What is needed most in architecture today is the very thing that is most needed in life – Integrity. Just as it is in a human being, so integrity is the deepest quality in a building...If we succeed, we will have done a great service to our moral nature – the psyche – of our democratic society..."
This emphatic declaration of architecture's mission is even more urgent today than at the time of its writing 50 years ago. And this view calls for a full understanding of the human condition.

[148]Lloyd Wright, F., "Integrity" in (1954) *The Natural House*, Horizon Press

.192

Pic.16
Prototype ICH

**04.5.3
…and
practical
issues
regarding the
prototypes**

Having discussed and outlined the theoretical framework concerning the conceptualisation of the prototypes, the plausible question that arises regards their forms. As mentioned repeatedly throughout this thesis, we maintain that architecture is not only what is built. Rather it is a conglomerate of both conscious and unconscious thoughts, needs, projections. We could agree with Rem Koolhass[149] that architecture is a "method of systematic idealisation – a systematic overestimation of what exists, a bombardment of speculation that invests even the most mediocre aspects with retroactive conceptual and ideological charge."

So, should the prototypes be some kind of non-formed, non-standard architecture? If we try to define what non-standard architecture is, we would argue that it is an architecture, which should go beyond the bounds of any assumptions about form, any anteriority or exteriority of a determining principle, of the elaboration of form. An architecture based on formal design cannot resist change of one of its parts without losing its identity. On the other hand, an architecture without form – informal – allows change, restoration, and change of its image without its form being altered, and as such, the object remains. It can spontaneously absorb additions, subtractions, and technical modifications, without disturbing its essential order.

With this understanding in mind, the next problem that needs to be considered is presenting the participatory projects. To grasp participatory art from images alone is almost impossible; casual photos of people talking, eating, attending a workshop or screening or seminar tell us very little, almost nothing about the concept and context of a given project. They rarely provide more than fragmentary evidence, and convey nothing

[149]O.M.A., Koolhaas, R., and Mau, B., (1998), [1995], *S, M, L, XL*, The Monacelli Press

of the affective dynamic that propels artists to make these projects and people to participate in them.

Can Altay states: "…I'm currently thinking about the question of a more open-ended practice; whether it's possible to position oneself as a generator of some sort of setting, and not exercising complete control over, and acknowledging / promoting unforeseen possibilities. The "relational" aspects of artistic practices have come to be ever more evident in becoming moments or acts that not only questions but "make happen", taking sociality and spatiality to their core and acting as catalysts or relations; between the work and people, between people and people, and between people and space".[150]

Irit Rogoff, in her paper: "We – collectivities, Mutualities, Participations"[151] argues in respect to an emergent collectivity. That is a performative collectivity that is produced by being together in the same space, being subject to, or becoming subjects with that space and what it holds, that might lead to "a form of mutuality which cannot be recognized in the normative modes of shared beliefs, interests or kinship."
Rogoff claims that meaning is not to be produced in isolation but through "intricate webs of connectedness", and not as through the subjectivities viewers project in relation to an artwork, but rather through relations with and among one another and the temporality of the exhibition context.

It is not easy process for architects to override their intrinsic capacity to specify. It needs courage to challenge an architectural tradition that has historically decided its language and syntax for the representation of an external normative principle, of a rigid restriction to orders. While

[150]Altay, C., (2007), "Setting a Setting", in *Friday Session 13 "setting a setting" Fanzine*, public works, London

[151]Rogoff, I., "We – Collectivities, Mutualities, Participations", in Von Hantelmann, D., Jongbloed, M., eds., (2002), *I promise it's political. Performativität in der Kunst*, Museum Ludwig 2002, Köln

trying to achieve this, we are inevitably faced with the argument of Gilles Deleuze, when in his book *The Fold*[152] refers to the current situation when the fluctuation of the norm replaces the permanence of the law, when the object positions itself in a continuum through variation, when automated digital production or the digitally operated machine replaces die stamping. The object's new status is no longer compared to a spatial mould. More specifically, a relationship in form/matter, but rather to a temporal modulation that involves being continuously placed in a variation of matter as much as in a continuous development of form.

According to Deleuze, the object exists only in the variation of its profiles and refers to a transformation that is a component of the subject. This is precisely the dynamic that he refers to as objectile. "An object here is manneristic, not essentializing: it becomes an event".[153] Deleuze distinguishes between object as event and the objectile as occupying an in-between state in the dissolved nothingness of space and time. The performance of embodied knowledge informs this liminality. It is important to note that an object becomes an objectile by means of an event. The transition from the object to the objectile can be described as follows "the new status of the object no longer refers its condition to a spatial mold – in other words, to a relation of form-matter – but to a temporary modulation that implies as much the beginnings of a continuous variation of matter as a continuous development of form".[154] Anticipating the phenomenological concept of intentionality, it is indeed a question of describing the phenomenon of the joint constitution of form and consciousness, of seizing the intertwined threads of qualitative, physical, material and biological determinations leading to a form to be established.

[152]Deleuze, G., (1992), *The Fold. Leibniz and the Baroque*, University of Minnesota Press

[153]Ibid

[154]Ibid

+ In this framework, our case studies, our prototypes were formed as concrete architectural objects on one side, and as models translating Deleuze's concept of the *objectile*.

They are conceived rather as means, which incite events. They consist of four projects that we carried out at different stages of the research process, and which all provided valuable insight into urban human behaviours and aspirations, and helped rethinking our role as architects.

- **i.KIOSK**, initially designed as a ticket halter, acts like an urban attractor just by its presence – the user can "make architecture" through it, but his interaction options are quite limited.
- **wasserLOS**, which is a large-scale project, was evolved as a communication platform, It accomplishes the stage of "technical prototype", while it is functions only through the human presence.
- **ICH** is an experimental device, which was first presented in an exhibition context and now stands in the TU. It is an expedient self-model that develops as an outcome of the information processing in the mind.
- **A21** is a plainly "street project", since there was the possibility to assess in a real urban context over a longer period of time. Thereby the interaction with the user functions even unconsciously.

The form and function perspicuity of the prototypes along with their technological requirements and achievements operate conversely to their interaction capacity, along with their ability to provoke involuntary participation. In other words, the more non-standard our architecture became, the more feedback we received. It is therefore reasonable,

as well as understandable, to physically create the last two of our conceptual prototypes, in order to provoke action. Thereby, action is conceived as a generator of attitude, ephemeral action, which leaves only traces, passions. The intervention is really the action and not what remains afterwards. The true intervention is the cutting, clearing away rubble and dissembling at the same time as the environment is modified. All that remains in the aftermath is passion, understood as architecture insofar as there occur inevitable alterations in use and time.

Today's participatory art usually tries to emphasize the process over a definitive image, concept or object. It tends to value what is invisible. In other words it tends to value a group dynamic, a social situation, a change of energy, a raised consciousness. As a result, it is an art dependent on first-hand experience, and preferably over a long duration. This is another reason why we decided that our prototypes should also have a specific form, that they would not be mere situations with no background. We try to find a way to design actual (and not virtual) space; it is our architecture that creates the situation every time. Unlike a lot of participatory art produced nowadays, we do not reject the aesthetic quality (Unlike the Dada cabaret, the Situationist détournement, or the dematerialized conceptual and performance art, documented just by formless-looking photos).

Through the prototypes we meet the ceaseless virtualization of the existing, by the continuous formation of urban hybrids. They support a multiplicity of functions, permitting the global to be locally present. Through them, locality is redefined, or calls for a critical redefinition, assumes a new role. Locality is density interface and event, between

the experimental constructions and the city. Urban hybrids promote the coexistence of the physical and the virtual and with the same movement, the coexistence of the local and the global. Urban hybrids are public in a local and global sense. Everything happens in an urban tissue that has a memory, but does not resist inserted radical localized changes.

They are in a continuously evolving condition related to the changes of activities that take place.

They are always in tension because they provoke a continuous circle of deritorialization and reteritorialization of events.

Through the experimental prototypes as new projectual and conceptual set of tools in order to draw information, we are aspiring at the practicing of a more communicative architecture. More specifically, an architecture prepared to favour the cultural signs and expressions of its time: hybridisations, transfusions, mixtures and influences. New natures produced through new marriages for an architecture that seeks to project the individual in more stimulating landscapes: interfaces between the individual and his or her world.
This new architecture does not try to restore contact with the user and spectator by means of passive experience. Rather it restores contact by means of active participation. It seems to attempt fusion with the dirtiness of reality. It is a plea of deadlines, experience and doing. It expresses a longing to establish a link with time and reality, which are to be understood as fragmentary.
It is an architecture that is not particularly focused on the architectural object, on representation or on the structure of the building itself, but

is chiefly concerned with creating conditions for all kinds of topical activities. It is architecture as *scape*, which leaves room for the dynamic of reflexive modernity. It takes paradoxical reality as its point of departure. The history of contemporary times is also the history of urban mobility. This is a mobility, which cannot merely be reduced to movement in space. It is a continual process, starting with the structures of economy and ending with social relations.
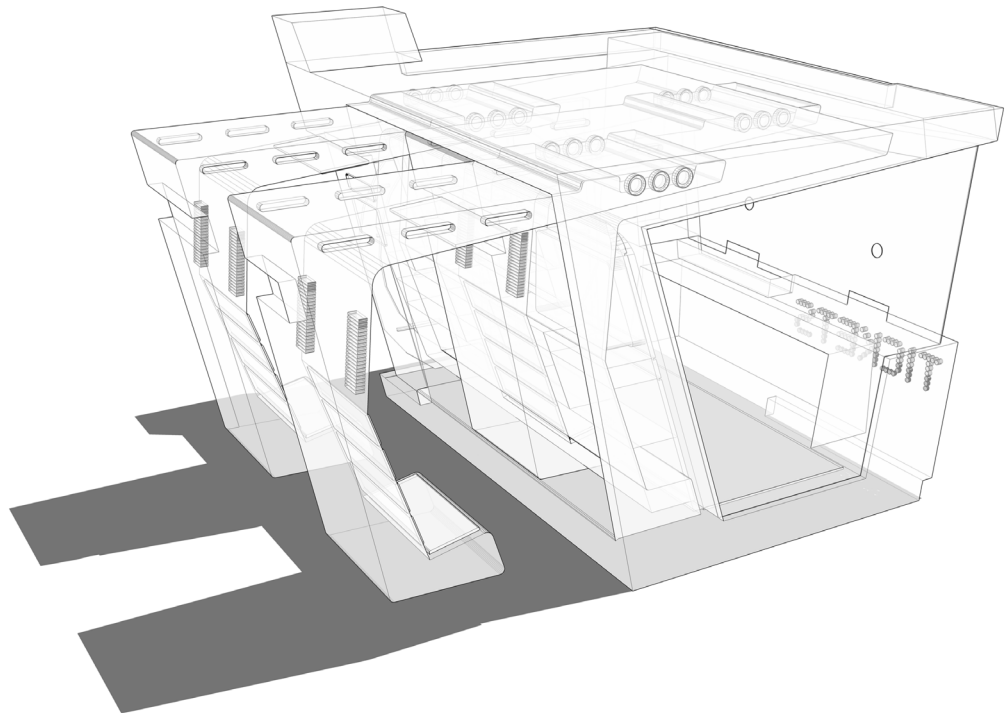
Pic.17
X-Ray Prototype i.KIOSK

Prototypes

04.6

The Sixth Material

Our Prototypes
i.KIOSK, wasserLOS,
ICH, A21

:: NEWS   leider fällt das Konzert he
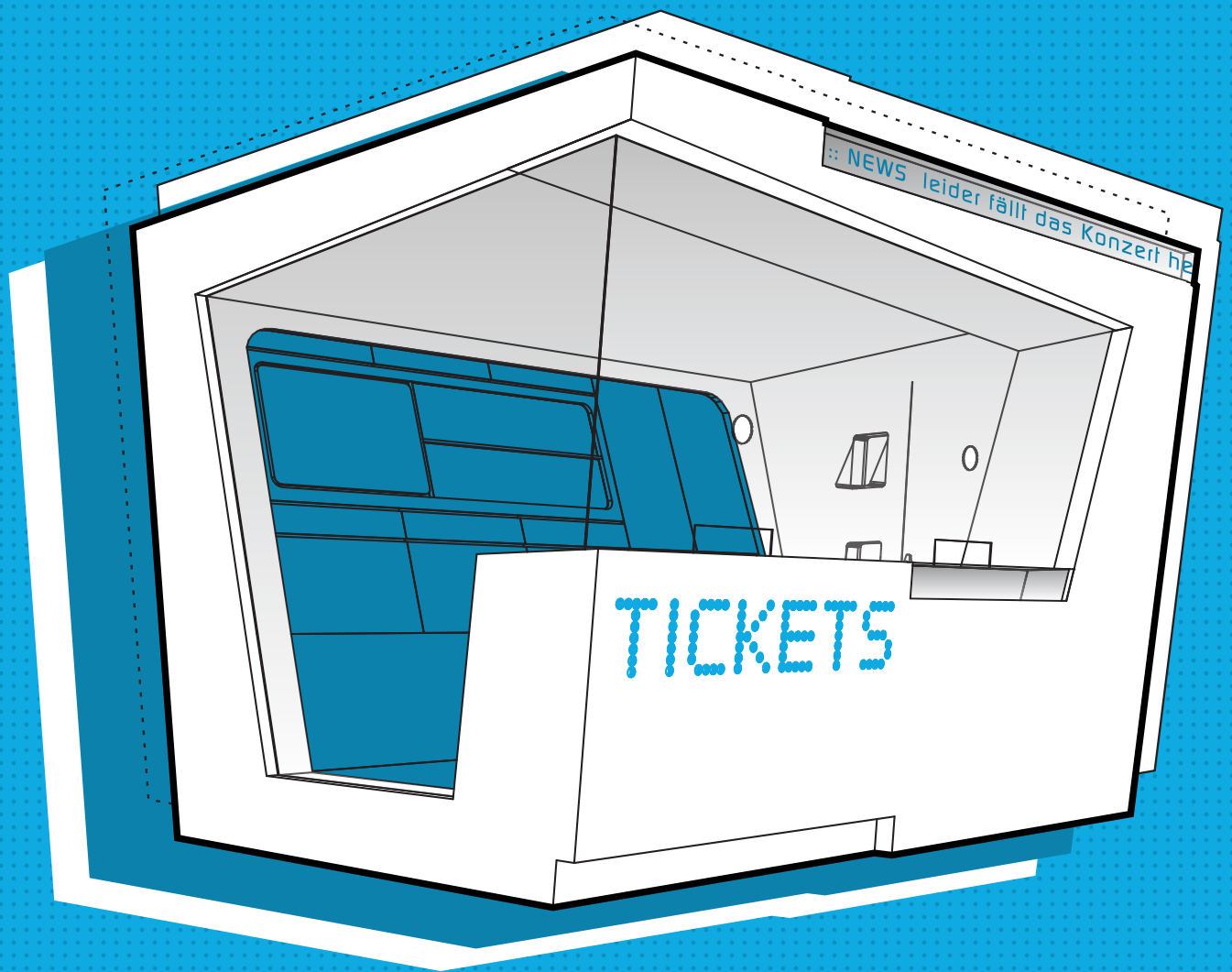
TICKETS

**04.6.1
i.KIOSK**

The i.KIOSK was our proposal for a competition for Ö Ticket Austria. The idea was to create an object, which not only would act as an urban attractor through its positioning and its aesthetics, but also would trigger interaction. The Ticket booth was restricted to a given size but our design wanted to break this rule by implementing special fold-out arms, which could invade the space on a temporary base and open up the actual functionality of i.KIOSK of selling tickets and informing people about the upcoming events.

We intentionally designed the i.KIOSK as very monumental.

+ It was meant as a visual intruder, which would trigger people's curiosity and thus encourage interaction with people.

The different additional "arms", which could be pulled out, would give them the possibility to influence the "look" of the i.Kiosk. Our intention was to create an "occupation" in a space of possibilities, following Rancière's thought: "…the idea of a "distribution of the sensible"[155] implies something more. A *common* world is never simply an ethos, a shared abode that results from the sedimentation of a certain number of intertwined acts. It is always a polemical distribution of modes of being and "occupations" in a space of possibilities. It is from this perspective that it is possible to raise the question of the relationship between the "ordinariness" of work and artistic *exceptionality.*[156] Thus the actual functionality of i.KIOSK (selling tickets and informing people about the upcoming events) does not either exclude or even sublets its function as artistic intervention.

[155]Rancière, J., (2006), *The Politics of Aesthetics*, Continuum, London

[156]Ibid

.204
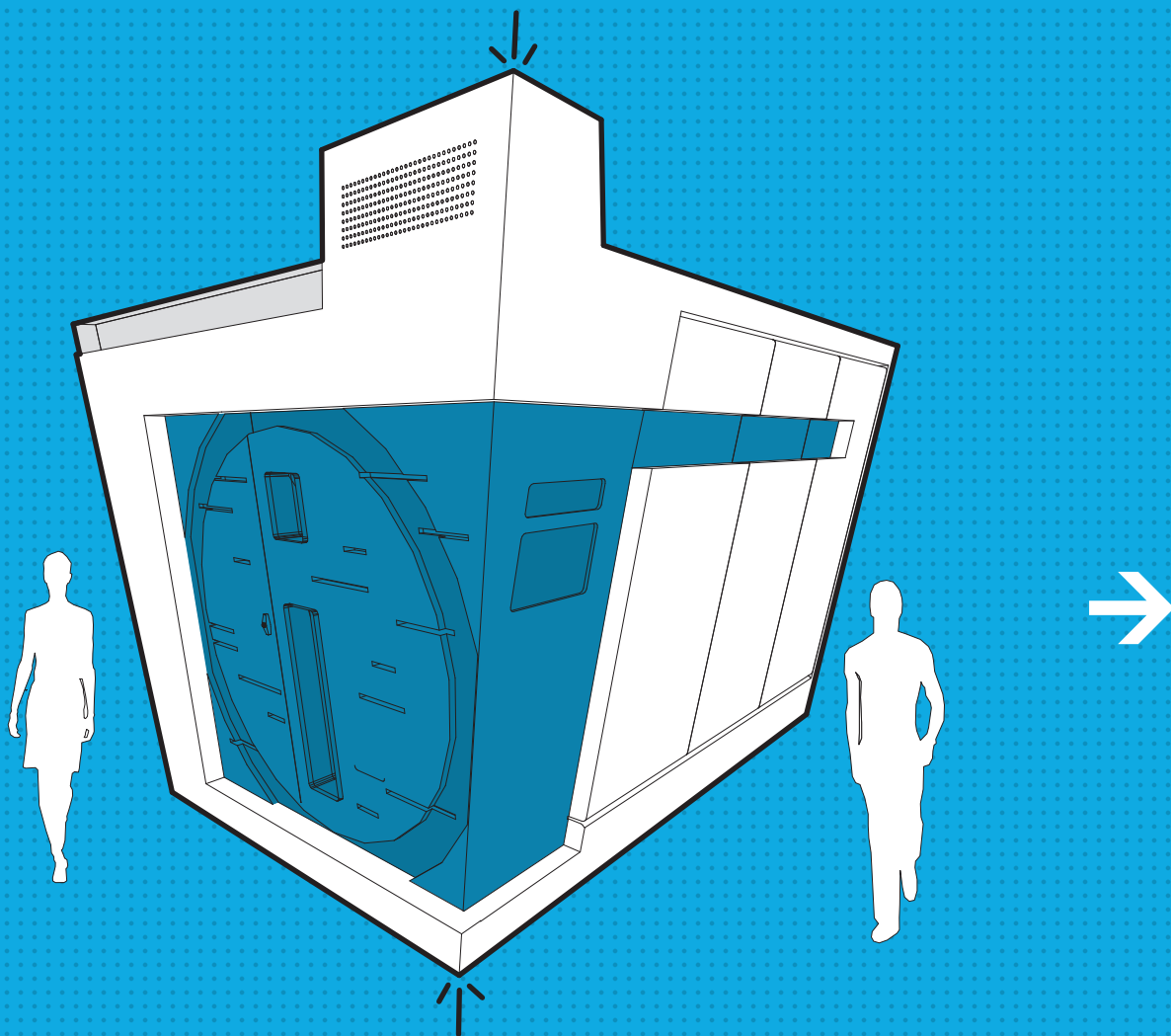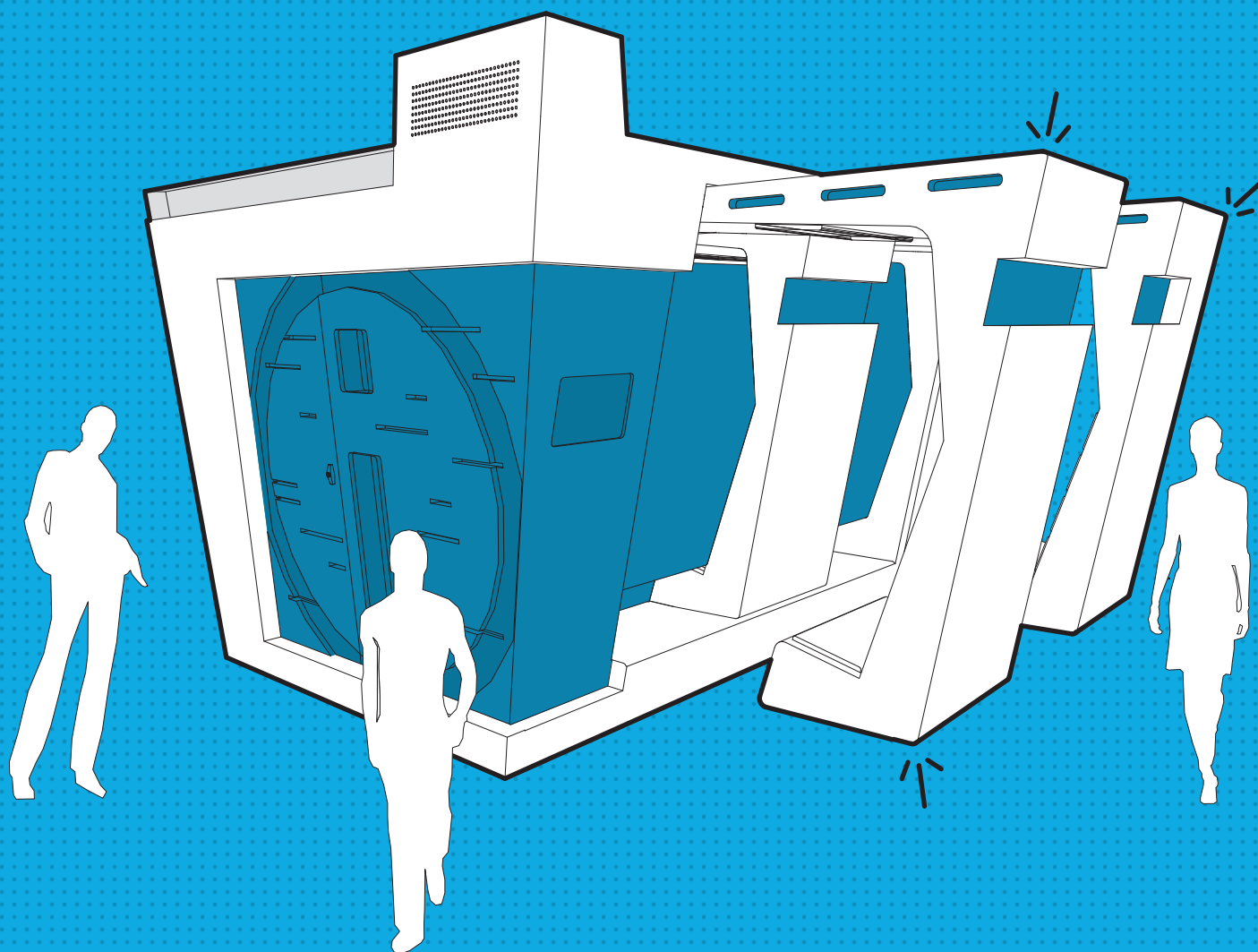
Pic.20
Open - Prototype i.KIOSK
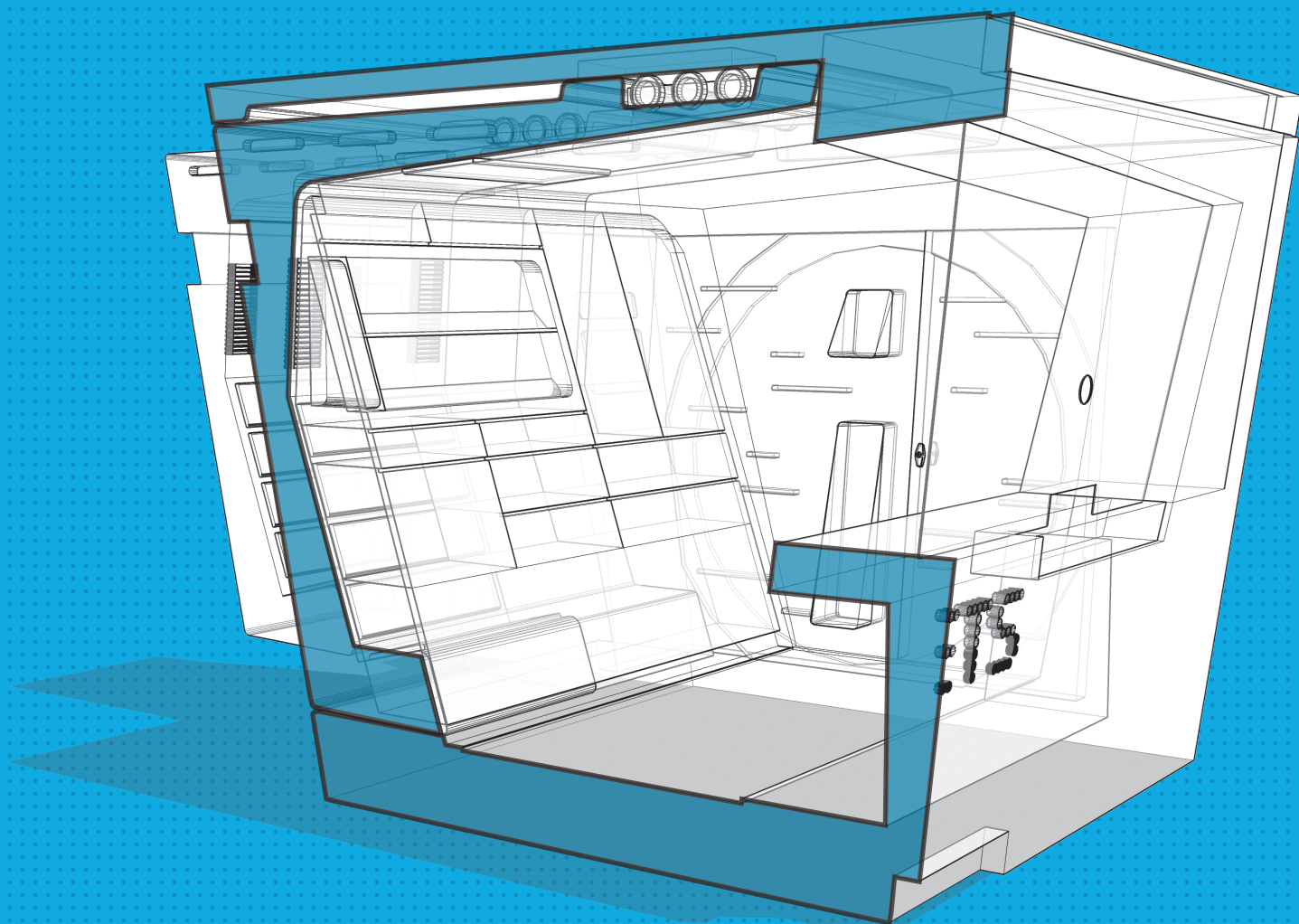
Retrospectively we are now in a position to take a more critical stance towards of the project. The overly "iconic" aspect of the booth didn't compensate the actual limited interaction the fold-out arms would offer. They would fold out in a pre-designed way leaving little possibility for any great surprise, and therefore the scope for provocation was rather compromised. In fact, to begin with the function of the booth is very well defined (providing information about upcoming events), so probably introducing the idea of spatial interaction was confusing and therefore not appropriate in this context. Another lesson is that the use of virtual interface for its own sake doesn't necessarily result in real interaction and represents a risk of quick obsolescence.

But the main outcome of the project and the following debriefing is this question: to which extent and how can we allow users to interfere in the organisation of their own environment? Usually the mission of the architect is described as the physical organisation of space for people. In our view this is a too narrow definition and underestimates the fundamental aspiration of every human being, which is to transform his or her environment. In Michel de Certeau's words, people are more producers than consumers, more creative than passive.[157] Although it is more or less conscious in people's mind, architects should see this aspiration not only as a fact, but also as a chance.

Interaction is interesting when it isn't fully predictable.

[157]De Certeau, M., (1984), *The Practice of Everyday Life*, University of California Press

The prototype is an encounter that pursues no commercial aim or specific array of services, but only involves the presence of people and their ways of being together. This type of research stems from the so-

.208

screens
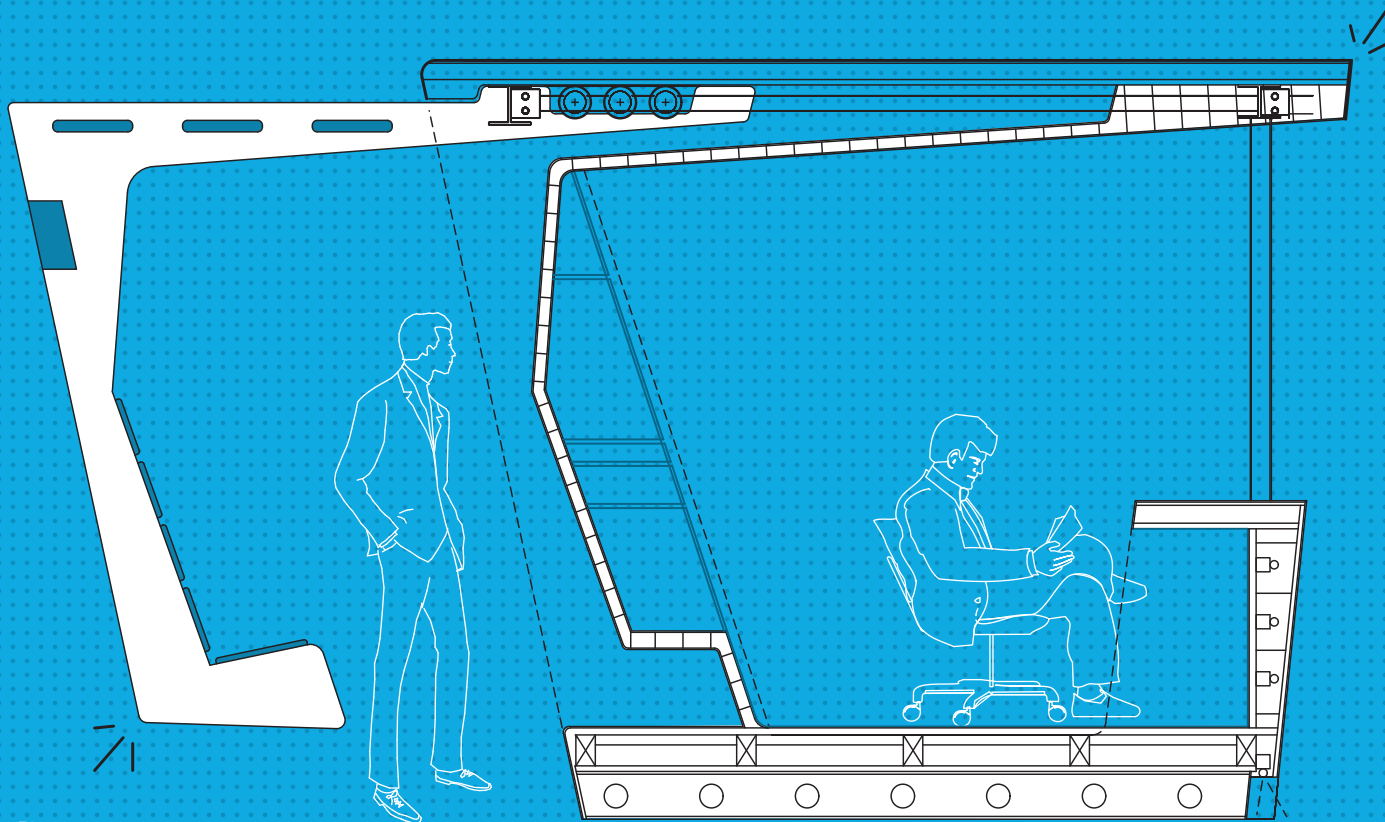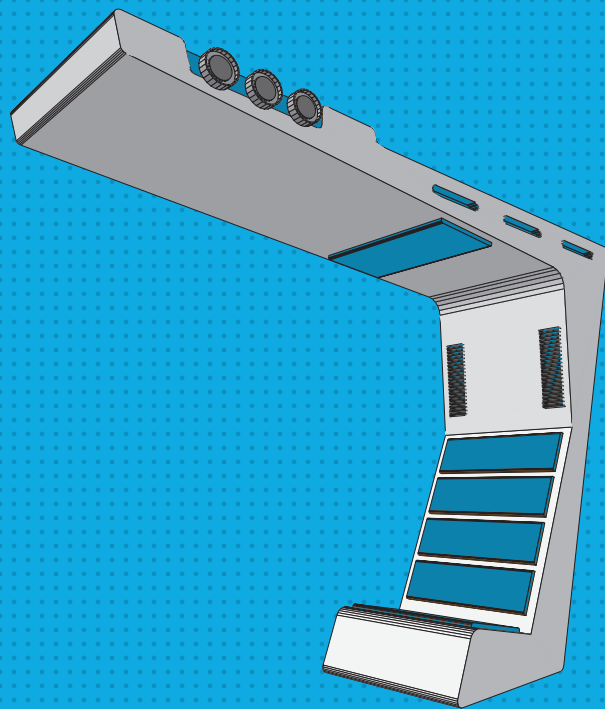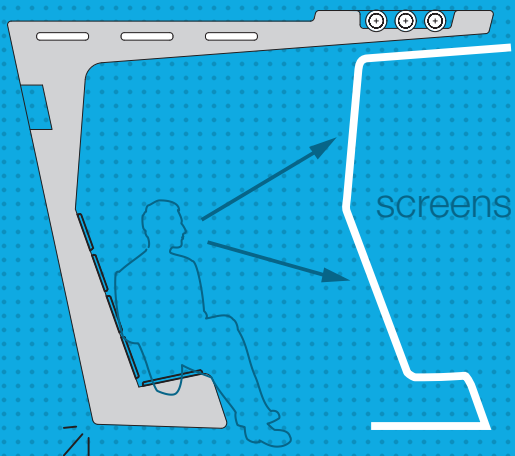
called psycho-cartographies or psychosocial maps, which are open to constant mutation.

The i.KIOSK functions as a landmark, but it doesn't actually transform its surroundings. On the other hand, although it is actually reshaped through the ways the users decide to deal with it, it ensures neither the participation, nor the communication between the visitors. These were the conclusions, which helped us engaging in a completely different approach in our following projects.
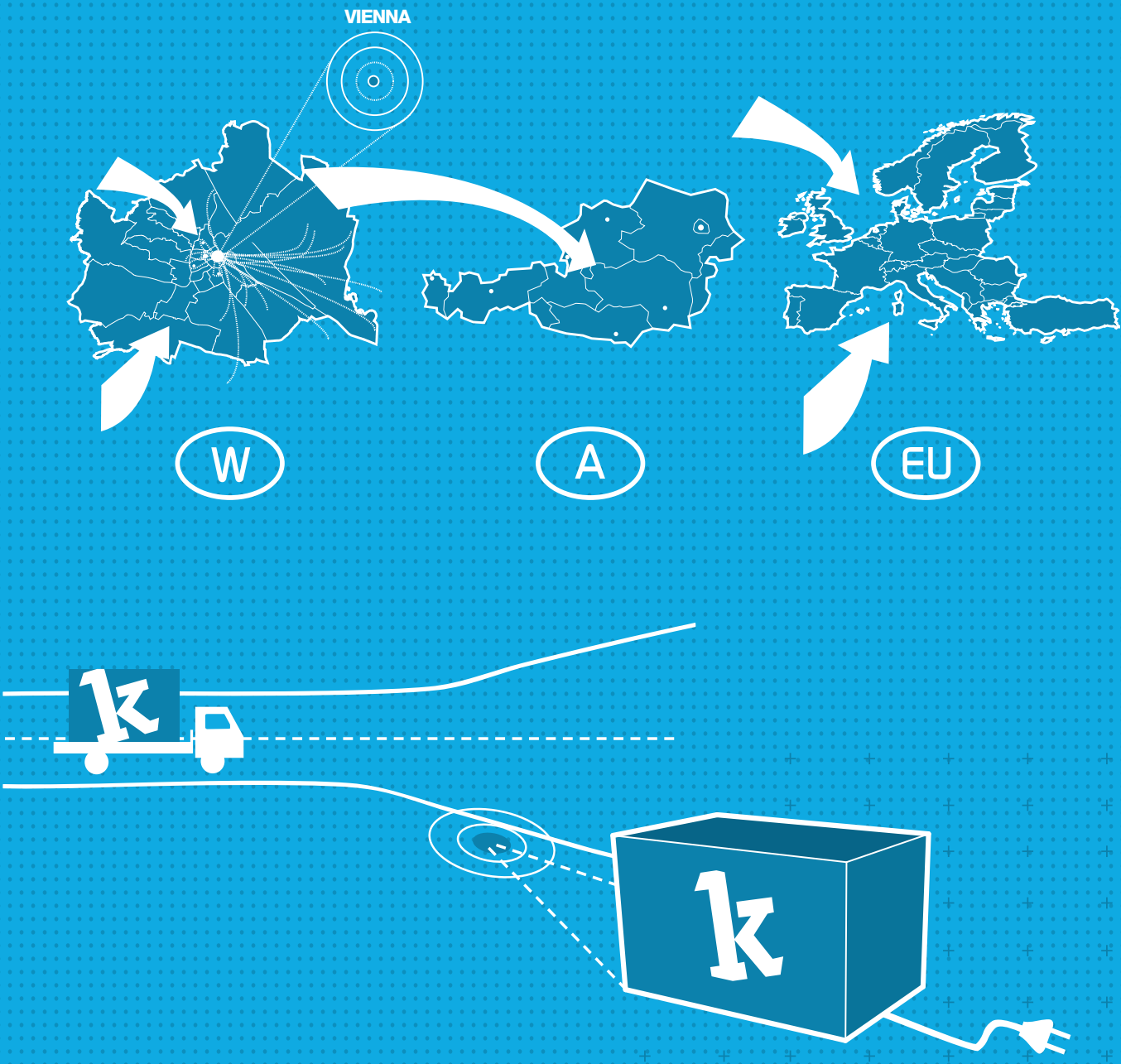
PLUG & PLAY

VIENNA

W

A

EU

.212
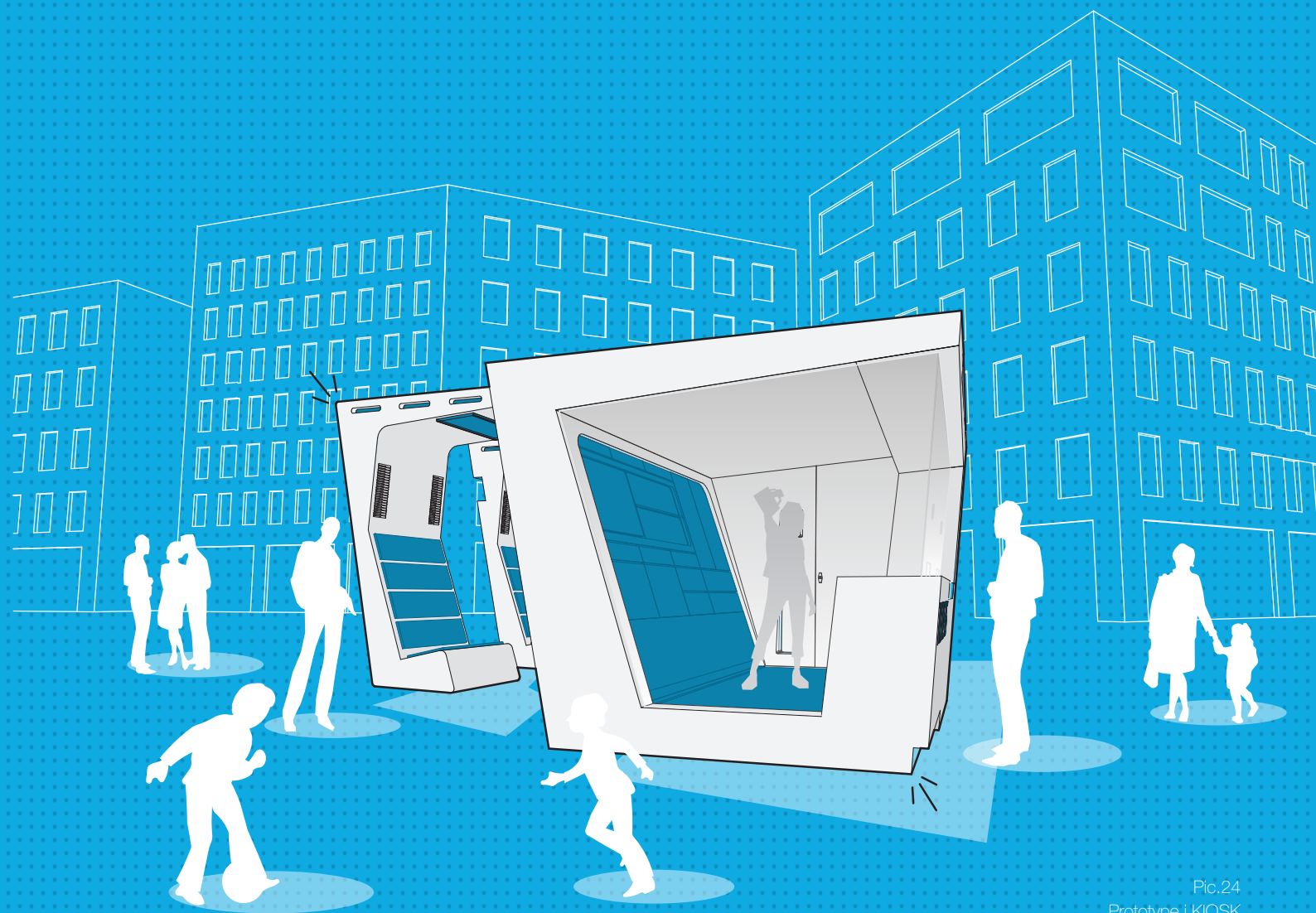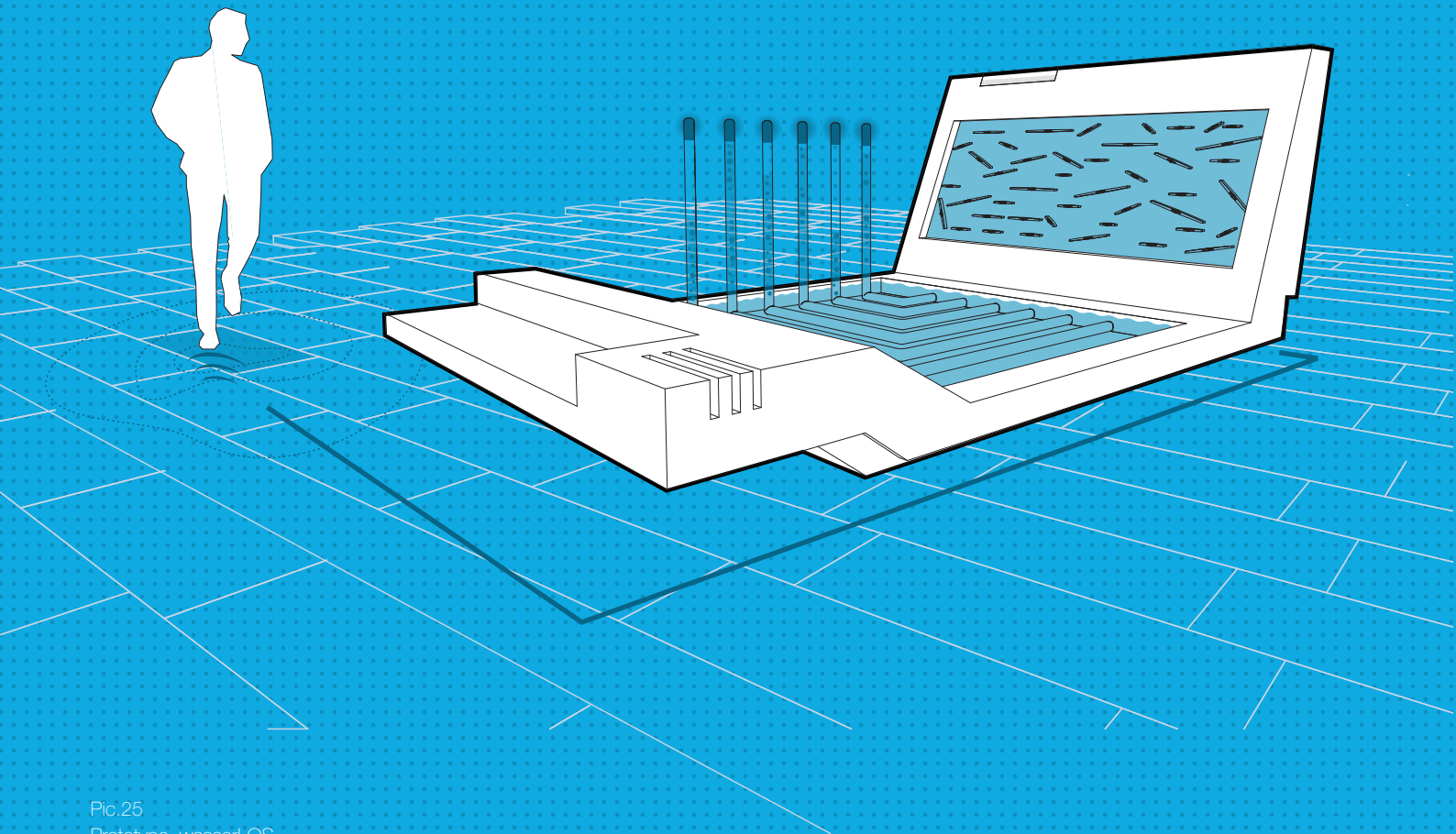
04.6.2
wasserLOS

For the project wasserLOS it was crucial for us not to create a traditional monument, namely a passive construction to commemorate a specific event or person. Instead we wanted to create an interactive structure, which would constantly change depending on its usage.

wasserLOS is an art object, also initially designed as a proposal for a City Hall Square, which then was evolved.

The water in the public art piece undergoes four different steps, which are connected with each other. Together they form a circuit, which get activated through the movement of users. The paving stones in front of the public sculpture are laid on water mats, which passers-by apply pressure on when stepping on them. The bodyweight of a person compresses water out of the rubber mats and moves it through some pipes to a water wall. In other words a person's weight pumps water through the structure, and thus sees immediate and temporary effects on the monument.

Strengthened by a pump the incoming water is pumped upwards in the panel, where it reaches then the 7 different ports. The more water and pressure (number of visitors) are transferred, the more ports operate. Furthermore, water conductors (propellers) are installed in the glass-panel, breaching the water-courses over again. The water conductors swivel on the one hand with the weight and the pressure of the water and on the other by the contact among themselves.

In comparison to the i.KIOSK, wasserLOS can be seen as going a step further towards achieving true interaction, as the user has a real influence on the appearance of the monument. wasserLOS functions and is formed only through the human presence. Furthermore for this

project we developed some prototypical samples, which demonstrated that wasserLOS actually works on a technically level, but also helped us gather information about interaction.

The user(s) becomes the very provocation factor in wasserLOS and theby the initiator of its interactivity. Specifically, the presence and the movement of the individual are necessary for the monument to *work*, that is to begin operationalising its interactivity with the user. The number of visitors determine the quantity and the pressure of the water going through the monument and thus makes the public the author of the monument, which is admittedly quite rare in a regulated public space. As some water mats are placed at the entrance for example some passers-by will not be aware they activate the construction. These unexpected moments are also making the monument more playful and interesting. The more water and pressure (from more people on it), the more ports in the wall get activated, which creates a very diverse and always changing picture of the water runways in the object.

At the foot of the glass panel the water (depending on the quantity) is distributed in six collecting trays, which are equipped with generators. Depending on which tray the water reaches, it is redirected to a corresponding tube. The tubes are equipped with plastic balls, which are pushed upwards under the pressure of the water and thus form a coloured pattern. The position of the balls depends on the quantity of the water. If the water pressure decreases (depending on the movement of the visitors on the infrastructure) the water flows into the tank, from where it is distributed back to the water pressure mats. That way the circuit is closed and flow can start again.

In a way the water runways on the wall reflect the busyness and movement on the square, which also get signified by some lights on top of some additional tubes emerging on the side of the object. The lights are turned on and off depending on generators activated by collected water. The more water gets in the generators the brighter the lamps glow, a kind of dimmer effect caused by people. wasserLOS thus creates a complex communication between the participant and the structure. Physically experiencing the influence he or she has on the movements of water and lights, the participant gets an awareness of his surroundings and thus is encouraged to reflect upon the notion public space.

The issues that arose regarding the concept of wasserLOS is that it can actually function through the participation of quite a lot of people – it then makes more sense. It is also not easy to *provoke* the user to participate over and over again.

Within the framework of this dissertation, we tried to carry prototypes in scale 1:1 as much as possible, in order to learn directly from real usage. Due to the nature of wasserLOS, namely its monumental and quite expensive character, we were able to just built a test version; this is a reason why after this we prioritized low-tech projects. Nevertheless the functional models allowed us to test not only the technical aspect but we also gathered some information about how effective and responsive public is to immediate interaction. What we learned is that the intervention itself is what matters and not what remains afterwards.

Building on this lesson we started conceptualising our approach towards the next prototype: ICH

plastic pipe

„shiny hooter"

plastic balls

pressure gauge

waterfall - glaswall

propeller

water basin
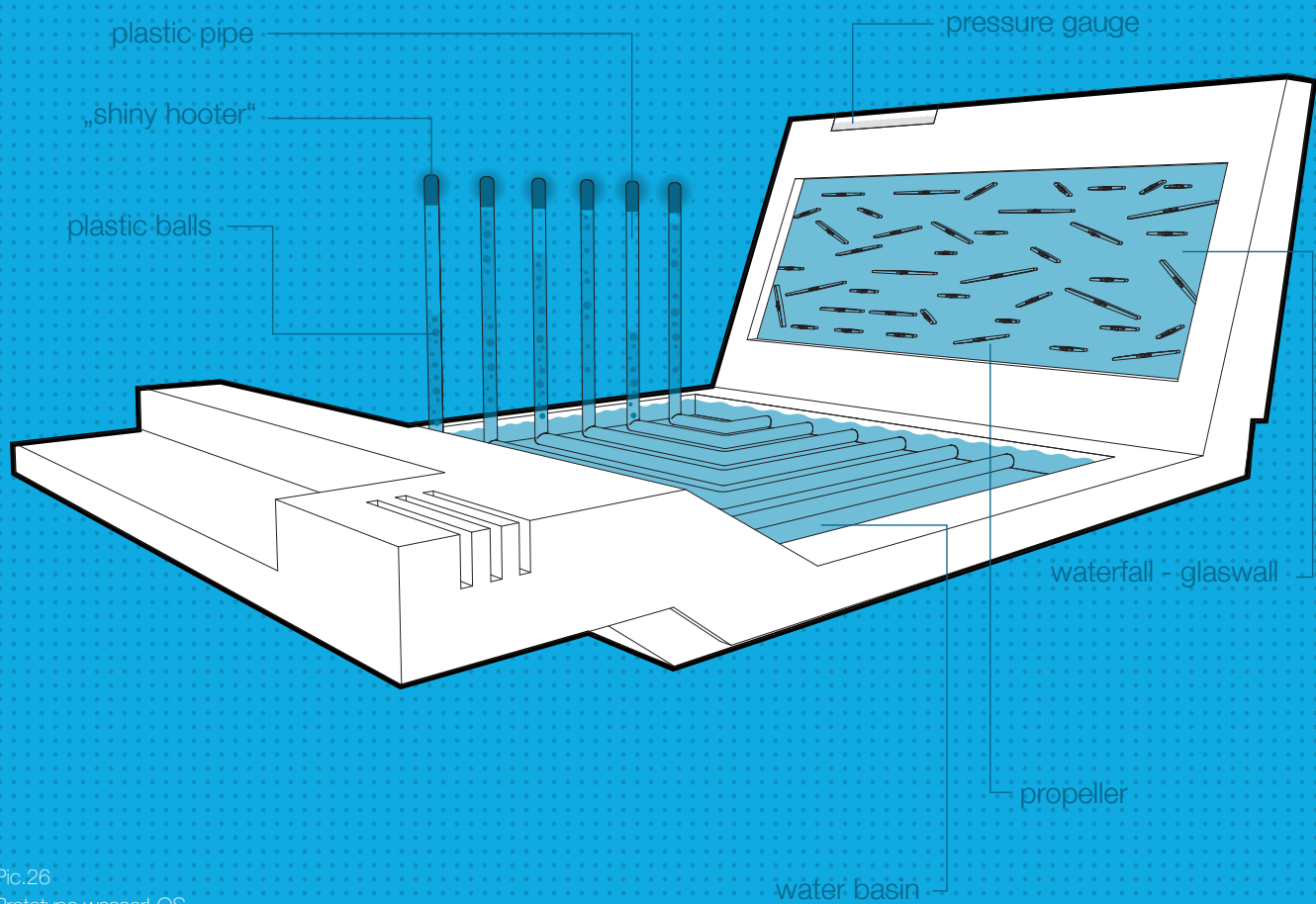
Pic.26
Prototype wasserLOS

The concept of the paving stones of wasserLOS is an evolvement of the project "Common Ground", a collaboration of Assocreation with Daniel Hora
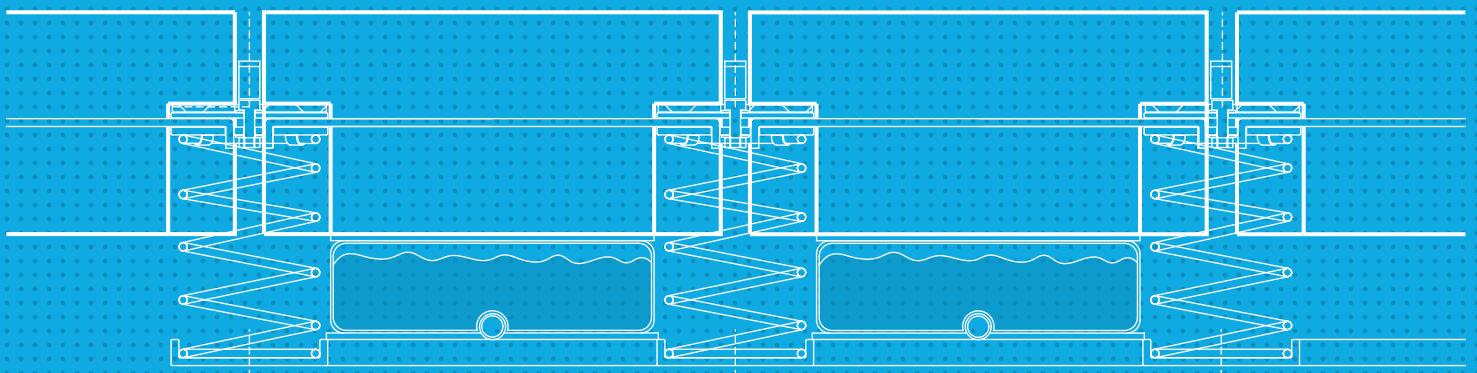
Pic.27
Section wasserLOS

"...It is not always important to built architecture. Yet, sometimes it's very important because interest in the tangible, three-dimensional corpus of architecture is diminishing. This is the consequence of separating mind and body, thinking and being. Virtual space becomes a playground of a mentally stimulating life. Mentally stimulating architecture opposes realisation. The counterpoint, however, is not fragmentary form, negation, or shifting, but rather, the simultaneity of comprehensible and incomprehensible spaces".[158]

Since our first two prototypes were actually virtual (mental stimulating according to W. Prix), the last two are constructed, so that we create real spaces, real interactions.

[158]Wolf D. Prix in *"Get off of my cloud"*

pressure gauge and amount of water

visitor activity
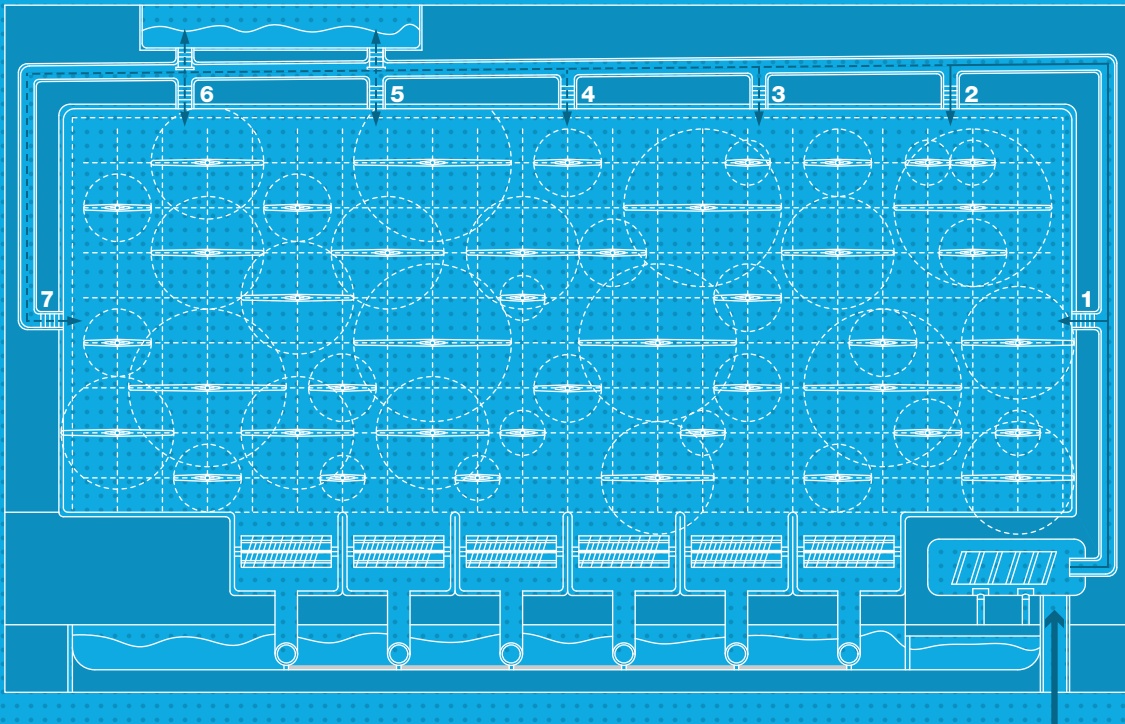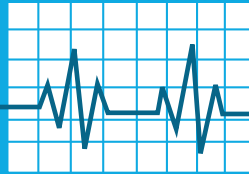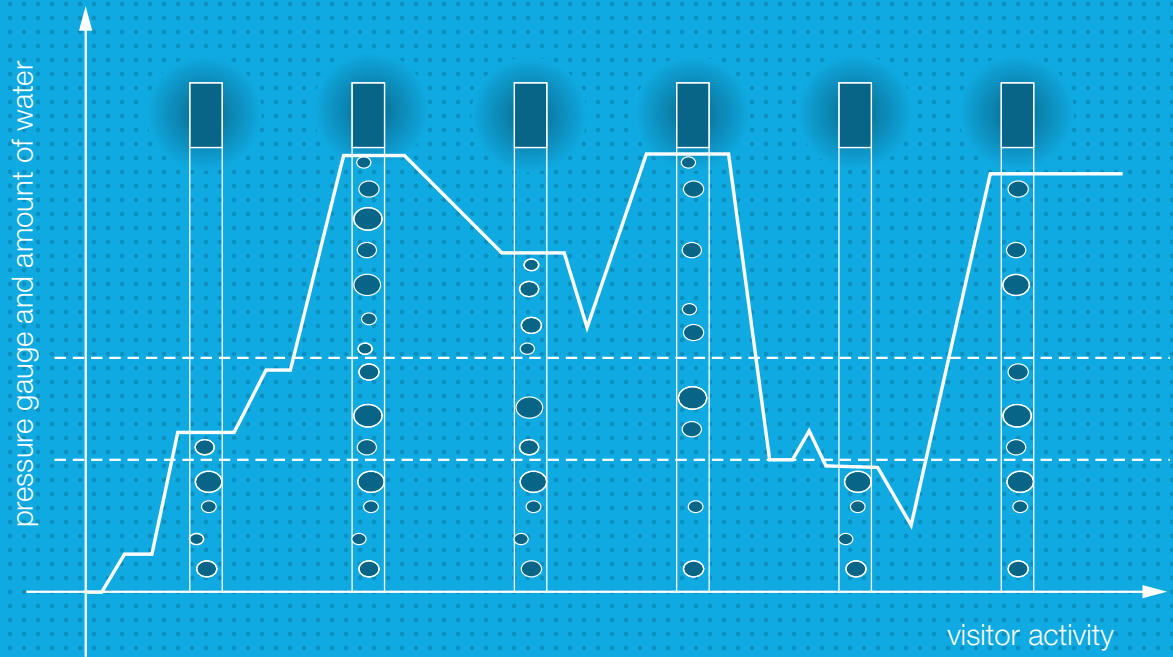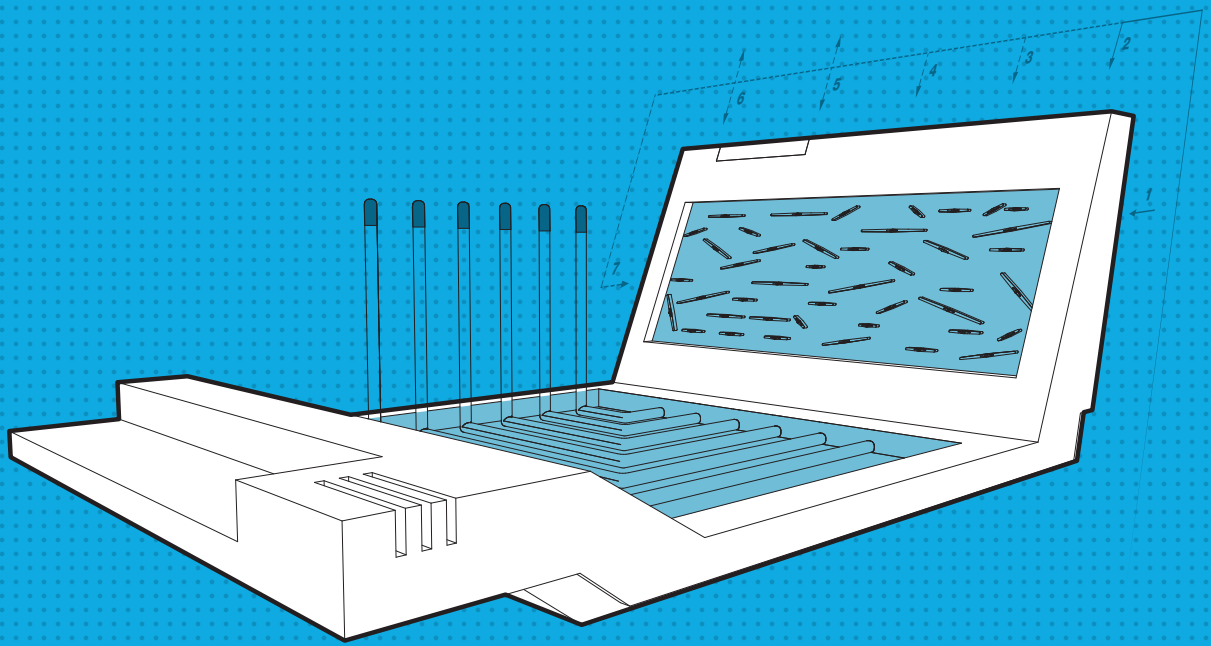
04.6.3
ICH - Imprint
of a person

Jean-Luc Nancy states that "people are silhouettes that are both imprecise and singularized, faint outlines of voices, patterns of comportment, sketches of affects, not the anonymous chatter of the public domain". He goes on by asking himself what is "an affect, if not each time a sketch? ... What is a singularity, if not each time its "own" imminence".[159]

Maurice Merleau-Ponty accentuates the importance of experiencing the world via numerous senses, above all the body: "…our fundamental cognition of the world is not purely 'mental', a wholly intellectual operation – it is rather a function of all our sensory, motor, and affective capacities operating as a unified field. This involves a primordial awareness of our body's positioning and its unity – an awareness which articulates the world into an intelligible schema".[160]

The experimental prototype ICH gets its form from the well-known pin-game in which you can press your hand, your face or whatever else in that scale into a surface of nails creating a quite precise imprint on the other side. The particularity of ICH is that it is in human scale and thus offers a much more direct spatial experience. As the principle is very simple and they immediately feel familiar with it, people eagerly accept to interact with the object.

[159]Nancy, JL., (2000), *Being Singular Plural*, Stanford University Press

[160]Merleau-Ponty. M., (1974), *The Primacy of Perception*, Routledge & Kegan Paul, London

The installation consists of a freestanding pin wall made of 5.786 plastic pins, which create 3D figures when are pressed against. If a body (or part of it) is pressed against the backside of the pin wall, the pins reveal a three-dimensional copy of the figure on the front.

.222

Top left plan — grid with columns 1–20 and rows A–T:

Horizontal dimension: 1,900
Vertical dimensions: 2,080 / 100 / 20

Top right elevation:
1,240
2,080 / 100 / 20

Bottom left plan:
30 / 50 / 1,700 / 50 / 30
20 / 80 / 1,700 / 80 / 20
2,100
890
100 / 20
20 / 100 / 500 / 80 / 500 / 80 / 500 / 100 / 20
15 / 5
20
1,860 / 20
1,900

Bottom middle dimensions:
100 / 80
100
80
915
2,200 / 1,900 / 2,080
110
915
100
100 / 80
100 / 20

Bottom right elevation:
10 / 270 / 10 / 20 / 80 / 20 / 10
800
20 / 80
20 / 750 / 470
300 / 140 / 800
20 / 1,200 / 20

Pic.31
Plans ICH

The user automatically gets a sense of ownership to the replicate formed by the pins. Post-it notes are provided to the participant in order to give him the possibility to redraw his or her "ICH" (meaning I, or Ego in psychoanalytic terms) – imprint from a Plexiglas surface in front of the pins wall. These post-its are squared (pixels) in order to help the visitor with the mapping of the imprint and thus give him a concrete souvenir of this momentary manifestation of his Ego.

The above seem to go along with Puglisi's notion of 'projection', according to which the design content is translated from one system of notation, representation or embodiment to another. Puglisi has diverse concepts of projection:[161] projection as transference as used in psychoanalysis, projection in art as the basis of representation and projection as reflection and mirroring as used in philosophy. According to Deleuze, the world becomed present through projection. The soul is projected into and onto the body as the world is projected to an individual's receptive organ via something he calls "vibrations contracted by the body".[162]

[161]Puglisi, L. P., (1999), *Hyper Architecture. Spaces in the Electronic Age*, Basel, Boston, Berlin: Birkhäuser

[162]Deleuze, G., (1992), *The Fold. Leibniz and the Baroque*, University of Minnesota Press.

[163]Pallasmaa, J., (1996), *The Eyes of the Skin: Architecture and the Senses*, John Wiley & Sons

+ The binary relation between the mind and the body, both in metaphorical, as well as in a literal level has often been an issue of various disciplines, including philosophy and the theory of architecture.

Juhani Pallasmaa argues that "the role of the body as the locus of perception, thought and consciousness, and of the significance of the senses in articulating, storing and processing sensory responses and thoughts".[163]

.224

STEP 01
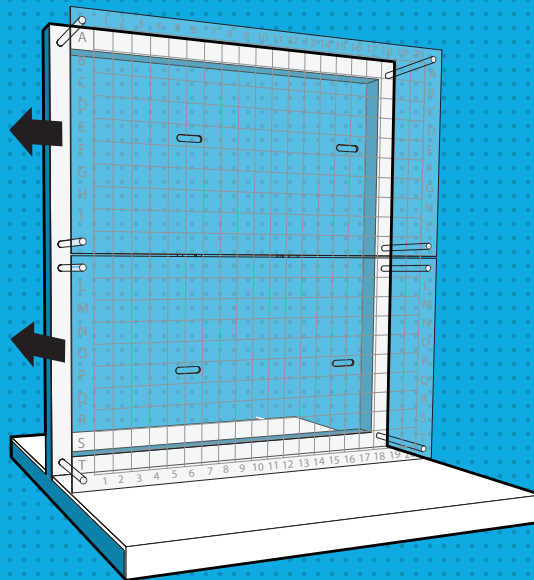
Push the **PINS**
in the start position

STEP 02
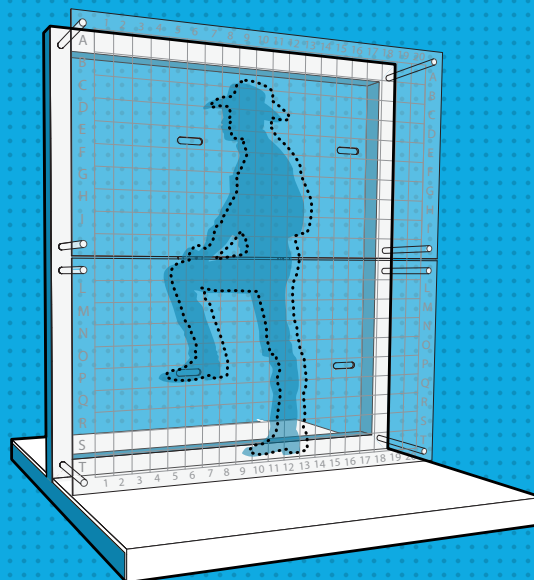
Push yourself
into the **PINS**

STEP 03

.225
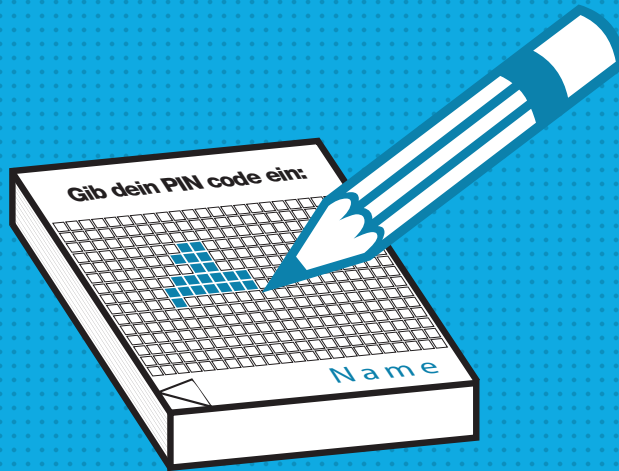
Paint your **ICH**
- outline on the post it

STEP 04
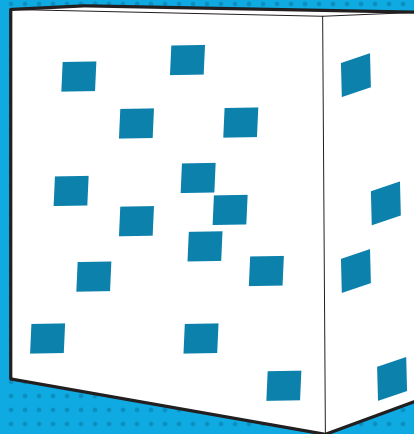
Stick your post it and
create the true **ICH** - value

The division of the body and mind has its foundation in the history of the Western philosophy. The body is addressed in sports and dance, for instance, and the senses are directly acknowledged in connection with art and music education, but our embodied existence is rarely identified as the very basis of our interaction and integration with the world, or of our consciousness and self-understanding.

Human consciousness is an embodied consciousness; the world is structured around a sensory and corporeal centre.

> "I am my body", Gabriel Marcel claims;[164] "I am what is around me", Wallace Stevens argues;[165] "I am the space, where I am" Noël Arnaud[166] establishes; and finally, "I am my world", Ludwig Wittgenstein[167] concludes.

We are connected with the world through our senses. The senses are not merely passive receptors of stimuli, and the body is not only a point of viewing the world from a central perspective. Neither is the head the sole locus of cognitive thinking, as our senses and entire bodily being directly structure, produce and store silent existential knowledge. The human body is a knowing entity. Our entire being in the world is a sensuous and embodied mode of being, and this very sense of being is the ground of existential knowledge. "Understanding is not a quality coming from the outside; it is its characteristic way of existing", as Jean-Paul Sartre claims.[168]

Existentially essential knowledge is not primarily a knowledge moulded

[164]Marcel was an early proponent of what would become a major existential tenet of Sartre: I am my body. For Marcel, the body does not have instrumental value, nor is it simply a part of extension of the self. Instead, the self cannot be eradicated form the body. From www.iep.utm.edu/marcel/#H3

[165]Form the poem "Theory", by Wallace Stevens, in Stevens, W., Kermode, F., Richardson, J., (1997), *Wallace Stevens: Collected Poetry and Prose*, Library of America

[166]Noel Arnaud, "L'etat d'ebauche", Quoted in Bachelard, G., *The Poetics of Space* (1994), The Beacon Press, p.137

[167]In Wittgenstein, L., (2001) [1922], *Tractatus Logic-Philosophicus*, Routledge

[168]Sartre, JP, (1993), *The Emotions: an Outline of a Theory*, Carol Publishing Co, New York

into words, concepts and theories. In human interaction alone, 80% of communication is estimated to take place outside the verbal and conceptual channel.

The knowledge and skills of traditional societies reside directly in the senses and muscles, in the knowing and intelligent hands, and are directly embedded and encoded in the settings and situations of life. In accordance with Sartre's arguments we are born into the world, which in itself is the most important source of knowledge for us.

In our current global networked culture that puts so much emphasis on the virtual and the visual, the mind and the body have become detached and ultimately disconnected. Though physical appearance is idolised for its social identity, the role of the body in developing a full understanding of the physical world and the human condition has become neglected. The potential of the human body as a knowing entity – with all our senses as well as our entire bodily functions being structured to produce and maintain silent knowledge together – fails to be recognised.

We behold, touch, listen and measure the world with our entire bodily existence, and the experiential world becomes organised and articulated around the centre of the body. We are in constant dialogue and interaction with the environment, to the degree that it is impossible to detach the image of the Self from its spatial and situational existence.

Merleau-Ponty's fundamental philosophical premise is that our basic contact with the world is pre-reflective. We operate in and upon the world without making any explicit conscious differentiation between ourselves as the subject of experience, and the world as the object

of it. The basis of this pre-reflective contact consists in the fact that our fundamental cognition of the world is not purely «mental», a wholly intellectual operation – it is rather a function of all our sensory, motor, and affective capacities operating as a unified field. This involves a primordial awareness of our body's positioning and its unity – an awareness that articulates the world into an intelligible schema. There are two fundamental aspects to this ontological reciprocity. First, in so far as the body locates us in a definite position, the various elements in the perceptual field are organised into a foreground and background according to their proximity and accessibility in relation to the body.

For Merleau-Ponty, objects are primordially encountered and defined through our body's style of engagement with them. However, whilst the body thus organizes and gives structure to the phenomenal field, it is also the case that "the places in which I find myself are never completely given to me: the things which I see are things for me only under the condition that they recede beyond their immediately given aspects".[169] This, in effect, means that human perception is itself creative and expressive. This is not only because the body organizes and gives structure to the phenomenal field through its positioning, but also because the world recedes beyond and trascends our body's immediate grasp of it. Our perception is thus a constant and ever-renewing process of structuration. The world's transcendence obliges the embodied subject to constantly change its perceptual positioning in relation to the world.

Puglisi describes the object – concept – image triad as part of his concept of projection. The object we see is translated into a concept that is represented in the image that is painted by the artist and that

[169]Merleau-Ponty. M., (1974), *The Primacy of Perception*, Routledge & Kegan Paul, London

conveys and projects a meaning. This process of projection is carried out by translations. Translation always denotes interchange and communication between different realities.[170]

ICH is an expedient self-model that develops as an outcome of the information processing in the mind. One creates an internal image of oneself. That consists not only of colours and forms, but also of instinct feelings, the sense of equilibrium, cogitations and memories. And in addition to that, the obstinate impression that a core exists, something that remains identical over the time.

The intended purpose of this model is to be orientated towards the outer world, to communicate with other conscious essences, to attract attention and cerebration. No mental substance corresponds to the model - it is rather a skilful kind of organizing the information flow.

The self model - ICH has diverse layers: A spatial layer that generates an internal figure of the body and its movements; thus we can orient ourselves. An emotional layer that feeds our awareness with feelings and desires and afterwards enables their action. A cognitive layer, which allows us to experience our cogitations as our own cogitations. And a social layer: Our self models adapt always also to the environment. That way they are not determined only through the brain, but indirectly also through the culture we live in.

We are beings that can neither predict mathematically the chaotic dynamic of our inner situation or our attitude – possibly in the long run even as a matter of principle – nor comprehend this whole procedure completely. That way, we can ever and anon surprise ourselves. Humans

[170]Puglisi, L. P., (1999), *Hyper Architecture. Spaces in the Electronic Age*, Basel, Boston, Berlin: Birkhäuser

.230

Pic.33
Sequence 01 - Installation ICH

Pic.34
Sequence 02 - Installation ICH

6.300 pixel

Pic.35
Sequence 03 - Installation ICH
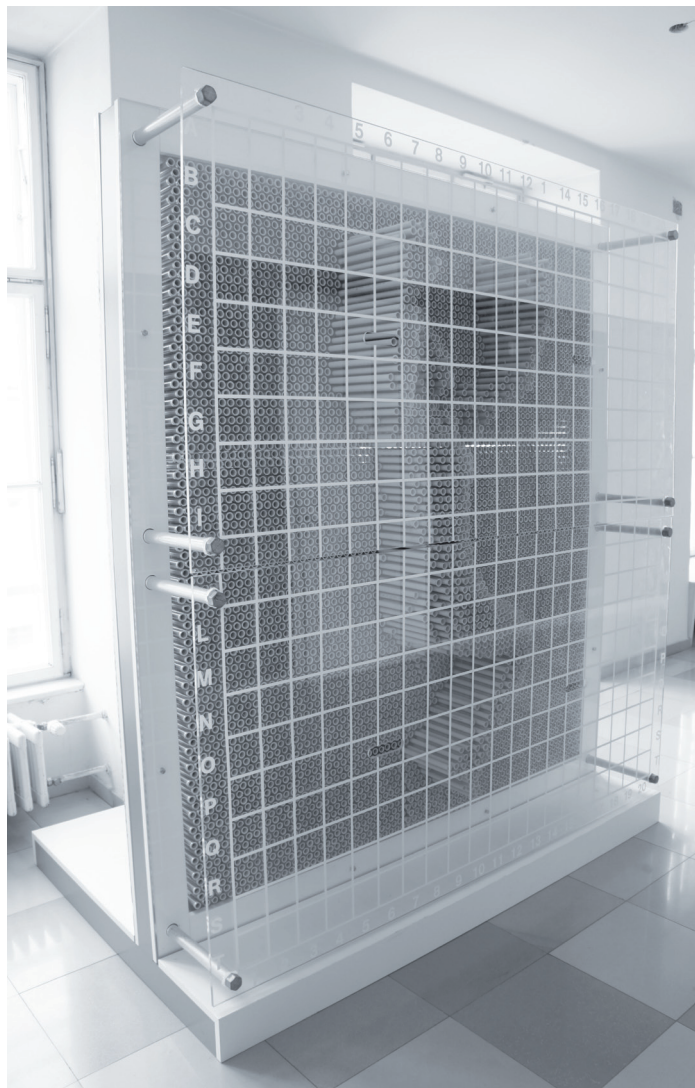
Pic.36
Sequence 04 - Installation ICH
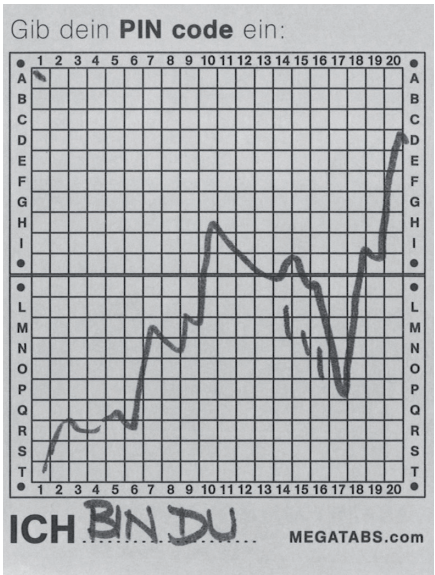
Pic.37
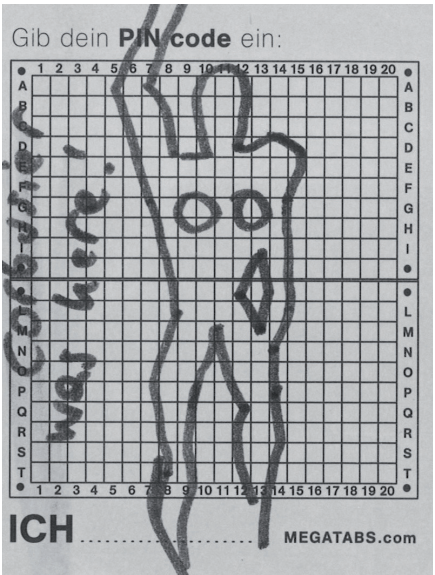
Pic.38
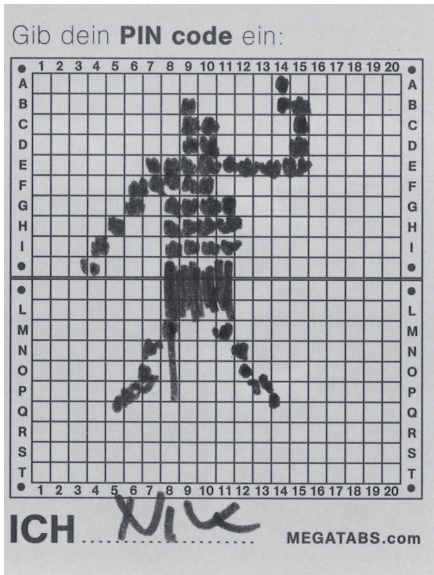
Pic.39
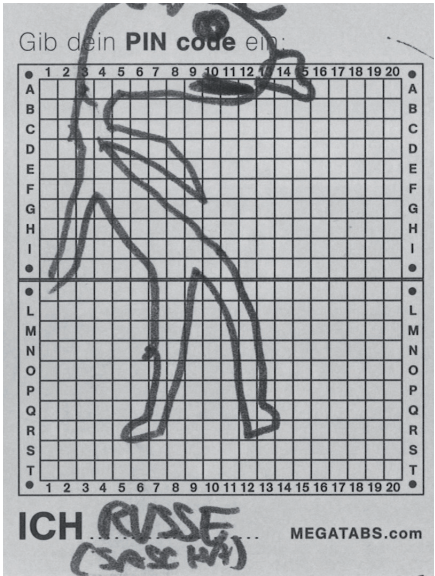
Pic.40
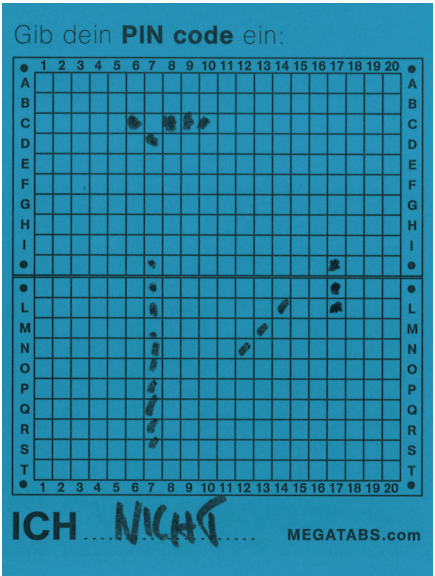
Pic.41
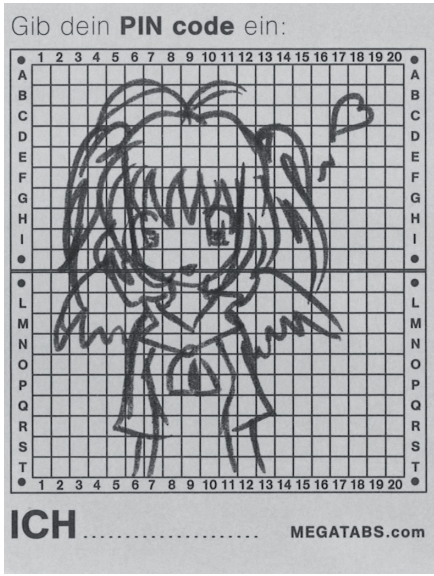
Pic.42

POSTIT
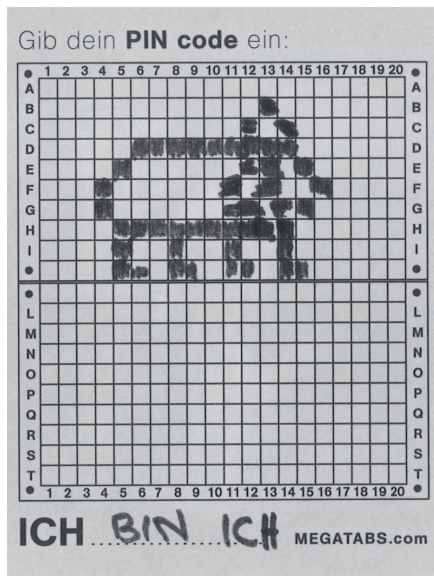
Pic.43
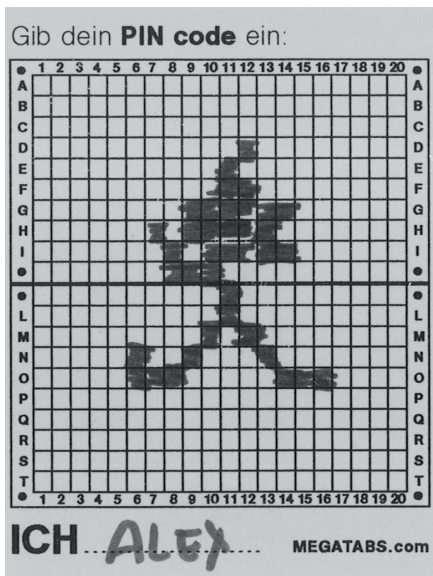
Pic.44
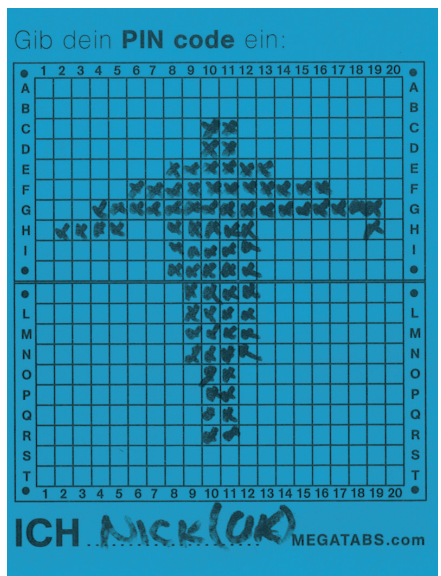
Pic.45
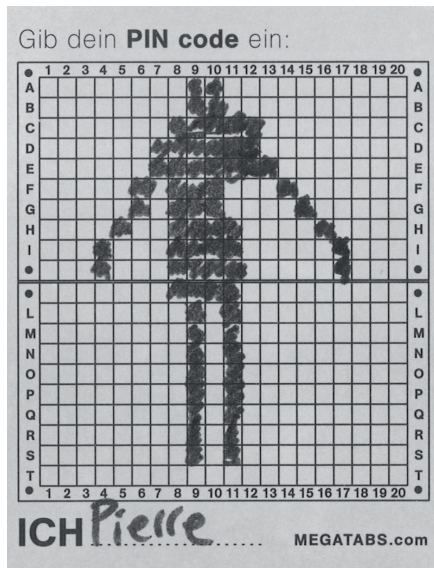
Pic.46
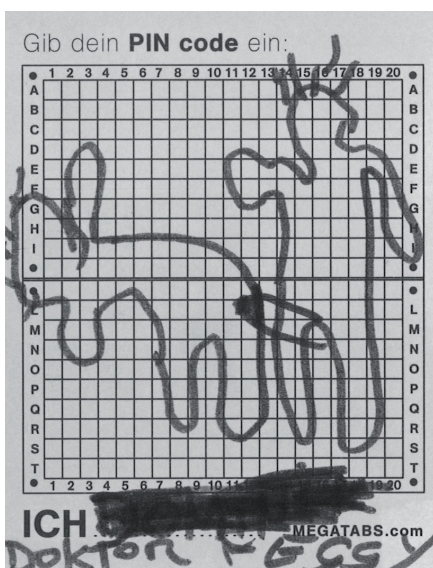
Pic.47
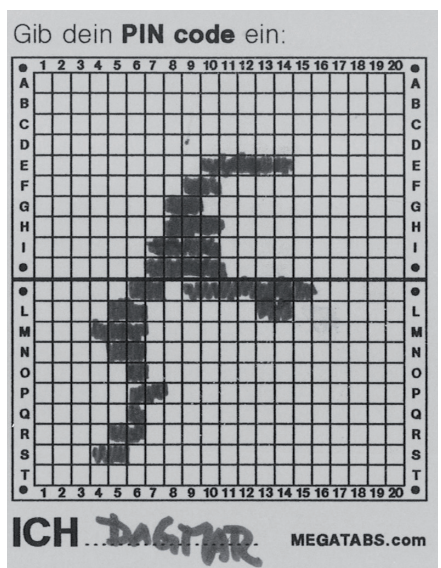
Pic.48

are active beings, who construct their world by interacting with it. In other words: Without the individual the world does not exist. ICH has an autonomous, unforeseeable, individual dimension and here is where the human creativity is located. The origin and the issue of this experimental prototype is to create an object that maps today's reality; a blending of mobility, interchange, migration and communication.

Hegel argues that "the I is in essence and act the universal: and such partnership (Gemeinschaftlichkeit) is a form, through an external form, of universality".[171] It is well known that dialectical logic requires the passage through exteriority as essential to interiority itself. Nevertheless, within this logic, it is the "interior" and subjective form of "Me" that is needed in order to finish the project of finding itself and posing itself as the truth of the universal and the community. As a consequence, what is left for us to hold onto is the moment of "exteriority" as being of almost essential value, so essential that it would no longer be a matter of relating this exteriority to any individual or collective "me" without also unfailingly attaining (maintenir) to exteriority itself and as such.

We don't see the object as a piece of architecture per se, but more as an experimental device to gather information about people and direct interaction.

Especially compared to the wasserLOS project, where people participation was sometimes used without their awareness, the ICH has a completely different approach. As there is a literal, immediate and tangible translation or the user's behaviour, ICH plays with the notion of authorship and reveals the complexity of the object-subject relationship.

[171]Wallace, W., trans. (1975), *Hegel, G.W.F., Hegel's Logic*, Oxford University Press

Our body's hold upon the world is of enormous complexity. In even the simplest experience, rational, sensory, affective, and socio-historical factors are interwoven in an inseparable unity. This inseparability has both a phenomenological and a logical basis. The phenomenological element is the fact that our body's primary reciprocity with the world is largely pre-reflective, that is, it is one wherein we do not consciously separate all the different factors (the rational, the sensori-motor, the socio-historical, etc.) which are being brought to bear in a particular experience. The logical aspect is that all the elements operative in a moment of experience form a qualitative whole. Remove any one of them and the character of the whole is changed. It becomes a different experience.

"This work takes as its major premises the fact of human embodiment. The particular human subject is just one amongst other such sensible beings and things, with whom it is engaged in a constant process of reciprocal interaction and modification. The reason why this process is constant is because embodied beings are *finite*. This means that no matter how thoroughly they engage with the sensible world – with *Otherness* (in the broad sense of both other beings and things) – they cannot fix it into absolute, unchanging place. Otherness is rather transcendent. We can take some hold on it, but there is always more than can be contained in any present moment of perception or sequence of actions. Our engagement with Otherness is achieved not simply by 'mental' acts of cognitive discrimination, but through the body's sensori-motor capacities (of which language is the highest function) operating as a unified field. As we grow, this field becomes more unified and

complex through physical and social interactions.

Our sense of self is not a wholly private thing. Rather, it is a function of the reciprocity between our unique position in the world *qua* particular embodied subject, and the broader physical and social circumstances in which we both locate ourselves and are located by forces beyond our control. A healthy reciprocity between the embodied subject and its world is one wherein such a subject finds its own sense of self defined and realized (as well as its physical needs being satisfied). This focuses on such things as the relations between subject and object of experience, the personal and the collective, and the particular and the general.

To push further the experiment, the next step was to install ICH in a broader context. The exhibition context where it has been shown has the inconvenience to reduce the device to something you try once and then move on. On a longer term, in an urban context such as a university, people start using it as an interface to communicate and react upon their surroundings. One could even imagine some kind of momentary "tags" between drawings, written language and body language; a whole new language could get invented on a participatory basis.

This leads to us our last project, in which combines simplicity, playfulness, and social interaction.

.237

Pic.49
Prototype ICH

tonfabrik

04.6.4 A21- Streetprints Reshaping the Grosse Neugasse

Together with Agenda 21[172] we undertook an intensive historical research around the Grosse Neugasse in the fourth district of Vienna. It was once a lively street, but somehow the public space isn't shared as much anymore, so we came up with an idea to revitalize it.

The Grosse Neugasse used to have 4 Inns, which all had bowling lanes. We decided to relaunch this activity in the street as a way to connect the past and the present. But this time the game would take place outside and on much larger scale. We chose the crossing of the Grosse Neugasse and Schäffergasse as a strategic spot. The visual element focuses on the crossing of the Grosse Neugasse with Schäffergasse, where nine points have been selected.

Our intervention consisted in nine marks engraved in the asphalt following the official pattern of nine-pin bowling. At the occasion of street festivals, the oversized bowling pitch is used for tournaments. It popularity makes it a great success not only for the actual players, but also for all people participating in these lively events. One can say that the bowling game has made possible the meeting of people of different generations and backgrounds, who would never have shared some time together before. As our main goal was to instigate more participation of the community in the public realm, we can see this as an achievement.

When there's no street festival the engraved points functions as permanent reminders of the past; not only of the time when Grosse Neugasse was a lively street and bowling was an indoor activity several places in the street, but also of all the other events, which have taken place around these marks. More generally they encourage passers-by

[172]The Local Agenda 21 Plus is based on the principle of sustainable urban development at the district and city level. It's governance model fosters new forms of cooperation and communication between citizens and politicians and allow a common policy making on the district level. For this project see http://la21wien. at/die-la-21-bezirke/4-bezirk/AgendaGruppen/abgeschlossene-agendagruppen/hoch-die-neue-neugasse/

.240
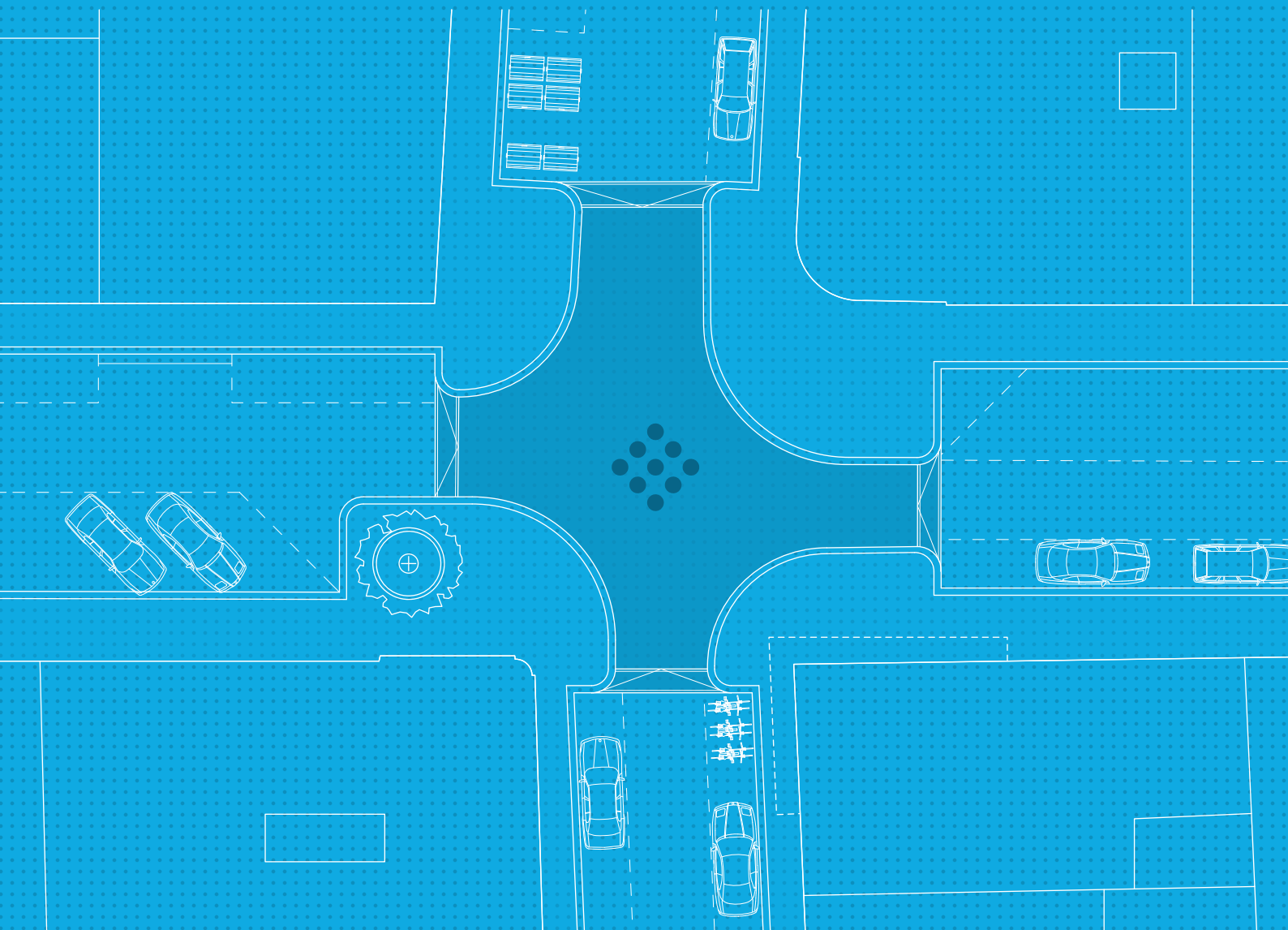
to reflect upon their surroundings, and the memories and projections they associate with the place.

To our surprise, people started to use the points in unexpected ways. The spot gets used as a convenient meeting point for example. The benches installed around the points became highly sought and kids use the imprints on the street for new games. In general the bowling imprints are now a good "hang-out" spot. People started to become proud of this street and take better care of it. Through our research experiment we instigated urban moments we could not predict before.

GROSSE NEUGASSE
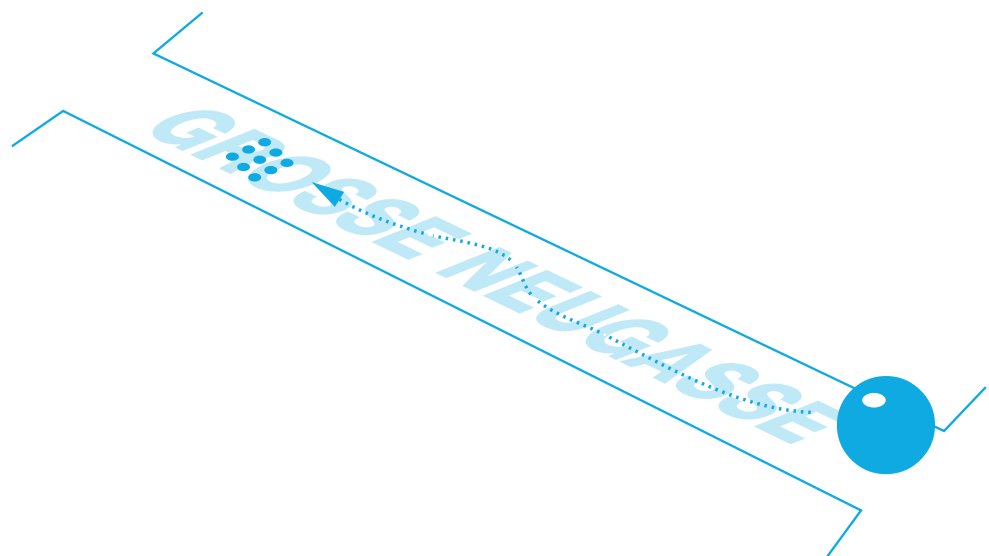
CONSTRUCTION

Pic.54

Pic.55

Pic.56

Pic.57

Pic.58

Pic.59

.248
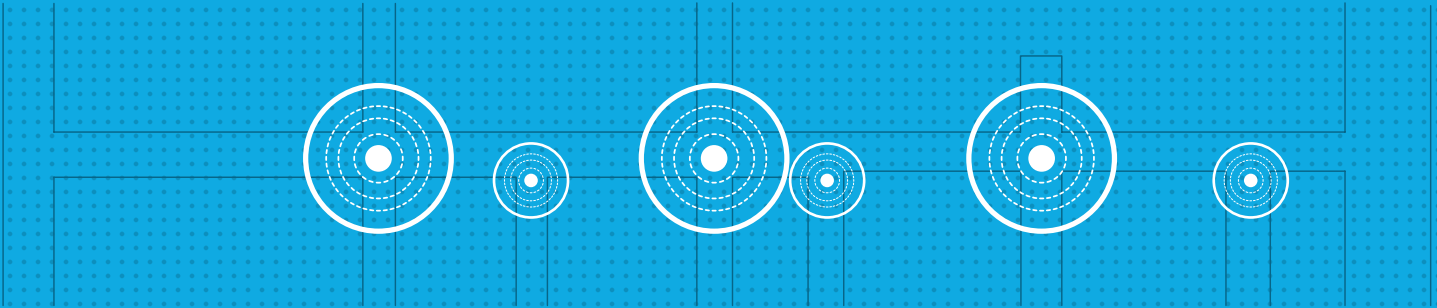
neuralgic nodes
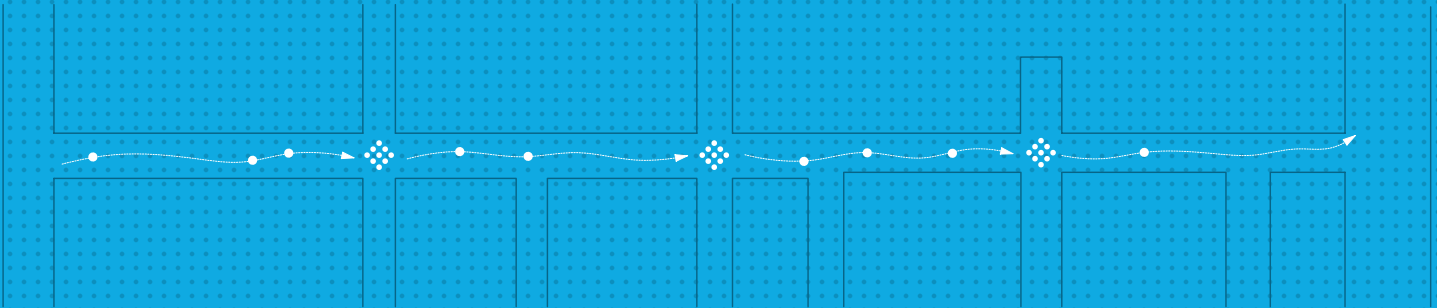
frequency

STREETFESTIVAL

Pic.63

Pic.64

This thesis is based on the design and operationalisation of experimental prototypes for the investigation of the urban space as a tool and medium for obtaining actual (not calculated and projected) knowledge on the user, the society and wider cultural, economic, political processes. These prototypes function as provocation factors in the city – in the reality itself – through their physical interactivity, namely the fact that the architecture itself changes. Our main concern through this approach is the definition of new procedures for the transformation of the human environment that are based on direct action.

04.6.5 Outcome of the prototypes

+ The micro spaces defined by the prototypes are not permanent. These spaces move, change form, expand or disperse; hence they are mobile and impermanent spaces.

These redefined spaces represent a sought condition of the user. The experimental urban prototypes lead to a new type of space, constantly transforming on an event-specific basis. The system interacts constantly with the cityscape and the citizens. Its existence depends on the relationship city-citizens. On the other hand, it is due to their presence and their functions that the city is in a condition of continuous adaptation.

The prototypes are elaborated in a way to combine the more abstract theories on the urban with actual spatial formations. The theories become concretized in the investigated urban space and elucidate the main issue of this project: the understanding of the appropriation and redefinition of space and the exploration of a user group and their hidden expressions through the space produced in their practices. We can relate this experience to how Henri Lefebvre defines space. According

to him, space, being a social product, is always a partial product, always to be further produced through experience, sociality and constantly generated meaning. Through the prototypes we generate spaces, which combine reflection, exchange and function all at once and we establish a setting, a deliberately constructed situation for ideas and discussions to take place and foster. Such settings recycle the physical and mental spaces, dwelling on sociality as a generative and transformative force. They do not impose the pre-prepared statement but rather seek out possibilities of previously un-constructed ones through constituting the ground for the exchange of ideas and production of knowledge, socially and spatially.

The prototypes are an attempt to understand the different processes through which the urban space is defined. Despite how spaces are manipulated through urban designing programs or public and private interests, once they are provided to the use of the inhabitants, they are simply redefined through their (conscious or not) needs. The urban space is produced in the ways the inhabitants / visitors use it. Therefore, the urban space is defined through the combination of both its designers, as well as its users. As D. Altay states:

> "If planning, design and construction are the first steps of this (the space's) production; then the use, experience and appropriation are the following steps of it".[173]

[173]Altay, D., "Urban Spaces Re-defined in Daily Practices", in Frers, L., and Meier, L., (2007), *Encountering urban places. Re-Materialising cultural geography*, Ashgate Publishing Limited

The prototypes intend to provide broader discussions on the lived spaces, not to theorise singular cases. They are not mere specific constructions; they represent ways of spaces redefined by the users.

These case studies should be evaluated within a wider context. The aim of this thesis is to focus on the redefined space, created by the users for their own needs and desires. The prototypes inform us about the potential spatial formations within the city, about the needs of the inhabitants – and the goal of this thesis, like already mentioned, is to accumulate this information. It is not to overlook though, that (especially since it is a non-ending procedure), even the acknowledgement that they function as ways of gathering information in a way that embodies the theories we studied in the first part, this thesis has practically reached its goal.

The i.KIOSK provokes just through its positioning. It is a landmark, an *occupation* in a space of possibilities.[174] According to Rancière, the world results from the "distribution of modes of being and occupations in a space of possibilities". He argues that it is out of this perspective that accrues the question regarding the relationship between "the *ordinariness* of the world and the artistic *exceptionality*".[175]

The i.KIOSK poises between this world's conventionality and the art's uniqueness. In the same way it can be considered as a normal ticket station, it can also be seen as a special intervention. Its character depends on what the visitor assumes. In this framework, its actual functionality neither excludes, nor sublimes its function as an artistic intervention.

It is though true, that the user is not really involved in its use – and certainly not involuntarily. Even when the visitor decides to make use of all its possibilities, the i.KIOSK does not really alter its environment. It does function as a landmark, but there is not actual interaction with

[174]Rancière, J., (2006), *The Politics of Aesthetics*, Continuum, London

[175]Ibid

the vicinage. Although it can constantly be transformed by the city-inhabitants, there is minimum communication between the different users. Taking the above into consideration, we can certainly argue that *the procedure in order to extract the information needed* has not attributed the anticipated outcome in this case. We did speculate what its function hypothesis should be, but the steps of provocation and participation were not so influential. Therefore, the information procured is not exactly the kind we are looking for. We therefore moved on in conceptualizing the next prototype.

The main task, after the experience with the i.KIOSK, was to involve the user more; not only in using the prototype *as prescribed*, but also in order to decisively interact with it – or even change it. Therefore, the speculation, the hypothesis in order to design the next prototype was first of all to provoke more interaction, more coherence between the user's actions. In this sense, there would be a connection of the singular points, namely of the singular actions and individuals. We wanted to research the combination of the visitor's actions, the communication between them. Through wasserLOS we wanted to arrive to the unintended, the reflex participation.
wasserLOS meets the need for communication – that is its primal goal. Communication is achieved even unintentionally – since there are no limits regarding the participants and everyone affects the other just through being there. In this sense, wasserLOS meets also the need for participation, even the unintentional one.

On the other hand, although wasserLOS manages to practically carry out the tasks of the speculation | provocation | participation procedure,

its monumental character and function do not really intrigue the visitor; they certainly don't set the preconditions in order to re-visit the project – once there, the user has seen everything and there is no reason to go once more, since it is always the same thing that happens (maybe in a different extent and intensity). The other problematic issue regarding wasserLOS is that it actually functions thoroughly only through the participation of more users; especially because of the monumental and complex character of the project just one or a few users are not enough in order to lead to remarkable results.

The complexion of the wasserLOS that led to a reasonable difficulty as far as its realization was concerned made us turn to a more plain and simple concept. The new prototype should not only follow and substantiate the speculation | provocation | participation procedure, but also embody some of the theoretical issues that have emerged through this thesis and either verify or contradict them.

ICH is quite simple, not only as far as its construction is concerned – whilst this simplicity made its (more than once) implementation possible – but also as a concept; it is based on a well-known game and requires minimum human presence in order to function. ICH *plays* literarily and metaphorically with the binary relationship between the mind and the body. The user communicates his state of mind, his comprehension of himself, his temper, attitude, provocative spirit or dutiful behavior and a lot of other things we cannot even imagine in advance. So the hypothesis, the speculation expressed through this architectural object is deliberately left quite broad – especially because the previous projects where very specific. Regarding its intriguing nature, the so far

experiences prove that ICH provokes multilateral participation. What is additionally interesting, is that people are using, are playing with ICH more than once – they communicate their current state of mind and mood. Hence, we can undoubtedly argue that it fulfills its provocative task.

Another interesting issue regarding ICH is that the user can also then draw on the post-it what he has created in the pin wall; in this framework the user not only communicates with the other what he chooses to share from his esprit, but he himself also translates his appearance by drawing his just-formed-silhouette on a piece of paper. An interesting outcome during this procedure is the way people see themselves, as well as they decide to recommence the whole play if they are not satisfied with *their image*. In this framework, it is then reasonable to claim that ICH leads to the requested information. What remains somehow unclear is whether this is direct or implicit information – this depends on the participants every time, they decide how they want to deal with ICH, whether they want to take it seriously or just play with it (which is also a form of information and this leads to a vicious cycle). In this framework, it becomes obvious that the task of the prototype ICH has no conclusion; it can always produce new results, depending on its location. We therefore are not expecting to have so-called final results. It is the power of the experience rather than its duration that leads to gauge its meaning and effect.
Therefore, a task of the next project was to be able to produce more *concrete* results.

A21 is a much more concrete project than ICH, since it deals with a

specific crossroads and its history. It also has a concrete way of dealing with; we therefore don't have so exciting results as from ICH, but we definitely provoke much more participation, as well as interaction through different ages, professions, backgrounds. What is maybe even more interesting regarding A21 is how people are using it in other ways than the predicted ones. The outcome of this project lies in what this public spots mean for the neighborhood by now, how they have been adopted as well as what they represent. In our opinion this project marked the transition in our practice from interaction to participation. The difference between these two notions will be further elaborated in the conclusion.

Chapter 05

Conclusion /
Architecture as a
process

5.1   Conclusion /

         Architecture as a process

.260

The fruition of this thesis lies in the binary relationship between the qualitative theory research methods, and the empirical praxis. We search for the essential material in order to uncover the existential needs of society today and translate them into architecture, while architecture in this sense is not considered merely built. After all, like Pallasmaa argues:

> "The ultimate meaning of any building is beyond architecture; it directs our consciousness back to the world and towards our own sense of self and being.

Significant architecture makes us experience ourselves as complete embodied and spiritual beings".[176]

In the introduction, we refer to the dual nature of architecture. Since its primal appearance, architecture has to combine the totally heterogeneous notions of space and use. The nature of this duality leads the discipline to be constantly on the verge of change. This duality, partly unintentionally and partly voluntarily led us to the formation of this dissertation through dualities – bipolars.

> Throughout this thesis, we "dangle" constantly through dualities – binary relationships: the body and the senses, the theory and praxis, the phenomenological and the contingent nature of architecture.

In this framework, we refer to prominent phenomenologists, such as Martin Heidegger, Maurice Merleau-Ponty and Juhani Palllasmaa several times throughout this thesis, while on the other hand, we also analyse

05.1
Conclusion /
Architecture
as a process

[176]Pallasmaa, J., (2005), The Eyes of the Skin: Architecture and the Senses, John Wiley & Sons

contingency, as related to the aesthetics in general and to architecture in particular. Phenomenology is a term that was brought up due to the complete scientific mind of architecture; it proclaimed that the senses should be stimulated by the design and not just the visual stimulus like many buildings are doing today. By using the entire stimuli the architect is creating a journey through each threshold. This designing to create a memory is one in which time is a constant and to design with genus loci not to lose sight of the place. Finally what needs to be done is to have a concept that can establish an order in which to limit and create a course of intent.

In his Art and Phenomenology (1940) Kaufmann[177] gives a comprehensive overview of the relation between phenomenology and art. Kaufmann conceived intentionality as a relation between the factical life of a self and the historically situated world of this self, which is ultimately characterised nit through a «belief», but rather through an ontologically conceived openness, the form of which can be traced back to Aristotle's noein. The aesthetic experience, according to Kaufmann, goes back to this primal structure out of which it emerges and to which it returns.

On the other hand, regarding the dependant, non-concrete character of architecture, there is Gaston Bachelard in The Poetics of Space,[178] when he implicitly urges architects to base their work on the experiences it will engender rather than on abstract rationales that may or may not affect viewers and users of architecture. It is about the architecture of imagination.

Contrary to philosophy, science, and the arts, architecture has not

[177]Kaufman, F., "Art and Phenomenology" in Natanson, M., (ed.), (1966), Essays in Phenomenology, Martinus Nijhoff, The Hague

[178]Bachelard, G., (1994) [1958], The Poetics of Space, Beacon Press

sufficiently interrogated the idea of chance, of contingency in its own production. Architecture's dominant theories and practices have hardly pursued, at least not openly, the thought that chance may be a positive agent in the different stages of architecture, from design conception to construction and use. Like Jeremy Till states:

> "Contingency is, quite simply, the fact that things could be otherwise than they are".[179]

In this framework, we could mention Richard Scherr's article,[180] where he defends architecture's capacity to perform as index. According to his thoughts, the notion of index is an attempt to understand architecture as a direct physical manifestation of an external cause based on establishing an explicit physical connection, or cross-referencing between "cause and effect". The result is an architecture contingent upon those factors that can generate an inalterable formal response, or an architecture that "makes itself".

Architecture is being shaped by planned and unplanned actions, logic and chance. When designs are realized as built environments chance takes an ever-stronger role: it becomes a synthesizing function of space, time, and the on-looker, constantly influencing the complex equilibrium of forces that constitute experience.

Architecture is the practice of sustaining this equilibrium: confronting indeterminacy, appreciating and at time purposefully enabling the performance of chance rather than trying to rule it out. It is the architecture of moment, vulnerable, bur constructively so, to accidents; it gains from failures and imperfections, and accepts chance as an essential part of

[179]Rasch, W., Luhmann, N., (2000), Modernity: The Paradoxes of Differentiation, Stanford, CA: Sanford University Press.

[180]Scherr, R., (1991), "Architecture as Index: Toward a Theory of Contingency" in Journal of Architectural Education (1984-), Vol. 44, No.3

existence. Chance is the only real and radical voice architecture has.[181] The bipolar relationship between the body and the senses is expressed through the ways architecture articulates the experiences of being-in-the-world and strengthens our sense of reality and self. Heidegger argues that "more essential than instituting rules is that human beings find the way to their abode in the truth of being".[182] In his essay Building, Dwelling, Thinking, Heidegger states, "You cannot divorce man and space",[183] in order to explain the inextricable relationship that we have with the world and the world with us. It is therefore logical to affirm that architecture has the unquestionable capacity and responsibility to influence this connection.

Art and architecture strengthen the sense we have of ourselves.

The architectural objects are supposed to provide "the horizon for the understanding and confronting of the human existential condition".[184] According to Pallasmaa: "in the experience of art, a peculiar exchange takes place; I lend my emotions and associations to the space and the space lends me its aura, which entices and emancipates my perceptions and thoughts".[185]

An architectural work is not experienced as a series of isolated retinal pictures, but it is fully integrated material, embodied and spiritual essence.

It offers pleasurable shapes and surfaces moulded for the touch of the eye and other senses, but it also incorporates and integrates physical

[181]Manolopoulou, Y., (2007), "The Active Voice of Architecture: An Introduction to the Idea of Chance" in field: a free journal for architecture, Volume 1, issue 1

[182]Heidegger, M., Farrell Kreel, D., (ed.), (1993), Basic Writings, Harper, San Francisco

[183]Heidegger, M., (2002), "Building, Dwelling, Thinking" in The Essence of Human Freedom. An Introduction to Philosophy, Continuum, London

[184]Pallasmaa, J., (2005), The Eyes of the Skin: Architecture and the Senses, John Wiley & Sons

[185]Pallasmaa, J., "Selfhood and the World. Lived Space, Vision and Hapticity" in Diaconu, M., Neuberger, E., Mates-Berr, R., Vosicky L. M., (eds.), (2011), Senses and the City. An interdisciplinary approach to urban sensescapes, LIT Verlag, Vienna

and mental structures, giving out existential experience a strengthened coherence and significance. "We identify ourselves with this space, this place, this moment, and these dimensions become ingredients of our very existence. Architecture is the art of reconciliation between ourselves and the world, and this mediation takes place through the senses".[186]

Pallssmaa gives architecture the role of the middleman between man and space. "The timeless task of architecture is to create embodied and lived existential metaphors that concretise and structure our being in the world. Architecture enables us to perceive and understand the dialectics of permanence and change, to settle ourselves in the world, and to place ourselves in the continuum of culture and time".[187]

In Matter and Memory, Bergson sets out to overcome the traditional dualism between body (matter) and mind (spirit). His solution is not to abolish the distinction, but to reaffirm the reality of body and mind in such a way that the two sides can be brought into meaningful contact. Bergson criticizes two forms of philosophical dualism: realism and idealism. Realism is described as a form of empiricism in which perception and reality are treated as equivalent. It "reduces matter to our perception of it".[188] For Bergson, there is more perception than the pure stimulus received from the objective world, and more to the objective world than is given by perception. Idealism, on the other hand, radically distinguishes perception from the objective world. It holds that "matter produces in us perceptions, but is in itself of another nature than perception".[189] Access to objective reality, then, is afforded through reason and deduction. It is thereby equated to the concepts of it developed by the mind. The prototype ICH is our effort to concretize

[186]Pallasmaa, J., (2005), The Eyes of the Skin: Architecture and the Senses, John Wiley & Sons

[187]Pallasmaa, J., (1996), The Eyes of the Skin: Architecture and the Senses, John Wiley & Sons

[188]Bergson, H., (2007)[1912], Matter and Memory, Cosimo, Inc.

[189]Ibid

this theory.

It is in this framework that we chose to combine the sequent interaction between theory and practice. The ultimate goal of this quest through the binary relationships is to arrive to the essential material in order to be able to create an architecture that will respond to the actual human needs. The question that logically arises regards the nature of this essential material.

Except from the bipolars, which – besides being analysed in chapter 1 – also appear constantly throughout this thesis, we should not neglect the main objective of this research work, namely the quest for the implied information, which we approach both theoretically as well as also practically.

In chapter 2, we refer to the conventional architectural materials, in order to build up our contemplation that information is indispensable in order to produce architecture. Thus, we have analysed the role and history of the conventional materials in architecture. Through this thesis we argue that information is the par excellence indispensable constructing material of our times. Information is the next big element to be included into an architectural process; the seek and use of it is the main objective not only of architecture, but also of almost all disciplines. History has enough paradigms, which prove that the development takes place as a consequence of social changes, fashion and political changes, not only as an outcome of the technological leap. In this framework, the architecture of our time has to redefine itself.
Information has a crucial role in creating architecture, therefore we call it its

.266

architecture's new construction material – actually the sixth basic building material after the earth (stone, adobe…), wood, metals, glass and concrete!

Since the theoretical research is in constant dialogue with our prototypical work, we also refer to the experimental architectural paradigms of the 1960s and the 1970s. At this point, we ought to differentiate out approach from these utopian projects. Our goal is to unveil the implicit information and in this framework we need real, tangible, constructible paradigms.

The significance of this topic lies in how, through the combination of theoretical and applied architecture, as well as through references to philosophy and social science, we can understand, reveal and use the crucial material in order to produce an architecture that responds to the implied necessities of today's society. In the framework of this thesis, we design new paradigms of responsive architecture; we produce space that reflects social meanings, messages and symbols.

In order to achieve our goal, we aim at designing space in reflection of and to the real needs of today's society. We embrace Nietzsche's musings, who doesn't think of architecture as an applied act (as most philosophers do), but as a form of political imagination. So the role of the architect in Nietzsche is someone who is engaged in physicalising imagination.

Thinking architecture as a form of political imagination has of course

some implications. The question is whether architecture functions as "some way of imagining the transformations of context, the organization of emergent social arrangements and the construction of new institutional forms?"[190]

The architectural production of public space could start by identifying the claims for it. Sometimes these claims are modest and informal, but what is important is how to transform them into a brief, a challenge and sometimes a proposal that will give room to the multiplicity of desires and needs of diverse sets of users.

Space itself has no form. Yet each of its affairs does have a form – affairs that are as numerous as they are all embracing. Everything that has to be done (à faire), has to be done within and with space and is therefore always an "affair of space". At the same time, everything that has to be done has to do with things. Affairs of space are always affairs with things. But space has also an essence as a constellation of relationships, and it stages this in its wide variety of sensory-situational articulations.[191]

While art and architecture have been concerned essentially with "making space distinct" and "to state the precise nature of space", philosophy, mathematics, and physics have tried throughout history to give interpretations to something variously described as a "material thing in which all material things are located" or as "something subjective with which the mind categorizes things".[192]

The city is a constantly changing field of dynamic forces. It is a cultural, socioeconomic organism that is constantly changing. In order to

[190]Condorelli, C., (2007), "Travelling Lexicon Towards a Global Positioning System", in Friday Session 13 "setting a setting" Fanzine, public works

[191]from the Exhibition SPACE AFFAIRS, at the MUSA, Museum Startgalerie Artothek, Vienna, from 19.06. to 06.10.2012

[192]All quotes in this paragraph from "the questions of space" in Tschumi, B., (1996), Architecture and Disjunction, The MIT Press

understand the complexity of urban reality, it is necessary to relate the body of the city to these dynamic forces and at the same time observe parameters of time and space in equal measure. The space is spontaneously created everyday by the passer-bys, the people who spend time in the city. Places are products of densification, sometimes there are boundaries and sometimes not, and the territories are negotiated.

The city space is elastic; it is shaped by the interventions of the users. 1:1 interventions in a city means establishing a direct, participating relationship with urban space, it means becoming an urban practitioner. Such interventions are quite direct and therefore they vary from conventional architectural and ethnological approaches to urbanity as far as the means used and their consequences are concerned. Every city has its own specific characteristics. Often, these cannot be quantified. These characteristics can be apprehended on the basis of the qualitative and emotional intensity of the inhabitants' activities; they draw on cultural imprints and those elements of the city that shape its identity. The point is to comprehend the city beyond technocratic data transfer.

We aim to reveal information on the atmosphere specific to the city and also its potential, through paving the way for new paradigms for urban planning. Interventions make new tools and tactics available, which in turn encourage thought on alternative practices and question existing modes of operation. Such interventions on the city contribute to a new type of urbanism, which interferes directly in its mechanisms. It is part of city reality; it derives meaning from it and adds strength to it.

In this sense, our way of intervening consorts with the definition of Pietro Belluschi regarding the communal architecture "a communal art, not

produced by a few intellectuals or specialists, but by the spontaneous and continuing activity of a whole people with common heritage, acting under a community of experience".[193] It may be argued that this art has no place in a raw civilization, bur even so, the lesson to be derived from this architecture need not be completely lost to us. In this book, Bernard Rudofsky steps outside the narrowly defined discipline that has governed our sense of architectural history and discusses the art of building as a universal phenomenon. He introduces the reader to the architecture produced not by specialists but by the spontaneous and continuing activity of a whole people with a common heritage, acting within a community experience. Rudofsky peels the pretense of architecture from the creative and utilitarian acts of building to reveal a kind of vernacular, communal architecture embodying a timeless art form that springs from the intersection of human intelligence, necessity, and collective creativity.

Reiner Zettl characterizes Rudofsky's book Architecture without Architect "a manifesto for anonymous construction that regulates itself like a pseudo-natural process and whose limited means mean that is never forsakes – can never forsake – nature".[194]

[193]Rudofsky, B., (1965), Architecture without Architects. A Short Introduction to Non-Pedigreed Architecture, The Museum of Modern Art, New York

[194]Zettl, R., (2006), Erfindungen / Inventions in Prix, W. D., (ed.), Stadt=Form Raum Netz / City=Shape Space Net, The Exhibition Magazine, Springer Wien New York

In this thesis, we focused on ways of extracting social information, to transform it into useful tools to understand new needs and to open new ways of seeing architecture. We concluded that participation is one of the key elements in the process of transforming architectural planning, where people are invited to take part in shaping their environment. Beyond interaction, participation acknowledges the freewill of people and how unpredictable they can be. Our intention in this conclusion is to demonstrate this could be a beneficial paradigm shift in the practice

of architecture.

+ We suggest that the approach of the unforeseeable information is a three-steps procedure: speculation – provocation – participation. Architecture has speculation in its nature, since in order to create something new, we always speculate. Since we want to encourage participation, the sensible intermediate step is to try to provoke the desirable participation.

In order to achieve this goal, we have to create events. In this framework, we share B. Tschumi's point of view, that "the very heterogeneity of the definition of architecture – space, action, and movement – makes it into that event, that place of shock, or that place of the invention of ourselves".[195] The notion of invention in this case shapes the definition that Jacques Derrida elaborated when he suggested that the word "event" shared roots with the word "invention". The sequence of this thinking is that the event is an action in a space and consequently the turning point, the abovementioned invention.
In order to be able to create these conditions of invention, and accordingly new relationships between spaces and events, it is necessary to define the "audience", the participants and addressees of this procedure.

Questions about the term *community* in socio-politics overlap with those surrounding the motion of "public" in art and architecture. Like *community*, *public* is a generic notion, most often understood as what is *common*: of shared or of common interest, or as what is accessible to everyone. Public has a cognitive dimension, but also a political and a poetic one. It may also have a double meaning, of social totality and

[195] Tschumi, B, "Six Concepts. Excerpt from Architecture and Disjunction" in http://famusoa.net/achin/courses/tschumi/6concepts.pdf

specific audiences. The notion of *public* has been variously articulated, for example: *public realm*, *public sphere* or *public space*, each time conveying an ambiguity and multiplicity of meanings.

Doreen Massey in her book *For Space* notes that "from the greatest public square to the smallest public park, these places are a product of, and internally dislocated by, heterogeneous and sometimes conflicting social identities / relations".[196] This is what gives real *public* dimension. Public space should be described in terms of its evolving relations, as a space in permanent mobility, not only physical but also social and political. The understanding of Lefebvre of the *production of space* being social and political is now widely accepted as a base for any sustainable approach in urban development.

The prototypes address the question how the public realm is shaped by its various users and how existing dynamics can inform further proposals.

The aim is to produce social, architectural and discursive spaces. Through the prototypes we *incarnate* what Pallasmaa claims that architecture does: "Architecture reflects, materialises and eternalises ideas and images of ideal life. Building and towns enable us to structure, understand and remember the shapeless flow of reality and, ultimately, to recognise and remember who we are".[197] Pallasmaa outlines the possibilities of architecture in strengthening our sense of self, he argues that this source of meaning for our existential lives goes beyond any meaning of architecture.[198] Therefore, instead of producing objects of visual seduction, architecture should relate, mediate and project meanings.[199]

[196]Massey, D., (2005), For Space, Sage Publications Ltd

[197]Pallasmaa, J., (2005), The Eyes of the Skin: Architecture and the Senses, John Wiley & Sons

[198]Pallasmaa, J., (2005), Encounters:Architectural Essays, Rakennustieto Publishing

[199]Holl, S., Palasmaa, J., Pérez Gómez A., (2007), Questions of Perception: Phenomenology of Architecture, William Stout

The prototypes condense the idea of a way of acting and organizing actions. Their aim is to provoke a more constructive and propositional acting, embedded in everyday life. They address the creativity and criticality of a new approach to the city; this approach is differentiated and reflects a multiplicity of viewpoints and ways of doing. Their users have the quality of reinventing uses and practices in ways that traditional professional structures cannot afford, due to their generic functioning. Their ways of being local are complex and multilayered, involving participation and "local expertise" as well as extra-local collaborations. They reinvent contemporary urban practice as *tactical*, *situational* and *active*, based of professional and artistic skills and civic structures, which can adapt themselves to changing urban situations that are critical, reactive and creative enough to produce real space.

The idea of the prototypes, and especially of ICH is to be able to reveal and cultivate a more self conscious and meaningful understanding of our being through architecture.

This is achieved through revealing our nature in belonging and connecting to the world. Through the prototypes, we aim at conducting explorations, actions and research concerning urban mutations and cultural, social and political emerging practice in the contemporary city. The prototypes encourage the participation of inhabitants at the self-management of the urban space, overpassing contradictions and stereotypes by proposing nomad and reversible concepts, initiating interstitial practices, which explore the potential of contemporary city.

This new architecture we are aspiring to, does not try to restore contact

with the user and spectator by means of passive experience, but by means of active participation. It is a combination of dealings, experience and doing.

The spectator, instead of being positioned in front of the object, is now within the object. The spectator will find it necessary to explore the space and the objects that surround him, and in a way as well take authorship for the first time outside his private sphere.

As we have already argued, architecture is as much about the event that takes place in a space as about the space itself. The event proposed in this framework is seen as a turning point, not as an origin or an end. What we aim at through this dissertation is the construction of such events.

Like Tschumi argues: "Philosophers can write, mathematicians can develop virtual spaces, but architects are the only ones who are the prisoners of that hybrid art, where the image hardly ever exists without a combined activity".[200] And – as continuously argued throughout this dissertation –information is the par excellence material that provides to architecture its programs and functions.

The examples set through this dissertation in the form of the experimental urban prototypes are only a minor contribution to the process of the drawing of information. This dissertation contributes in the sense that through the prototypes we register the alterations of the reality. This work doesn't try to formulate recipes; it actually represents just an impulsion to alteration.

[200]Tschumi, B, "Six Concepts. Excerpt from Architecture and Disjunction" in http://famusoa.net/achin/courses/tschumi/6concepts.pdf

Bibliograhy

The sixth Material

The Sixth Material

Bibliography   Adriaans, P., and Van Benthem, J., (2008), *Philosophy of Information*, North-Holland, Oxford

Agamben, G., (1993), *The Coming Community*, University of Minnesota Press

Agamben, G., (1999), *Potentialities*, Stanford University Press

Agamben, G., (2000), *Means without end: Notes on politics*, University of Minnesota Press

Alison, J., Brayer M.-A., Migayrou, F., and Spiller, N., eds, (2007), *Future City. Experiment and Utopia in Architecture*, Thames and Hudson, London

Altay, C., (2007), "Setting a Setting", presented at the *Friday Session 13 Setting a Setting*, March 6th, Public Works Studio, London

Altay, C. and Altay, D., "Counter-Spatialization of Power in Istanbul" from Guidi, E., (ed.) (2008) *Urban Makers*, bbooks,

Assocreation, "Common ground",
in http://www.assocreation.com/project/common-ground/

Audi, R., ed., (1995), *The Cambridge Dictionary of Philosophy*, Cambridge University Press

Bachelard, G., (1994) [1958], *The Poetics of Space*, Beacon Press

Baglivo, C., and Galofaro, L., (2003), *Digital Odyssey, A New Voyage in theMediterranean*, Birkhäuser Publishers, Basel

Basbaum, R., (2001), "Local Gestures Global Effects", in *Magnet: Manifesto*, Institute of International Visual Arts, London

Beardsley, M. C., (1989), translation of (1975), *Aesthetics fromClassical Greece to the Present*, University of Alabama Press

Bergson, H., (2007)[1912], *Matter and Memory*, Cosimo, Inc.

Bhabha. H., (1994), *The Location of Culture*, Routledge

Bishop, C., (2006), *Participation*, The MIT Press

Bitzer, L. F., "The Rhetorical Situation", public lecture at Cornell University (November 1966) and at the University of Washington (April 1967), in http://www.cwrl.utexas.edu/~davis/crs/E398t/Bitzer--Rhetorical%20Situation.pdf

Bitzer, L. F., "Rhetoric and Public Knowledge" in Burks, D. M. ed., (1978), *Rhetoric, Philosophy and Literature: An Exploration*, West Lafayette: Purdue University Press

Blackburn, S., (1996) *The Oxford Dictionary of Philosophy*, Oxford University Press

Bloomer, K., Moore, C., (1978), *Body, Memory and Architecture*, Yale University Press

Blundell Jones, P., Petrescu, D., and Till, J., eds, (2005), *Architecture*

and Participation, Spon Press, London & New York

Bohman, O., Van Toorn, R., "Desperately Seeking Siza", a conversation with Alvaro Siza in (1994), *The Invisible in Architecture*, Academy Editions, London

Borradori, G., "The Metaphysics of Virtuality in Bergson and Nietzsche", in http://www.international-festival.org/node/28640

Borden, I., McCreery, S., eds, (2001), *New Babylonians: Contemporary Visions of a Situationist City*, Wiley, Bognor Regis

Borden, I., Kerr, J., Rendell, J., Pivaro, A., eds, (2000), *The Unknown City. Contesting Architecture and Social Space*, The MIT Press

Bremer, M., Cohnitz, D., (2004), *Information and Information Flow*, Ontos Verlag, Heusenstamm

Bunschoten, R., (2005), "Points, Spirals and Prototypes", in Blundell Jones, P., Petrescu, D., and Till, J., eds, *Architecture and Participation*, Spon Press, London & New York

Butcher, S.H., trans., (2000) [1961], *Aristotle's Poetics*, Hill and Wang, New York

Calvino, I., (1974), Invisible Cities, Harcourt Brace Jovanovich, London

Caney, R.P., (2002), "The Dialectic Today: Critically Interrogating the

Socratic Method for Contemporary Use", Illinois State University, from http://lilt.ilstu.edu/critique/spring2002docs/rcanney.htm

Ching, F. D. K., Jarzonbek, M. M., Prakash, V., (2007), *A Global History of Architecture*, John Wilwy & Sons, Inc.

Choay, F., (1969), *The Modern City: Planning in the Nineteenth Century* (Planning and Cities), George Brazilier

Claeys, G., (2010), T*he Cambridge Companion to Utopian Literature*, Cambridge University Press

Conway, s., (1996), "Plato, Aristotle and Mimesis" in www.subverbis.com/essays/mimesis.rtf

Cook, P., (1970), *Experimental Architecture*, Universe Books, New York

Cook, P. (1999), *Archigram*, Princeton Architectural Press, New York

Crowther, P., (2006)[1993], *Art and Embodiment, from aesthetics to selfconsciousness*, Oxford University Press

Davis, M., (1999), *City of Quartz*, Verlag der Buchläden Schwarze Risse/ Rote Straße

De Certeau, M., (1984), *The Practice of Everyday Life*, University of California Press

De Kerckhove, D., (2001), *The Architecture of Intelligence*, Birkhäuser, Basel

De Solà-Morales, I., (1996), *Differences: topographies of contemporary architecture*, MIT

Debord, G., (2006) [1957],"Report on the Construction of Situations", *Situationist International Anthology*. Bureau of Public Secrets, Berkeley, California, translation by Ken Knabb

Deleuze, G., (1985), *Kant's Critical Philosophy: The Doctrine of the Faculties*, University of Minnesota Press

Deleuze, G., (1994), *Difference & Repetition*, Columbia University Press

Deleuze, G., Gautari, F., (1994), *What is Philosophy?*, Columbia University Press

Deleuze, G., (2006), [1988], *Bergonism*, The MIT Press

Ding, W., Lin, X., (2010), Information Architecture: *The Design and Integration of Information spaces*, Morgan & Claypool

Dretske, F., (1983), *Knowledge and the flow of information*, MIT Press

Engeli, M.,(2000), *Digital Stories, The Poetics of Communication*, Birkhäuser Publishers, Basel

Fernádez-Galiano, L., (1991), *Fire and Memory*, Alianza Editorial, Madrid

Floridi, L., (2005), "Semantic Conceptions of Information", article in Stanford Encyclopedia of Philosophy, from http://plato.stanford.edu/entries/informationsemantic/#3

Floridi, L., (2005), "Is Semantic Information Meaningful Data", Philosophy and Phenomenological Research, Vol. LXX, No. 2, from http://philsciarchive.pitt.edu/archive/00002536/01/iimd.pdf

Foucault, M., (1972), *The Archaeology of Knowledge &The Discourse on Language*, Pantheon Books, New York

Foucault, M., (1977), *Language, Counter-memory, Practice*, Ed. D.F.Bouchard, Ithaca, New York, Cornell University Press

Foucault, M., (1994), *The Order of Things. An Archaeology of the Human Sciences*, Vintage Books Editions

Foucault, M., (1996), *Der Mensch ist ein Erfahrungstier*, Suhrkamp, Frankfurt am Main

Foucault, M. (1999), *Botschaften der Macht*, DVA, Stuttgart

Foucault, M., (2009), *Security, Territory, Population: Lectures at the College de France 1977-1978*, Picador, New York

Frers, L., and Meier, L., (2007), *Encountering urban places. Re-*

Materialising cultural geography, Ashgate Publishing Limited Fuhrmann, A., Rott, H., (1995), *Logic, action, information*, Walter de Gruyter & Co, Berlin

Gausa M., Guallart V., Müller W., Soriano F., Porras F, Morales J., (2003), The Institute for Cultural Policy eds., (2005), Chora / Raoul Bunschoten - From Matter to Metaspace: Cave, Ground, Horizon, Wind, Consequence Book Series on Fresh Architecture, Vol. 4, Springer Wien New York

Gausa, M., Guallart, V., Müller, W., Soriano, F., Porras, F., Morales, J., (2003), *The Metapolis Dictionary of Advanced Architecture – city, technology and society in the information age*, Actar, Barcelona

Gombrich, E. H. (2000), *The uses of images*, Phaidon Press, London Gregory, P., (2003), *New Scapes – Territories of Complexity*, Birkhäuser, Basel

Grosz, E., (2001), *Architecture from the outside: essays on virtual and real space*, MIT

Grube, G.M.A., trans., Reeve, C.D.C., rev., (1992), *Plato Republic*, Hackett Publishing
Company, Inc.

Hays, M., (2000), *Architecture theory since 1968*, MIT Press

Hays, M., (2010), *Architecture's Desire, reading the late avant-garde*,

MIT

Hegel, G., Wilhelm F., (1874) *The Logic. Encyclopedia of the Philosophical Sciences*, 2nd Edition. Oxford University Press.

Hegel, G. W. F., (1977), *Phenomenology of Spirit*, Oxford University Press

Hegel, G.W.F., (1975), *Aesthetics*, Clarendon Press, Oxford

Heidegger, M., Farrell Kreel, D., (ed.), (1993), *Basic Writings*, Harper, San Francisco

Heidegger, M., (2002), *The Essence of Human Freedom. An Introduction to Philosophy*, Continuum, London

Heidegger, M., (2002), [1969], *Identity and Difference*, Chicago University Press

Heidegger, M., (2008), [1962], *Being and Time,* Harper Perennial Modern Classics

Hill, J., (2003), *Actions of Architecture: Architects and Creative Users*, Routledge

Hill, J., (ed.), (1998), *Occupying Architecture: Between the Architect and the User*, Routledge

Hill, J., ed., (2001), *Architecture: The Subject is Matter*, Routledge

Hoesterey, I., ed, (1991), *Zeitgeist in Babel, the post-modernist controversy*, Indiana University Press

Holl, S., Palasmaa, J., Pérez Gómez A., (2007), *Questions of Perception: Phenomenology of Architecture*, William Stout

Hollein, H., (1960), "Plastic Space", Thesis submitted for the degree of Master of Architecture, College of environmental design in the graduate divivion of the University of California, Berkeley, in http://www.hollein.com/ger/Schriften/Texte/Plastic-Space

Hollein, H., (1963), "Forms and Designs" by Hans Hollein and Walter Pichler, in Arts & Architecture, and in http://www.hollein.com/eng/Writings/Texte/Architecture

Hollein, H., (2006), *Alles ist Architektur / Everything is Architecture* in Prix, W. D., (ed.), *Stadt=Form Raum Netz / City=Shape Space Net, The Exhibition Magazine*, Springer Wien New York

Hulse, B., (2008) "On Bergson's Concept of the Virtual," *Gamut: Online Journal of the Music Theory Society of the Mid-Atlantic*: Vol. 1: Iss. 1, Article 2. Available at: http://trace.tennessee.edu/gamut/vol1/iss1/2

Husserl, E., (1970), *The Crisis of European Sciences and Transcendental Phenomenology: an Introduction to Phenomenological Philosophy*, Northwestern University Press

Husserl, E., (2012), [1931], *Ideas: General Introduction to Pure Phenomenology*, Routledge

Jacquet, B., and Giraud, V., eds, (2012), *From the Things Themselves, Architecture and Phenomenology*, Kyoto University Press

Jencks, C., (1995), *The Architecture of the Jumping Universe: A Polemic – How Complexity Science is Changing Architecture and Culture*, John Wiley and Sons, West Sussex

Jencks, C., (2002), *The New Paradigm in Architecture: The Language of Postmodernism*, Yale University Press

Jencks, C., Baird, G., eds, (1970), *Meaning in Architecture*, Barrie & Jenkins

Jencks, C., Kropf, K., eds, (1997), *Theories and Manifestos of Contemporary Architecture*, John Wiley and Sons, West Sussex

Kandeler-Fritsch, M., Kramer, T., eds, (2005), *Get off of my cloud. Wolf D. Prix, Coop Himmelb(l)au, Texts 1968-2005*, Hatje Cantz

Karatani, K., (1995), *Architecture as Metaphor*, MIT

Kaufman, F., "Art and Phenomenology" in Natanson, M., (ed.), (1966), *Essays in Phenomenology*, Martinus Nijhoff, The Hague

Kieran, S., and Timberlake, J., (2004), *Refabricating Architecture:*

How Manufacturing Methodologies are Poised to Transform Building Construction, McGraw Hill

Koolhaas, R., (2001) *Project on the city 1*, Taschen, Köln

Koolhaas, R., ed. in chief, (2004) *Content*, Taschen, Köln

Kostof, S., (1995), *A History of Architecture, Settings and Rituals*, Oxford University Press

Kroll, L., (2005), "Animal Town Planning and Homeopatic Architecture", in Blundell Jones, P., Petrescu, D., and Till, J., eds, *Architecture and Participation*, Spon Press, London & New York

Kronenburg, R., (1999), *Portable Architecture (Architectural Design)*, John Wiley & Sons

Kumar, K., (1995), *From Post-Industrial to Post-Modern Society: New Theories of the Contemporary World*, Blackwell Publishers

Kumar, K., (1987), *Utopia and Anti-utopia in Modern Times*, Blackwell Publishers

Kumar, K., (1991), *Utopianism (Concepts in Social Thought)*, University of Minnesota Press

Latour, B., (1993), *We have never been modern*, Harvard University Press

Leach, Neil: *Digital tectonics*, Wiley, Chichester 2003

Leach, Neil: *The hieroglyphics of space*, Routledge, London 2002

Lefebvre, H. (1971), *Linguaggio e società*, Valmartina, Firenze

Lefebvre, H. (1996), *Writings on cities*, Blackwell, Oxford

Lefebvre, H. (2003), *Die Revolution der Städte*, Dresden Postplatz Verlag, Dresden

Lefebvre, H., (2007), *The Production of Space*, Blackwell Publishing, Oxford

Leyton, M., (2006), *Shape as Memory – A Geometrical Theory of Architecture,* Birkhäuser, Basel

Lim, CJ, and Liu, E., (2000), *Sins + Other Spatial Relatives*, Ind-E8 Publishing London

Lloyd Wright, F., "Integrity" in (1954) *The Natural House*, Horizon Press

Lyotard, J.F., (1979), *The Postmodern Condition:* A Report on Knowledge, Paris: Minuit

Mahall, M., and Serbest, A., (2009), *How Architecture Learned to Speculate*, igmage, Stuttgart

Manolopoulou, Y., (2007), "The Active Voice of Architecture: An Introduction to the Idea of Chance" in *field: a free journal for architecture*, Volume 1, issue 1

Massey, D., (2005), *For Space*, Sage Publications Ltd

McLuhan, M., and Fiore, Q. (2001), *The Medium is the Massage: an inventory of effects*, Ginko Press, Corte Madera

Mc Taggart, J., Mc Taggart, E., (2000), *Studies in the Hegelian Dialectic*, Baroche Books, Ontario, Canada

Merleau – Ponty, M., (1969), *The Visible and the Invisible*, Northwestern University Press

Merleau – Ponty, M., (1969), *The Essential Writings of Merleau-Ponty*, Harcourt, Brace

Merleau – Ponty, M., (2002), [1945], *Phenomenology of Perception*, Routledge

Moggridge, B., (2007), *Designing Interactions*, MIT

More, T., (2012), *Utopia*, Simon & Brown

Morrogh, E., (2003), *Information Architecture: an emerging 21st century profession*, Prentice Hall

Nancy, JL., (2000), *Being Singular Plural*, Stanford University Press

Nancy, JL., (2006), *The Inoperative Community*, University of Minnesota, 6th edition

Nesbitt, K., ed, (1996), *Theorizing a new agenda for architecture. An anthology of architectural theory 1965-1995*, Princeton Architectural Press

Neumeyer, F., (1986), *Mies van de Rohe: Das kunstlose Wort: Gedanken zur Baukunst*, Siedler

Noever, P., (2007), *Coop Himmelb(l)au. Beyond the Blue*, Prestel Verlag

Norberg – Schulz, C., (1980) *Genius Loci. Towards a phenomenology of Architecture*, Rizzoli International Publications

Norberg – Schulz, C., (1997) *Intentions in Architecture*, The MIT Press

O.M.A., Koolhaas, R., and Mau, B., (1998), [1995], *S, M, L, XL*, The Monacelli Press

Pallasmaa, J., (2005), *The Eyes of the Skin: Architecture and the Senses*, John Wiley & Sons

Pallasmaa, J., (2005), *Encounters: Architectural Essays*, Rakennustieto Publishing

Pallasma, J., (2009), The Thinking Hand: *Existential and Embodied Wisdom in Architecture*, John Wiley & sons Ltd

Pallasmaa, J., "Selfhood and the World. Lived Space, Vision and Hapticity" in Diaconu, M., Neuberger, E., Mates-Berr, R., Vosicky L. M., (eds.), (2011), *Senses and the City. An interdisciplinary approach to urban sensescapes*, LIT Verlag, Vienna

Palumbo, M., "Questioning the Objectivity of Space", Interview with Eduard Kac, in *Archit*, an online magazine, www.architettura.it

Palumbo, M., (2000), *New Wombs. Electronic bodies and Architectural Disorder*, Birkhäuser, Basel

Pollak, L., (2004), "Paradoxical Spaces", in Gastil, R., and Ryan, Z., eds., *Open – New Designs for Public Space*, Van Allen Institute, New York

Poster, M., (1990), *The Mode of Information: Poststructuralism and Social Context*, Cambridge: Polity Press

Preziosi, D., (1979), *Architecture, language and meaning*, Mouton Publishers Quaderns, (1997), *Rethinking Mobility, Arce*, Barcelona

Ragin, C., Becker, H., eds., (1992), *What is a case? Exploring the Foundations of Social Inquiry*, Cambridge University Press

Rajchman, J., (1998), *Constructions*, MIT Press

.290

Rancière, J., (2006), *The Politics of Aesthetics*, Continuum, London

Rasmussen, S. E., (2000),[1964], *Experiencing Architecture*, The MIT Press

Richter, D.H, ed., (1989), *The Critical Tradition: Classic Texts and Contemporary Trends*, St. Martin's Press, New York

Ringen, J, (2004), *Superstudio: Pioneers of Conceptual Architecture* in http://www.metropolismag.com/story/20040106/superstudio-pioneers-of-conceptualarchitecture

Robbins, S. E., "Bergson's Virtual Action", in http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.83.146&rep=rep1&type=pdf

Rogoff, I., "We – Collectivities, Mutualities, Participations", in Von Hantelmann, D., Jongbloed, M., eds., (2002), *I promise it's political. Performativität in der Kunst*, Museum Ludwig 2002, Köln

Rudofsky, B., (1965), *Architecture without Architects. A Short Introduction to Non-Pedigreed Architecture*, The Museum of Modern Art, New York

Sadler, S., (1999), *The Situationist City*, MIT Press, Cambridge, Mass.

Sadler, S., (2005), *Archigram: Architecture without Architecture*, MIT Press Ltd

Saggio, A., (1999), "Fear of the Demo?", Preface to Engeli, M., *Digital

Stories, Birkhäuser, Basel

Sartre, JP, (1993), *The Emotions: an Outline of a Theory*, Carol Publishing Co, New York

Saskia, S., (2006), "Making Public Interventions in Today's Massive Cities", in http://www.saskiasassen.com/PDFs/publications/Making-Public-Interventions.pdf

Sepp, H. R. and Embree L., eds (2010), *Handbook of Phenomenological Aesthetics*, Springer

Shannon, C. E., (1948), "A Mathematical Theory of Communication", *The Bell System Technical Journal*, Vol. 27, October

Shannon, C. E., (1993), *Collected Papers*, edited by N. J. A. Sloane and A. D. Wyner, IEEE Press, New York

Sideris, N., (2006), Architecture and Psychoanalysis: Fantasy and Construction, Futura, Athens (in Greek)

Situationist International, (2006) [1958],"*Preliminary Problems in Constructing a Situation", Situationist International Anthology*. Bureau of Public Secrets, Berkeley, California, translation by Ken Knabb
Skyrms, B., (2010), *Signals: Evolution, Learning & Information*, Oxford University Press

Sloman, A., (2009), "What's information, for an organism of intelligent

machine? How can a machine or organism mean?", University of Birmingham, from http://www.cs.bham.ac.uk/research/projects/cogaff/misc/whats-information.pdf

Soja, E.W.(2001), *Postmetropolis*, Blackwell, Oxford

Soja, E.W.: (200), *Thirdspace*, Blackwell Publ., Cambridge, Mass. 2000

Stauffer, M-T., (2007), *Non-Stop City* in http://archizoom.epfl.ch/page-16244-en.html

Stephen, J.R., and Barnecut, N., *Planning Architecture*, Paper completed in partial fulfillment of the requirements for the degree of Master of Architecture, The Faculty of Environmental Design, University of Calgary http://www.architecture.ca/planningarchitecture/ , last accessed 17/2/2010

Sulzer, P., (2005), "Notes on Participation", in Blundell Jones, P., Petrescu, D., and

Tafuri, M., (1976), *Architecture and Utopia: Design and Capitalist Development*, MIT Press

The Architecture Foundation (2000), *Living in the city*, Snoeck Ducaju & Zone, Belgium

The Importance of Philosophy in Architectural Education, Proceedings of a Conference organized by the University of Patras, 9-11 October

2009, (various papers)

Thiis-Evensen, T., (1990), *Archetypes in Architecture*, Scandinavian University Press

Till, J., (2007), "Architecture and Contingency" in *field: a free journal for architecture*, Volume 1, issue 1

Till, J., (2005), "The Negotiation of Hope", in Blundell Jones, P., Petrescu, D., and Till, J., eds, *Architecture and Participation*, Spon Press, London & New York

Travi, V., (2001), *Building in the Computer Age*, Birkhäuser, Basel

Tschumi, B., (1996), *Architecture and Disjunction*, The MIT Press

Van Schaik, M., Mácel, O., eds., (2005), *Exit Utopia: Architectural Provocations 1956 – 76*, Prestel Publishing

Venturi, R., (2002), *Complexity and Contradiction in Architecture*, The Museum of Modern Art, New York

Virno, P., (2003), *A Grammar of the Multitude*, Semiotext(e)
Von Osten, M., (2005), "Politics Beyond the White Cube", in Blundell Jones, P., Petrescu, D., and Till, J., eds, *Architecture and Participation*, Spon Press, London & New York

Waldrop, M., (2002), *The Dream Machine: J C R Lickider and the*

.294

Revolution that made Computing Personal, Penguin

Weibel, P.,ed., (2005) [1997], Beyond Art: *A Third Culture*, Springer-Verlag, Vienna

Picture Index

The Sixth Material

Picture Index

experiment and utopia in architecture, Thames&Hudson
Ltd,p.106

Pic.09 Villa Rosa, Collage, Source: Noever, P., (2007),
Coop Himmelb(l)au. Beyond the Blue, Prestel Verlag, p. 55

Pic.10 Interchange, Source: Cook,Peter, (1991), Archigram, Birkäuser
Verlag, p.23

Pic.11 Kapsel Pier,von Ron Herron, Source: Cook,P., (1991),
Archigram, Birkäuser Verlag, p.46

Pic.12 The 5th element, Source: URL: http://onlyhdwallpapers.com/
wallpaper/the_fifth_element_desktop_1281x960_
wallpaper-360480.jpg, Call up: 10.02.2013

Pic.13 Villa Rosa, Coop Himmelb(l)au, Source: Alison,J., Brayer,M.,
Migayrou,F., Spiller,N., (2006), future city - experiment and
utopia in architecture, Thames&Hudson Ltd,p.95

Pic.14 Mobile Porch, Source: URL http://www.publicworksgroup.net/
projects/mobile.porch/796, Call up: 10.02.2013

Pic.15 Mobile Porch, Source: URL: http://www.publicworksgroup.net/
projects/mobile.porch/796/2, Call up: 10.02.2013

Pic.16 Prototype ICH, Picture: Daniel Hora-MEGATABS architekten,
Source: Archive MEGATABS architekten

.300

CV

Architect Engineer

Marianna Milioni

The Sixth Material

ABOUT

Add   Gelonos 11
GR – 115 21, Athens

Tel   +43 1 890 35 75
Mob   +30 6944 36 8765
Email   marianna@megatabs.com or
marianna.milioni@gmail.com

Date of birth 03.12.1974, Athens

EDUCATION

2005 – present

Doctoral thesis with the title: "The 6th Material – Information as the par excellence factor in order to transform energy into architecture" at the Technical University of Vienna, Faculty of Architecture and Regional Planning, Institute of Art and Design (E264), with Ao.Univ.Prof. Dipl.-Ing. Mag.phil. Dr.phil. Peter Mörtenböck

2001

License to practice architecture form the Technical Chamber of Greece

2001

Diploma at the National Technical University of Athens, School of Architecture, Deaprtment of Architectural Technology, with Associate

.308

Professor Dimitris Papalexopoulos

1998 – 1999
Study at Università degli Studi ROMA III (Rome), School of Architecture

1993 – 2001
Study at the National Technical University of Athens, School of Architecture

1992 – 1993
Study at the Technological Educational Institute of Athens, Faculty of Fine Arts and Design, Department of Interior Architecture, Decoration and Design

1989 – 1992
High school in Athens

PROFESSIONAL EXPERIENCE

2007 – present
Director at the Hellenic Institute of Architecture, Athens

2003 – present
Partner at the office MEGATABS Architekten, Vienna

2007
Collaboration with MOB (mauve) Architects, Athens

2005 – 2006

Collaboration with the office the nextENTERPRISE architects, Vienna

2005 – 2005

Collaboration with the office Pichler und Traupmann Architekten, Vienna

2003 – 2005

Collaboration with Coop Himmelb(l)au, Vienna

2002 – 2002

Collaboration with the office Global Engineering, Oksakowski & Korzil, Vienna

2000 – 2001

Collaboration with the office awg_Alles Wird Gut Architektur in Vienna in the framework of the European Program Leonardo da Vinci

LANGUAGES

Greek (native tongue)
English (Certificate of Proficiency in English)
Italian (Superiore 4)
German (Diplom Mittelstufe des OESD und CD)
French (Superieur 1 & Sorbonne 1)

CV

Arch. Dipl.-Ing.

Daniel Hora

ABOUT

Add	Reinprechtsdorferstrasse 56
	A – 1050, Wien
Tel	+43 1 890 35 75
Mob	+43 699 10485884
Email	daniel@megatabs.com

Date of birth 08.06.1978, Merano

EDUCATION

2011
Authorisation to practice as an architect from the chamber of architects and chartered engineering consultants of Upper Austria and Salzburg, Austria

2008
Corporate management of ig-architektur Vienna

2006
Authorisation to practice as an architect from the chamber of architects of the autonomic province Bolzano, Italy

2005
Doctoral thesis with the title: "The 6th Material – Information as the par excellence factor in order to transform energy into architecture" at the

.312

Technical University of Vienna, Faculty of Architecture and Regional Planning, Institute of Art and Design (E264), with Ao.Univ.Prof. Dipl.-Ing. Mag.phil. Dr.phil. Peter Mörtenböck

2003
Formation of .MEGATABS architekten

2003
Diploma with honor at Prof. William Alsop, Institute of Architecture and Design, TU-Vienna

2001
License of commercial artist - designer

1997 - 1998
Study of civil engineering, TU-Vienna

1995 - 1997
Ambassador for the students of the high school in Merano

1997
Bilingual Examinations: A for Italian – German, German - Italian

1997
High school diploma in Merano, Italy

TEACHING EXPERIENCE

since 2007
Univ.Ass. at the Institute of Architecture and Design, Department Housing and Design, TU Vienna

2004 - 2007
Lecturer at the Institute of Architecture and Design, Department Housing and Design, TU Vienna

2004 - 2007
Lecturer at the Institute of Architecture and Design, Department Spatial and Sustainable Design, TU Vienna

PROFESSIONAL EXPERIENCE

2006
Scholarship for the Doctoral thesis: THE SIXTH MATERIAL,

2003
Scholarships for outstanding students (ND. 1,0), TU-Vienna

2003
Scholarship for the project: „bypass – an implant to exploit urban experience", TU-Vienna