1000 YEARS ARCHITECTURE

Kurs: AAHM01: Examensarbete i arkitektur/Degree Project in Architecture, LTH; 2022;
Titel; 1000 YEAR ARCHITECTURE
Författare ERIK ODQVIST; Examinator LARS-HENRIK STÅHL; Handledare MARTIN SVANSJÖ.

INDEX

PAGE LEFT BLANK ON PURPOSE

ABSTRACT

Today most architecture being built has a lifespan somewhere between 60 to 120 years. In some cases less, in a few cases more. Construction of buildings is a huge consumer of both energy and resources. In the architectural field environmental sustainability are keywords in the design process. Yet, the lifespans of buildings are not being discussed to any great length. The average human life expectancy is 72,6 years. Is it sustainable to put that much resources into the construction of buildings for it to last roughly one human lifetime?

Architecture designed by architects only makes up a small part of the total of what is being built but architects do have the potential of being influential and setting examples. I will suggest that architects should set their aim high and strive for at least a 1000 year lifespan of their projects. The figure is set high on purpose, a figure close to the limit of what is tangible for us to grasp, to activate our imagination and create suggestive images of the future.

The more we learn about our past, the more we can understand about our present, which in turn can help us gaze into our possible futures. This implies choices for us to make. Time is the real architect in architecture. New archeological discoveries give us an ever expanding knowledge of the past—and its influence on the present—which in its turn expands our understanding of what's to come. The modernist perspective on architecture as an ever changing progression may need a shift where the focal length is set closer to infinity.

INTRODUCTION

BACKGROUND

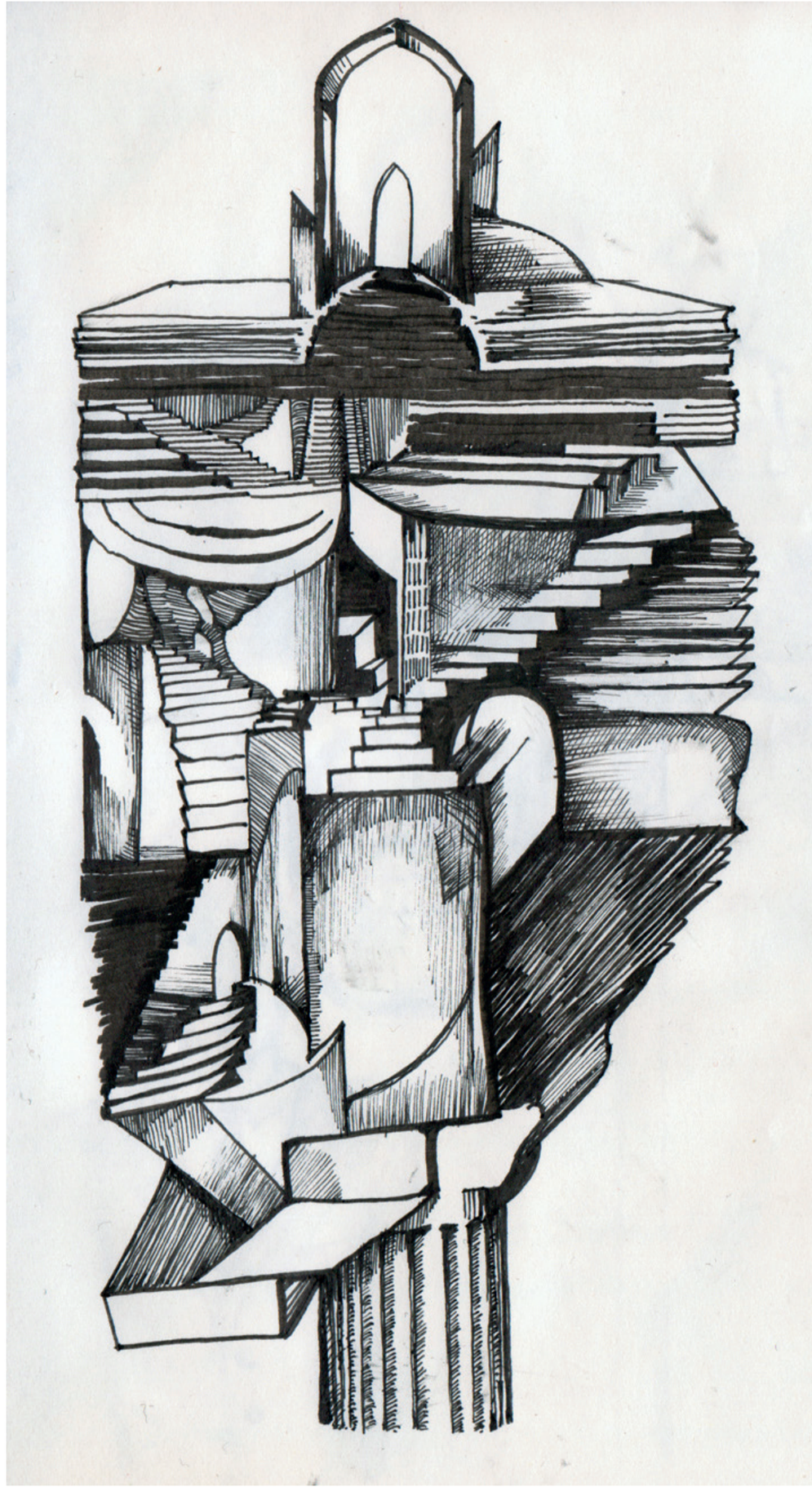
The theme for the thesis is 1000 year architecture. My idea started out with me wanting to do my thesis project on Hermann Hesse's novel The glass bead game It was just a thought I had one morning when pondering what my thesis should be about. Maybe I should say, it was the thought that made me decide that it was time to write this master thesis.

The glass bead game is a book about a centuries old institution, in a future society vaguely suggested to be in the 24th century. The institution is similar to a university but is dedicated to a game that synthesises the fine arts, music and mathematics. Æstethics and philosophy. I never really managed to make any architectural ideas out of this novel but it did make me start thinking about time and permanence. The institution is upheld due to the intricacy of the game, much like the game of chess yet so very different, which creates a continuation over generations and stability.

The protagonist, Joseph Knecht, is the grand master, magister ludi, of this institution and over the course of the novel starts to question what he believed he knew about the game and its effect on the world he knows. Hesse describes, as in many of his books, a duality that creates conflict.

Hesse's book is full of critiques and reflections on his current context while writing it; the book came out in Switzerland in 1943. The Glass Bead Game also works as a comment on industrialization and its consequences in modernization of society. Written from a perspective of alienation and anti-rationalistic in nature, Hesse writes in mystic terms of an understanding of his contemporary society. (Freedman 1970) This line of thought has followed me through my work with this thesis.

What is 1000 years architecture supposed to mean? Is it a construction built from sturdy materials chosen and processed so that they will last for a millennia? Is it carved out of bed rock? Or is it the site, the purpose, the usage, that is continuous for one thousand years? On the other hand, could the Ise Shrine in Japan be a good example, even though it is completely rebuilt



STAIRS AND TIME
Ascension of steps and portals carried on a centred column, corridors, layers and everything opened up like a book with unwritten, blank, pages.

every twenty years it has stood more or less exactly the same since 690 CE? There are quite a few examples of buildings that have stood for hundreds and even thousands of years. What do they have in common? What particularities do they show? What are their uses?

My argument for the thesis starts with a question: in the age of environmentally sustainable architecture, how come the widely accepted life-span of a building is a mere 60-120 years? Sometimes even less. From an economic point of view buildings older than 50 years are not foreseeable, says the company Svensk Betong (translates to “Swedish Concrete”) in their statement on buildings’ lifetimes.

They too argue for longer lifespans of buildings, but their argument is that at the current production rate of apartments today, in Sweden, of 20-40,000 built per year demands a considerably longer lifespan than 100 years to meet the population’s needs. Since it is a concrete company, they—obviously—recommend their product concrete, a building material with a permanence well beyond a century. (Svensk Betong, 2021)

This thesis will not go into detail on materials durability, stiffness and so on. The focus is rather on the perspective on, or perception of, time. Time and architecture. Has our attention span decreased, has our time perspective made us forget?

Why don’t we – as architects, designers or planners – change the norms? When an architect gets a commission to draw a new building the outset ought to be that the building should stay there, at least if that is its objective. The climate screen and the frame should be adaptable and flexible for changes as the needs for its usage may change over time. For me these thought experiments raise a lot of interesting questions.

Obviously, the materials and tectonics are important – materials no matter how resilient will be tested, patinate, erode, and wither. Nothing lasts forever, but forever is a very long time. The purpose and program of a building may change over time; the office housing becoming an apartment complex, becoming a public library, an emergency medical facility in times of crisis…

A lot of events will occur over the stretch of a millennium and society will most probably not be recognizable. The languages spoken will have developed, evolved, maybe even become extinct or unrecognizable. New functions will surely be

added to the list of what we humans see as important for a functional building, compare 19th and 20th buildings and the introduction of electricity and the challenges created when working electrical fittings into the interior, but at the same time we can be confident about other functions being constant.

If we look back to the history of architecture and built environments we find some programs and functions surprisingly similar. When we see the Roman insulae, they are not that apart from modern day apartment projects. The basic human needs for a dwelling are more or less the same, we still need climate shields, sleeping quarters, cooking possibilities, restrooms for our natural needs.

Societal changes and changes in culture may vary over time, adaptations to local climate may affect how buildings are constructed. Fashions and trends change over time, (for example, the open kitchen–living room plan we’ve seen in recent years) in fact there is a lot of consistency. But I also want to get to the bottom with the causes for this horizon for our built environment. What are the reasons behind a building’s lifespan only equalling roughly that of a human? There seems to have been a shift. Is it due to the development of studies of materials’ structural integrity, the science of longevity that creates these obstacles for thinking in the long term, like “best before”-dates on groceries? Is it the short interest in economics’ horizon that has influenced our whole concept of a long time, that if the profitability is not foreseeable then it has become redundant or insignificant?

MODERNITY

We live in an era of progress. The economical system that runs our society (societies) is based on innovation; progression; ever increasing efficiency; optimization – which results in ever growing profits.

Modernism and modernity is driven by the engine fueled with the profits gained by capitalism. My definition of modernity and modernism will be defined by Marshall Berman, “Orthodox modernists [...] have spared no expense of spirit in refashioning for themselves the halo of an unconditioned “pure” art, free from society and history.” (Berman 1988, 122) I will refine my definition below with some help from Paul Connerton and his *How modernity forgets*. Al-

though we also find a shift in architectural standards following the Industrial Revolution (which I will dive into in the Discussion section). William J.R. Curtis writes in his *Modern Architecture since 1900* about how progressive ideals overturned the Renaissance tradition in building where empiricist attitudes undermined the idealistic approach. Empiricism tends to look at materialistic causes, whereas idealistic see it as top-down. A new class of patrons where traditions (ideas) gave way to more practical concers (the material). Curtis describes “A split of sorts was created between engineering and architecture, with the former often appearing the more inventive and responsive to contemporary needs.” (Curtis 1996, 21-22)

1000 YEARS

Time is curious. 1000 years is a concept that is somewhere on the frontier of what is possible for humans to grasp. 10.000 years becomes too abstract, 100.000 years starts to become ridiculous and one million years is so great a number that it tends to infinity. Human life expectancy moves up and down (with an upgoing trend the last 100 years), and varies a great deal around the world, but is as of 2019 on an average 72,6 years.

Archeological excavations can tell us a lot of past societies and the culture they existed in. Architectural expressions give us clues about how people have lived. But what’s left beneath our feet in the strata of history does not tell a complete story of the past. An interesting—although extremely speculative—article in The Atlantic a couple of years ago really got my attention.
Adam Frank, a professor in Astrophysics at the University of Rochester, writes about an encounter with a colleague at NASA and is out-speculated on the subjects of past civilizations; in Earth’s 4,543 billion years history – where is the evidence that there’s never been a civilization before humans? Lack of evidence does of course not prove anything but I think it’s an interesting perspective on time, worth keeping in mind. (The Atlantic 2018)

THESIS ISSUES AND QUESTIONS

What effects have modernism had on architecture’s time horizon for buildings’ lifespans? What would a 1000 year architecture be like? Contemporary examples of architecture that are built for longevity like the Seed Vault in Svalbard are international projects with government funding and long term goals, as for the Seed Vault to secure seeds of different crops and rare plants from all around the world in case of crisis; draughts, wars, wild-fires, or anything that could put future crops in danger are kept as a back-up if catastrophe strikes.

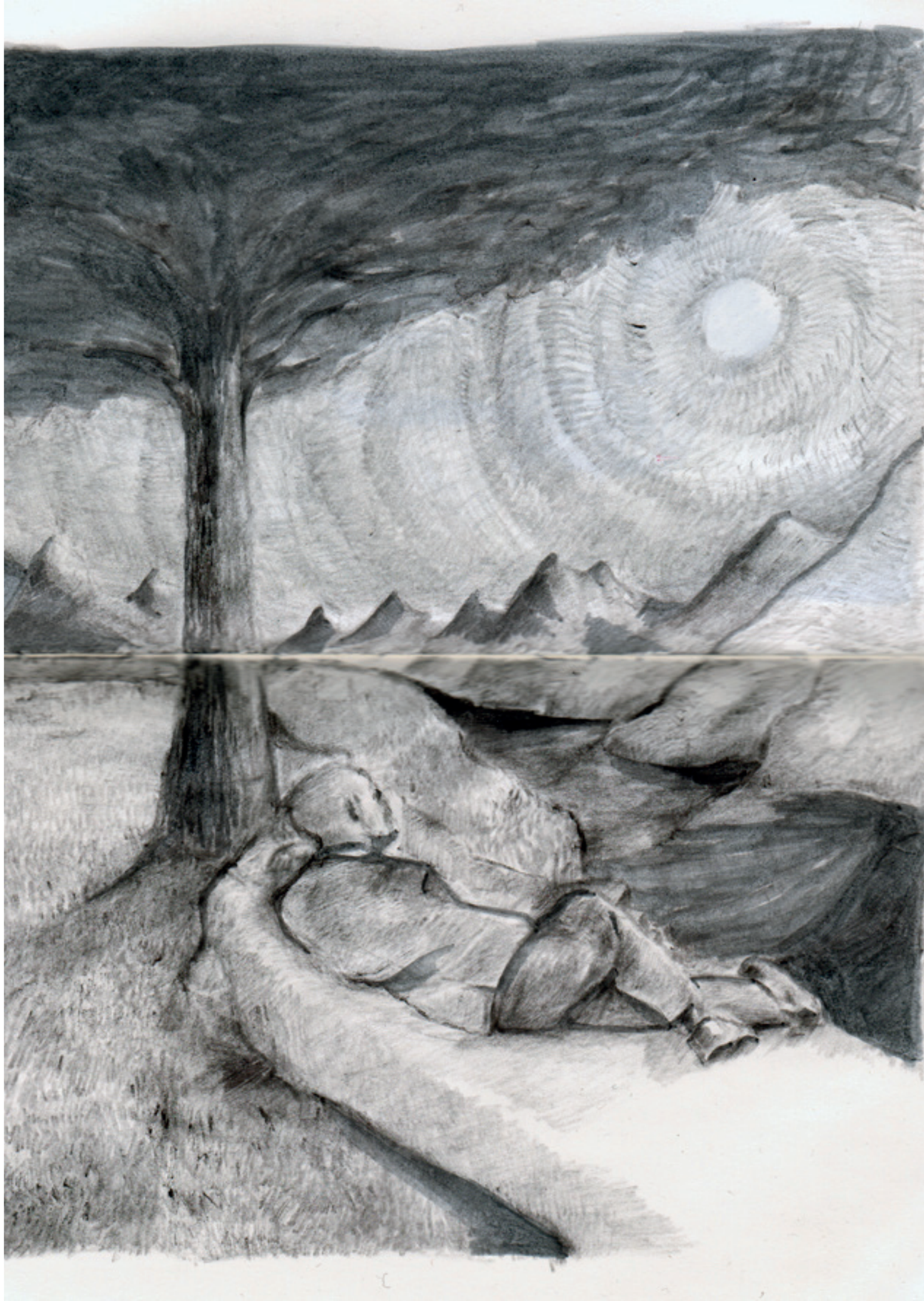
How do we think of architectural projects in a perspective reaching for eternity, how to plan for such an architecture? What are the horizons blocking our view and from what horizons do we survey our future? These questions I’m asking here beg for answers that are far too vast for this thesis to cover at any greater length but I wish to address the issues to open up for a discussion, to poke the imagination of the reader and to fantasise of brave new worlds.
I will not go into much detail regarding materiality or structural sturdiness but I want to dig deeper into how the conversation can be helped philosophically by means of understanding

Some of these questions beg for completely speculative answers, which for me is not an issue. Some will not get any answers but are open questions that I have no real intention to answer. I wish this thesis to be partly speculative, partly suggestive to have the reader continuously think about these subjects. I will start off with a short manifesto that I hope will prepare the reader into the following discussion.

COLLAGE
Architecture is materiality, history, culture, politics, nature, atmosphere, elements; pairs of warmth and cold, dry and wet, hard and soft, inside and outside.

MANIFESTO

1. Designers, architects, have a responsibility for the small part of everything being built, because our work influences the bulk of everything that is built. That it will stand the strain of time and be there for future generations and that our thinking is transgenerational, that we place ourselves in a bigger picture and put heavier weight on our professional role.
2. Shift our perspective focus on time to that of a much longer focal length, adapt a cosmic scale to establish us as a cosmic species.
3. To be anti-rationelle in the sense that we look beyond the cold hard facts and embrace and enjoy the softer, less solid forms of values.
4. Our goals ought to be to draw things that will stand tall for a thousand years. That is our challenge. To elevate our status and make us relevant to the challenge we're facing. To be more than a club for the initiated that doesn't realise that what we design resonates and has consequences.
5. Critique capitalism and destructive modernity that makes us forget.
6. Be better modernists and benefit from the wisdom of hindsight.
7. Embrace intergenerationalism and realize that humans of today have a responsibility not only to the voiceless of today but also to those of tomorrow. For generations to come. For eternity.



PONDERING OF THE DISTANT MOUNTAINS
A dramatic valley with a serene river that moves through the landscape, draped by mountains under a blazing sky. Soft grass in the fore-ground, a person resting contemplatively on a rock mattress glaring into the distant, lost in thoughts. What lays ahead and what's in the past, where is the way forward?

GATES
A dwindling dirt road into a mist, a mountain is hinted with three (or more?) celestial bodies. A wall is opened up by a curiously shaped gate. The traveller turns its head as if reluctant.

THEORY

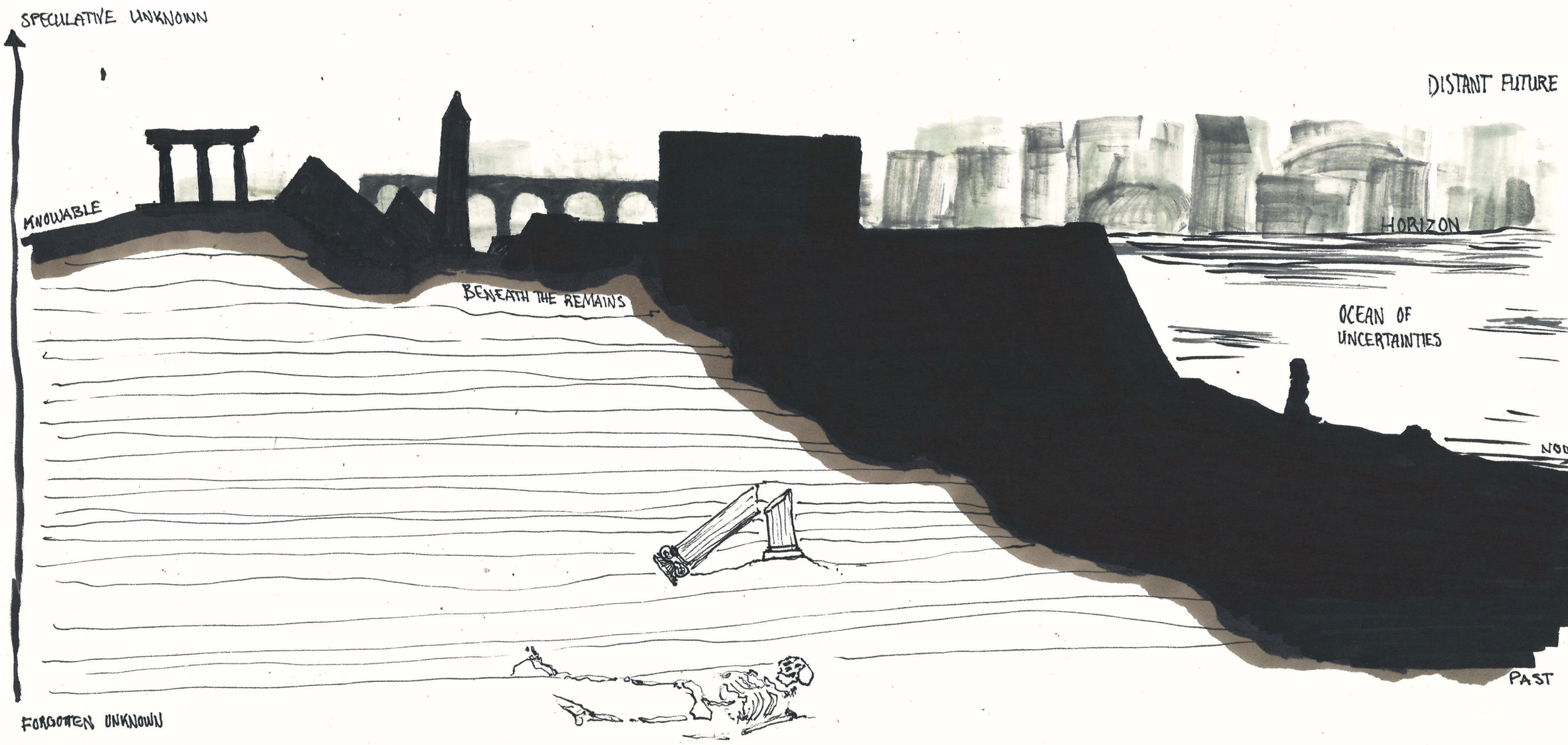
The theoretical framework for my thesis is built upon a selection of books concerning experiencing architecture as a phenomena. Many of the books mentioned in this thesis are works on architecture theory that I've come across during my time in architecture school, recommended reads from teachers and classmates and via discussions with friends.
In the following discussion I will introduce the literature I have used for this thesis and connect the dots to reveal the framework for how the arguments of my thesis interrelate and explain the methodology.

Architects influenced by the phenomenological philosophical tradition of Edmund Husserl, Martin Heidegger, and Hans-Georg Gadamer—such as Christian Norberg-Schulz, Peter Zumpthor, Juhani Pallasmaa and others—have been inspiring to my work in a lot of ways. Phenomenological philosophy is a way of reading observable facts or experiences as a subjective experience, thereby perceiving a fundamental understanding of the site, of the building in itself. To view architecture as phenomena in its particular context with its own horizons and temporality adds to the architectonic understanding of architecture in time and I see a red thread that I will try to present beneath by, within the framework of this thesis, introducing some of the work by above-mentioned architects.

Marshall Berman and his All that is solid melts into air (1982) have been influential on my arguments as a critique against modernism and an opening into the discourse of discussing the shifting horizons of architectural longevity. His critique of modernism and discussion about how we can be better modernists lays bare what effects modernity, modernism and capitalism have had on architecture. His book sets out to analyze modernism using Goethe's Faust, Karl Marx' Communist Manifesto and Baudelaire's poetry.

THE HORIZONS OF TIME

Beneath the remains we are seeing the strata of the past in a cross-section which is also the layering created by time. Everything eventually crumbles and withers into dust, leaving fragments and residual traces in the earth below our feet. Artefacts of time passed are found, to be puzzled together as visions that combined with known history can bridge historical voids. The deeper we dig into the cultural layers, the more diffused, fragmented and lost to history are the bits and pieces we can find. It is equally difficult to comprehend the Ocean of uncertainties.



VOID AND RUINS
Ruined city under a vortex sky rising from the ground below, holes punched through the walls and layers build up on top of eachother.

DISCUSSION

"The bourgeoisie cannot exist without constantly revolutionising the instruments of production, and thereby the relations of production, and with them the whole relations of society. Conservation of the old modes of production in unaltered form, was, on the contrary, the first condition of existence for all earlier industrial classes. Constant revolutionising of production, uninterrupted disturbance of all social conditions, everlasting uncertainty and agitation distinguish the bourgeois epoch from all earlier ones. All fixed, fast-frozen relations, with their train of ancient and venerable prejudices and opinions, are swept away, all new-formed ones become antiquated before they can ossify. All that is solid melts into air, all that is holy is profaned, and man is at last compelled to face with sober senses his real conditions of life, and his relations with his kind."
(Karl Marx, The Communist Manifesto)

My personal relation to architecture has always been that of fascination. As a child I remember when our house got an extension. My grandfather was a carpenter and had taught my dad, and in the late 90's my father started digging to make room for the foundation. Filled up with gravel as drainage, lightweight concrete blocks built up the foundation walls that the extension of the house would sit on.
I remember vividly how captivating I found these underground rooms that were created, and the walls being erected, the roof coming up and the spaces that were created in the meeting between the new and the old gambrel roof. An attic space that I would dream of remodelling into my private, secret room.
The existing house had a dormer extending on its longside with a balcony. The new extension made the body of the house shape like a cross in plan. My father would do most of the work himself, including the drawings although he did have help from a professional carpenter at times. And of course from me, holding tools and carrying things.

All buildings develop layers over time.

Buildings' skin, Liberty store in London in the series *How Buildings Learn* which aired on BBC in 1997. Exemplifying using the Liberty department store building and its different layers which at miscellaneous pace develops and change over time. This is a beautiful example and have a lot of meaning in the context of this thesis. In his book by the same name as the later series, *How buildings learn (1994)* Brand points out that "All buildings grow", no matter what their restrictions, "The building will grow into the back yard and down into the ground—halfway under the street in parts of Paris." (Brand 1994, 10) In the chapter *Shearing layers* he discusses, in conversation with architect Frank Duffy, that buildings do not actually exist. He is quoted saying "A building properly conceived is several layers of longevity of built components." (Brand 1994, 12) Four layers are presented: shell (structure); services (cabling, plumbing); scenery (partitions, dropped ceilings); and set (furniture). I find this kind of deconstruction fruitful for my thesis as

it opens up a different perspective. Temporality is taken into account and I would argue that it shifts the focal point into something wider, less tangible albeit revealing the horizons set. The limitations created of a more narrow definition of architecture.

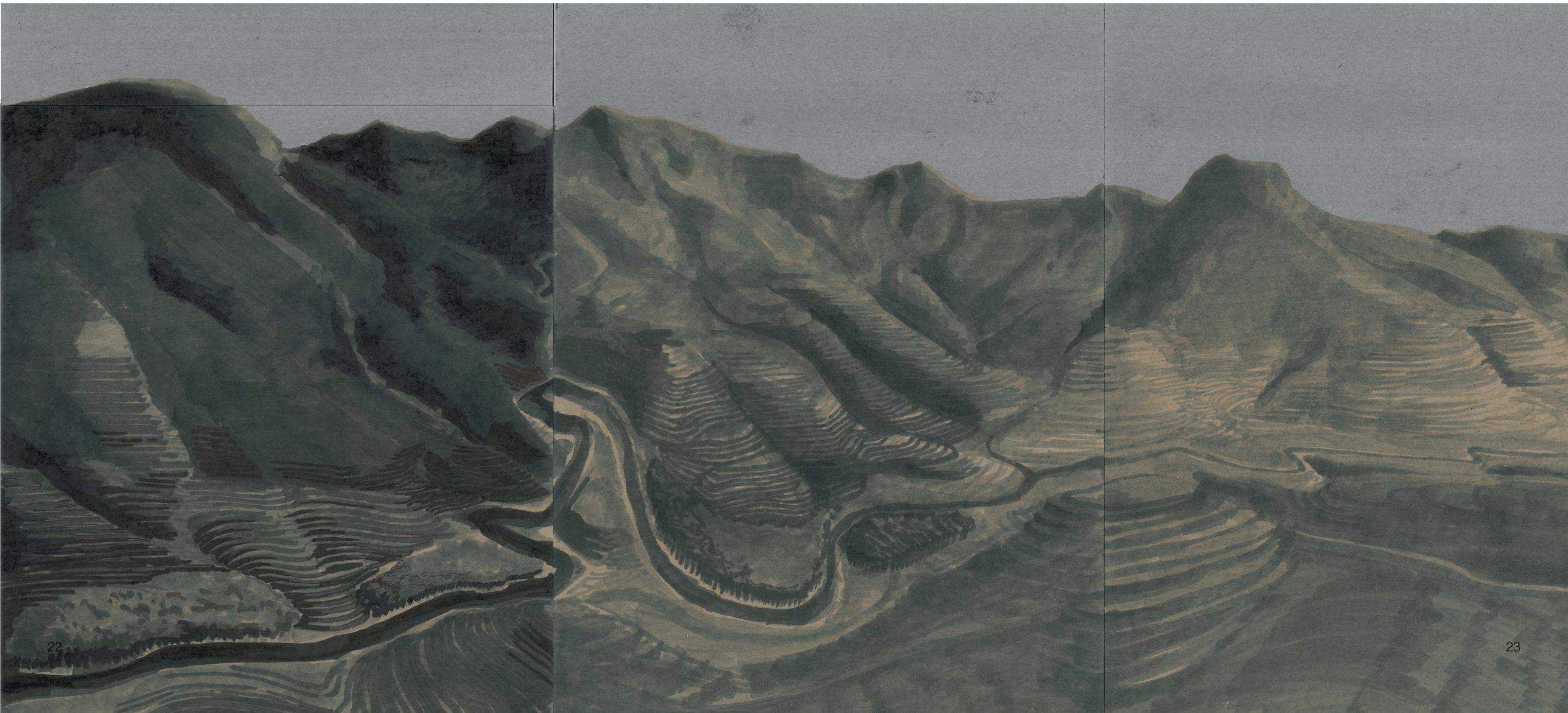
ALL THAT IS SOLID MELTS INTO AIR

In what follows I will try to draw a short introduction to the era of modernity, with help from Berman's book. Modernity has gone through three distinct phases. A first phase between the 16th to the end of the 18th century CE, a first wave of modernism. After the Renaissance came the Enlightenment and the Industrial Revolution and with it the sciences bloomed, and technology developed at an ever more rapid pace.

THE VALLEY
Chiselled by the relentless flow of the river digging ever deeper into the landscape.

The people of this first wave of the modern age still lived in feudal, mediaeval societies and had no concepts of modernity. The vocabulary was missing.

The French philosopher Jean-Jacques Rousseau was the first to use the word moderniste. (Berman, 18f) The second wave of modernity takes place after the great societal revolutions, primarily the French revolution of 1790. Revolutions and upheavals spread around the world. The now more modern public had a sensation of living in an revolutionary age, awareness of the progression was experienced throughout society through the upheavals of traditional structures.
The steam engine made its appearance and



revolutionized factories, and with that labour, transportation and logistics, which transformed the world's markets on a massive scale. Though socially there was still an awareness of the past within the public, people who had lived and had memories of the pre-modern era and saw in real time the revolutions happening all around them. Technically, socially and culturally.

The third wave of modernity, from the year 1900 to the 1990's, is an even more tumultuous phase in modernity with two world wars and incredible technical advances (quite a few of them related to the war industry). The combustion engine is invented and takes the steam engine's place in driving the economy and with it technological, material and cultural development. Berman writes: "Our vision of modern life tends to split into material and spiritual planes: some people devote themselves to "modernism," which they see as a species of pure spirit, evolving in accord with its autonomous artistic and intellectual imperatives; other people work within the orbit of "modernization," a complex of material structures and processes—political, economic, social—which, supposedly, once it has got under way, runs on its own momentum with little or no input from human minds or souls." (Berman, 131f)

Berman uses the protagonist in Goethe's Faust as an analogy for the modern man, divided into three phases over the book's extents. The dreamer; the lover; the developer. Throughout the book Faust is haunted by Mephisto, the devil, with whom he has struck a deal in order to reach his goals. Mephisto is pursuing him, rather than enhancing his great project, to pursue short term profits. In Marx, Berman distinguishes Marx as not an opposing force to modern society, but as a modernist proponent. And indeed, Marx in the Communist Manifesto do give praise to the bourgeoisie for radically improving the means of production, although "Mephisto" (i.e. capitalism) is there darkening the goals in favour of exploitation for profits. Under bourgeois rule, in using global markets and technological development that made huge parts of the rural working force redundant and thus forcing people to move to cities to find work in the growing industries. The forces of production were to be organized in a rarely seen before scale which led to projects

ETERNAL PARKING GARAGE
A parking garage in Bruxelles rising in a strict geometric grid. A concrete monster that will outlive us all. Maybe it will stand as a monument like the pyramids in a distant future.

that surpassed that of the Egyptian Pyramids and the Roman engineering marvels. (Berman, 92f)
"A fusion of Marx with modernism should melt the too-solid body of Marxism—or at least warm it up and thaw it out—and, at the same time, give modernist art and thought a new solidity and invest its creations with an unsuspected resonance and depth. It would reveal modernism as the realism of our time." (Berman, 122)
The fourth industrial revolution—the world wide web—is not a part of Berman's book, since most of that development has occurred since the publishing of the book. Felix Guattari and Deleuze have written extensively on the subject.

Interesting to add to this critique is Paul Connerton's How modernity forgets in which he argues that the concept of modernity is "the objective transformation of the social fabric unleashed by the advent of the capitalist world market which tears down feudal and ancestral limitations on a global scale, and psychologically the enlargement of life chances through the gradual freeing from fixed status hierarchies." (Connerton, 4)

He goes on to explain how modernity actually makes us forget and it's summed up as follows:
"A major source of forgetting, I want to argue, is associated with processes that separate social life from locality and from human dimensions: superhuman speed, megacities that are so enormous as to be unmemorable, consumerism disconnected from the labour process, the short lifespan of urban architecture, the disappearance of walkable cities. What is being forgotten in modernity is profound, the human-scale-ness of life, the experience of living and working in a world of social relationships that are known." (Connerton, 5)

Connerton explains the changing temporality of our modern cities with help of examples from Karl Marx' Grundrisse in which Marx writes: "Labour is the living, form-giving fire; it is the transformation of things, their temporality, as their formation by living time." (Marx, 361) Using the example of the labour behind the creation of a coat, Connerton elaborates how the coat bears the marks of its creator, through its seams and cutting marks, we are being informed of the human labour being put into the coat. But when the coat, or other manufactured objects—architecture—do not bear the marks of its designer or creator, we are left without the traces necessary for us to be made aware of the origin and thus become ignorant, forgetful of things origin.
Our surroundings become trivial, abstracted, and the human relationships we might perceive are obscured. "If we live in a city we consume goods and purchase services in a marketplace with linkages to people and places who remain invisible to us, unknown to us, and perhaps unimagined by us." (Connerton, 42)

"A purely self-referential architecture loses its relation to the social, political and cultural context it is embedded in. It loses the capacity for thinking about architecture in relation to politics and society. It thus comes with the loss of an external 'frame of reference'. In the context of broader debates concerning democratic processes and the commons, architects' dismissive attitude towards philosophy therefore seems a hindrance to actively participate in these debates. It leads them to forget about the influence of their work on the world in common. Architecture is not autonomous: it builds that common world. Architects must therefore take their responsibility as the public intellectuals they are, and reflect on the role of architecture in relation to civil society. In the urgent, contemporary discussions around social and cultural sustainability; climate change; social, economic and spatial inequalities; diversity (or the lack of it); ideas on social resilience, authorship and ownership – which each share spatial components and touch upon the (development of) the built or unbuilt environment – the role of architecture remains practically invisible." (OASE, 5)

PHENOMENOLOGY

My position is far from anti-modernist or traditionalist, a conclusion that would be easy to anticipate due to conservative nature of the theme. I will argue that it's actually not a conservative position, but a radically futurist approach. This thinking led me back to a book that I by chance picked up at the architecture school's library two-three years ago, Paul Kidder's 'Gadamer for architects'. In it Kidder explains Hans-Georg Gadamer's phenomenological philosophy and how he uses hermeneutics as a means to interpret text, art and – as Kidder argues – architecture; by contextualising it, reading it from the horizon of the writer, the artist, or the architect.

UNTITLED
A romantic vision where the foreground is of a figure overlooking the lands below and a darkened sun. An immense structure in an obsidian like material rises through the clouds over the plains below.

Kidder tries to explain the ideas of hermeneutics in an analogy under the third chapter Historical Understanding and Archicture's Past. In his analogy we imagine a woman living in a rural village surrounded by mountains. Somewhere beyond those mountains lies a large city with a life quite unlike that in the village, they speak another language, and the number of citizens are far greater than what she is used to. She's heard a lot of stories from the city but they are all in conflict due to the varying interests and perceptions from those telling the stories. She hears everything from terrifying accounts to tales of wonder.
The only thing that everyone agrees on is that life in the city is very different. She decides to travel to the city to find out for herself what it is like. "She travels along the road to the mountain pass. She stands at the place that had been the limit of her vision for the whole of her life and she looks, for the first time, beyond the mountains. In this moment we may ask, what has she brought to this place, the place that was a point on her horizon but now opens upon another world?"

Kidder continues: "We must say that she brings everything that she has become by virtue of living within the world delimited by that horizon—her language, her knowledge, her habits and sensibilities. They are hers in the sense that they define her identity and character; but, of course, they have not come from her so much as from the long history of the people of the region of villages. Even now, as the horizon ceases to be a horizon and becomes the point of entry the world beyond, she remains the person that was thoroughly shaped by the community enclosed by the mountains, and she carries the world of her community with her." (Kidder, 38)
The analogy speaks of horizons as metaphors for Gadamer's cultural and historical horizons that each and everyone of us lives inside and which limits our perspective. This way of understanding history is fascinating to me. It clearly points out our limits of understanding.
But, as Kidder remarks: "Yet the horizon is also the means of being open, for the culture that one assimilates from one's youth is what makes the world familiar and life livable. Like the mountain pass, the horizon itself forms the only means of venturing beyond the horizon. Like the physical horizon, the cultural horizon functions both as a limitation and as an opening to everything that transcends it." (Kidder, 39)

Horizons are not physical in the sense that they in fact form a frontier or a border, they are dependent on one's own position, and are as such floating as one moves through time and space. From a higher position the glance might travel further yet you risk loose contact with the ground below. As we move we perpetually move our frontiers.

HORIZONS

To Norberg-Schulz location takes on a very important role in architecture:
"The basic act of architecture is therefore to understand the "vocation" of the place. In this way we protect the earth and become ourselves part of a comprehensive totality. What is here advocated is not some kind of "environmental determinism". We only recognize the fact that man is an integral part of the environment, and that it can only lead to human alienation and environmental disruption if he forgets that. To belong to a place means to have an existential foothold, in a concrete everyday sense." (Norberg-Schulz, 23)

He talks of the "act" of architecture and highlights the importance of place. The verb build in building is another example of this act. This raises interesting questions regarding our 1000 year architecture argument; places have an ever so important role to play, as Norberg-Schulz points out. But what is the definition of these places of dwelling? He defines it as:

"Dwelling [...] implies something more than "shelter". It implies that the spaces where life occurs are places, in the true sense of the word. A place is a space which has a distinct character. Since ancient times the genius loci, or "spirit of place", has been recognized as the concrete reality man has to face in his daily life.
Architecture means to visualize the genius loci, and the task of the architect is to create meaningful places, whereby he helps man to dwell." (Norberg-Schulz, 5)

COSMOGENESIS
The universe, birthed in gas clouds, celestial bodies that form in the planet's birth chamber to embark on their cosmic journey.

But they are not mere places because life occurs, Connerton writes: “The inclination to forget the labour process entailed in the production of places is pervasive. Such forgetting is most vividly displayed in certain favourite idioms, as when people speak of the ‘power of place’ or of the ‘genius loci’. Fetishism reappears here because to talk in this way is to imply that places – cities, neighbourhoods, localities, regions – possess causal powers independent of their creators. Yet place is never a fixed spatial entity but always a social process in transformation”. (Connerton, 51)

Settlements connected by paths create cultural landscapes who are organically related to environments, the foci, the character defined by how things are or the environmental character condensed and “explained”. “Genius loci, spirit of place. The “opposite” man has to come to terms with, to be able to dwell.” (Norberg-Schulz , 10) But in the Norberg-Schulz explanatory model something is missing, he puts the external factors (i.e. milieu) as the dominant one that have

THE FOREST FLOOR
A moss covered stone masonry on the forest floor. Agrarian traces from my childhood home’s surroundings.

impact on dwellers – the human occupants – and by this implicitly says that a certain environment creates a certain type of people, or at least culture. Dangerously close to the essentialist line of thinking which historically have had quite a few bad notions.

Norberg-Schulz writes of three topographic categories, the romantic, the classical, and the cosmic landscape. Of micro-, medium- and macro-landscapes. Relates to architectural building typologies. Centre, path and domain – general, abstract concepts – translates the Gestalt principles into architectural terms. The romantic (nordic, scandinavian) is subjective and chaotic, a varied landscape full of micro-landscapes; the classical (the mediterranean) of a human scale; and the cosmic landscape (deserts) of macro-landscapes. (Norberg-Schulz 1980, 42-45) I find Norberg-Schulz writing inspiring to some degree, there a certain romantic shimmering to these ideas, yet as mentioned above there are some problematic connotations to this. What he implies is that humans are products of their environments, which in itself isn’t that controversial but when he starts to argue that not just architecture but also societies form different cultural norms and those are inhabited by the people so that “most people feel “lost” when they are moved to a “foreign” landscape.” (1980, 48) It is also quite obvious that Norberg-Schulz rank these different topographic categories and implies a moral superiority of the “classical”.

ARCHITECTURE AND THE SENSES

In Juhani Pallasmaa’s The eyes of the skin – architecture and the senses the author writes about architecture in a perspective suited for this thesis. I’ve been meaning to read this book ever since I first heard of it sometime in my first or second year of architecture studies. Pallasmaa’s reasoning on architecture in this little book is on the subject which is here concerned. The issues raised in the following sentences relates to the topics mentioned above regarding modernism:
“Buildings of this technological era usually deliberately aim at ageless perfection, and they do not incorporate the dimension of time, or the unavoidable and mentally significant processes of aging. This fear of the traces of wear and age is related to our fear of death.” (Pallasmaa 2012, 34) The theme throughout the book takes into

consideration, I would argue, the time aspect of architecture. Pallasmaa is considering time in architecture, as an architect he is concerned not only with the result of what's been built but with its evolution over time. With his approach, we are enabled to consider greater timespans, i.e. expanding the architecture's lifespan.

"A building is encountered; it is approached, confronted, related to one's body, moved through, utilised as a condition for other things. Architecture initiates, directs and organises behaviour and movement. A building 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." (Pallasmaa 2012, 68)

ATMOSPHERES

The Swiss architect Peter Zumthor's works Atmospheres and Thinking Architecture have been important in my work in providing more phenomenological readings into architecture and ways of thinking of how important a building's given experience is.
Atmospheres is a transcription of a lecture Zumthor held 1st of June 2003 in Germany where he talks of his relationship to architecture, what moves him and is a very subjective account. As the title hints, what manages to move Zumthor are the atmospheres that are created in architectural works that he relates his blablabla
Interaction with architecture is an immediate feeling, one feels the impact upon entering a room. Perception of the space's atmosphere where the human senses rapidly sends signals that lets us assess the room. It is not a linear A to B process, rather an instant bodily response. Architecture is instant, it's our intuitive appreciation. Thus beyond our intellectual ability and a sensation. This is an important dimension to remember. Although subjective in nature, this attitude is helpful.

IN PRAISE OF SHADOWS

This little book is a peek into traditional Japanese culture by Jun'ichirō Tanizaki and raises a harsh critique against international modernism in architecture and modernity in general. Tanizaki curses the invention of the flash bulb and praises the old traditional architecture where the

shadows and natural light were part of the architectural language. His essay is full of Japanese nationalism but raises interesting questions of time, and his critique is also a critique against western fashions that he sees have its influences on Japanese society. It came out in 1933 and in the light of that the issues with nationalism and imperialism of the period will be left out here. The English translation was released in 1977 and has had a huge impact on Western architects. In this thesis I find interest in the topic of temporality and how Tanizaki describes his view on architecture and I would argue temporality from his horizon.

"I suppose I shall sound terribly defensive if I say that Westerners attempt to expose every speck of grime and eradicate it, while we Orientals carefully preserve and even idealize it. Yet for better or for worse we do love things that bear the marks of grime, soot, and weather, and we love the colors and the sheen that call to mind the past that made them." (Tanizaki, 12)

CRITICAL REGIONALISM

"My earliest childhood memories are related to a ranch my family owned near the village of Mazamitla. It was a pueblo with hills, formed by houses with tile roofs and immense eaves to shield passersby from the heavy rains which fall in that area. Even the earth's color was interesting because it was red earth. In this village, the water distribution system consisted of great gutted logs, in the form of troughs, which ran on a support structure of tree forks, 5 meters high, above the roofs. This aqueduct crossed over the town, reaching the patios, where there were great stone fountains to receive the water. The patios housed the stables, with cows and chickens, all together. Outside, in the street, there were iron rings to tie the horses. The channeled logs, cover with moss, dripped water all over town, of course. It gave this village the ambience of a fairy tale. No, there are no photographs. I have only its memory." (Frampton 2007, 318) Here we have architectonic description, yet it consists of memory. Atmosphere, tactility and impressions left behind on Frampton is what make up his architectural reading. Frampton concluded a manifesto for what he calls Critical Regionalism which I have tried to reference below:

1) Critical regionalism is a modernist genre in architecture that is marginal in nature, it's a liberation from historical chains and acts progressive but counters normative optimizations and utopias.

2) The architecture connects to its surroundings, the pre-conditions of the local territory, rather than being a solitary object.

3) Architecture, according to critical regionalism, is "tectonic fact" rather than a scenography.

4) The site specific qualities is a part of the architecture in critical regionalism; universal solutions (air-conditioning is one of Frampton's examples) is not desirable—rather regard the site's climate and light conditions.

5) The tactile is given the same status as the visuals.

6) The vernacular architecture ought to be regarded although not simulated.

7) By opposing the idea of a universal civilization counteract notions of dominant versus inferior cultures. (Frampton 2007, 327)

INTERSECTIONS

Critical theories, InterSections Architectural histories and Critical theories, edited by Iain Borden and Jane Rendell, second chapter, Walter Benjamin, mimesis and the dreamworld of photography, Neil Leach gives a summary of Benjamin's theory of mimesis which is explained through the gazing at photographies and how the human mind, especially as we are children, is well adapted in mimicry. That even what makes us humans, how we learn, is an imitation game. Leach quotes Theodor Adorno claiming "The human is indissolubly linked with imitation: a human being becomes human at all by imitating other human beings." (Borden, Rendell 2000, 36)

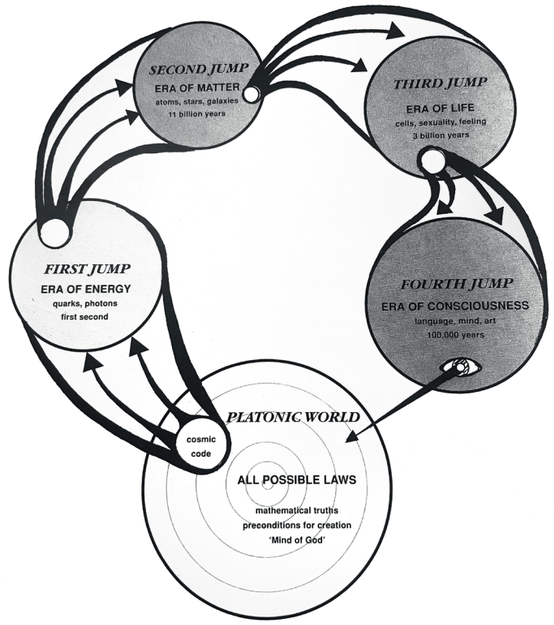
Relevant to this thesis, the mimesis is at work also in architecture. Architecture lets us understand and read a building through the use of mimesis where we know through similarities the way a building works. Through experience we imitate, mimic, and learn how things work, empathising with the architectural language to know the use and understand architecturally the space we are in.

JENCKS ' JUMPING UNIVERSE

Charles Jencks describes his book The Architecture of the Jumping Universe as "friendly polemic looks at the general issues of where design is today" (Jencks, 14) and when working with this thesis, although I might not agree with every single one of his thoughts on design, they have certainly helped me to power up my imagination and take on a new frame of reference. He starts off with describing a brand new time-scale in thinking of architecture. It's time and space, and the scale is cosmic, how do we today relate to such infinite scales?

The new findings in the sciences allows us today to begin to construct a story that could unite all the peoples of the world, Jencks argues, in a metanarrative of how we understand the Universe and our place in it. All the scientific breakthroughs in the past two centuries have led us to discoveries that have (or should have) created a "jump" in our consciousness and opened up for all the really big questions of our time. And for the first time we are able to—maybe not grasp but—fathom and appreciate the immensity of the cosmos and put numbers on "existence", the fifteen billion of years that have passed since the "big bang".

"Traditional religions emphasize constancy, the Modernists with their mechanistic models emphasize predictability, but the cosmos is much more dynamic than either a pre-designed world or a dead machine." (Jencks, 7) So what he proposes is a departure from both traditional thinking and modernity.



JENCKS' JUMPING UNIVERSE DIAGRAMME
Borrowed from the book, page 6.

Jencks also uses a chapter in his book to dwell on the short-comings of Modernity. In part one, Simplicity and complexity, there is a chapter called Demonizing modernism (Jencks, 31) where he walks the reader through the contrasts of Modern sciences and Post-Modern sciences. The Modern sciences he calls reductivist, his critique lies in the oversimplification (his words) and the reduction and generalizations of

phenomena as -isms. Simply put, he describes Modern Science as that of Galileo, Descartes, Newton and Darwin – all dependent on a Christian perspective of the world and the "creation". God was the architect.

LONG TERM THINKING

Vast time scales are difficult to comprehend and work with but we have contemporary examples of projects that are set in this scale. The global seed bank in Svalbard is a 1000 year project, at least. And then there's the pressing matter of storage for used nuclear fuel with facilities all over the world where the subject of how to safely store radioactive nuclear waste for at least a 100.000 years. What strategies are vital for these projects to be realized?

If we have a look at these projects, whose explicit purpose is to work and maintain a lifespan over many generations we are also faced with a change in perspective, in our way of thinking. The Haudenosaunee people in America have been using a method of *seventh generation thinking* in the society's planning, that means that they make decisions with an outlook of what the effects will have in seven generation (one generation is aprox 25 years). Whether they are refining crops or planning irrigation systems, they keep this perspective in mind. It's even written into the Iroquois constitution:

"24 The Lords of the Confederacy of the Five Nations shall be mentors of the people for all time. The thickness of their skin shall be seven spans — which is to say that they shall be proof against anger, offensive actions and criticism. Their hearts shall be full of peace and good will and their minds filled with a yearning for the welfare of the people of the Confederacy. With endless patience they shall carry out their duty and their firmness shall be tempered with a tenderness for their people. Neither anger nor fury shall find lodgement in their minds and all their words and actions shall be marked by calm deliberation." (Parker 1916, 37)

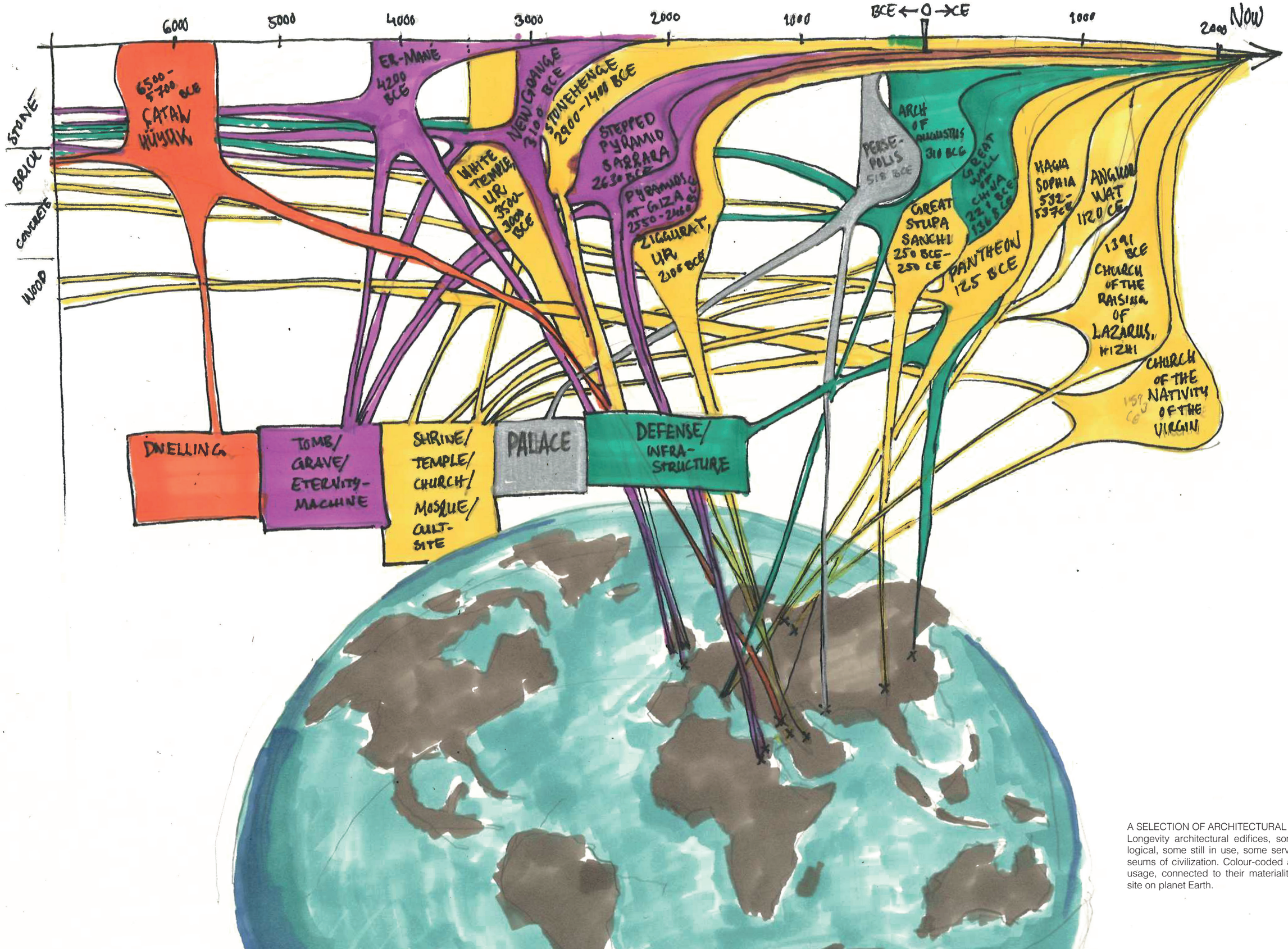
10,000 YEAR CLOCK
Image property of the Long Now Foundation.

ANALYSIS

Looking back in history, what built environments remain? Why is that? Is it due to materiality, materials with long longevity? Is it the usage? Are there cultural connotations or context? Is it the area and its resources that defines a site? The ziggurats in modern day Iraq dating back from the Mesopotamian and Babylonian empires; there's the pyramids in Egypt; the Mayan, Incan and Aztek temples in Mesoamerica. All ranging from 6000 to at least 1000 years and still standing. Withered but none the less recognizable as such. These are of course megastructures, is it their sheer size, monumentality and mass that have made them endure the test of time? Here I would like to quote from Stewart Brand's book again. I find his reworked "six S's" as a great tool to keep in mind:

- "SITE - This is the geographical setting, the urban location, and the legally defined lot, whose boundaries and context outlast generations of ephemeral buildings."
- "STRUCTURE - The foundation and load-bearing elements are peilous and expensive to change, so people don't. These *are* the building. Structural life ranges from 30 to 300 years (but few buildings make it past 60, for other reasons)."
- "SKIN - Exterior surfaces now change every 20 years or so, to keep up with fashion or technology, or for wholesale repair. Recent focus on energy costs has led to re-engineered Skins that are air-tight and better-insulated."
- "SERVICES - These are the working guts of a building: communications wiring, electrical wiring, plumbing, sprinkler system, HVAC [...] and moving parts like elecators and escalators. They wear our or obsolesce every 7 to 15 years. Many buildings are demolished early if their outdated systems are too deeply embedded to replace easily."
- "SPACE PLAN - The interior layout—where walls, ceilings, floors, and doors go. Turbulent commercial space can change every 3 years or so; exceptionally quiet homes might wait 30 years."
- "STUFF - Chairs, desks, phones, pictures; kitchen appliances, lamps, hair brushes; all the things that twitch around daily to monthly. Furniture is called *mobilia* in Italian for good reason." (Brand 1994, 13)

DIAGRAMME



A SELECTION OF ARCHITECTURAL SPECIMEN
Longevity architectural edifices, some archeological, some still in use, some serving as museums of civilization. Colour-coded as per their usage, connected to their materiality and their site on planet Earth.

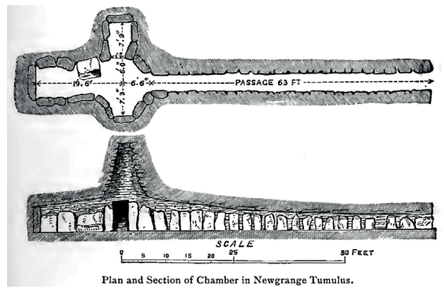
REFERENCES FROM HISTORY, A SELECTION

A small selection of various buildings that have survived time or even thrived will be presented below. Common nominators are the materials used, to no surprise stone and brickwork. Kiln burnt mudbrick as a cheap material, easy to work with albeit labour intensive. Bricks have the potential to withstand thousands of years. Of course, over time, brick withers – as does the hardest granite bedrock.

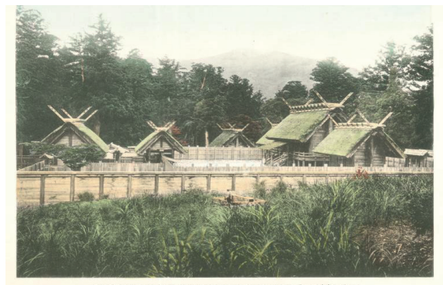
The brick houses of Çatal Hüyük serve as an archeological reminder of historical typologies, pointing at differences and similarities with modern dwellings. The buildings are almost stacked on top of or alongside each other with no streets, the buildings' roof is the common public area, and the roof is also where the entrance is found. Archeologists speculate about the ancient Anatolian culture, which is one of the first known agricultural human settlements, where activity has been dated to at least 7000 BCE. The artefacts found and anthropological research suggest a matriartical society that worshipped a female deity. (Ching, Jarzombek and Prakash 2007, 16-19)

The ziggurat at Ur and the White Temple of Uruk of Mesopotamia have been standing since ca 3500 BCE respectively ca 2100 BCE and eventually became a part of the landscape. They are some of the oldest surviving structures from one of the oldest civilizations known to humans. Their architecture is typical for monumental structures, corbeled mudbricks around a mound of earth as fill. (Fazio, Moffett and Wodehouse 2013, 16)

Quite a few structures in my selection are tombs in various forms. The Er-Mané tomb and the passage grave of Newgrange is made up of megaliths and corbeled stone and over time created mounds in the landscape. A reminder of examples of how much of our natural landscapes are actually shaped by human activity, creating memorial landmarks that stand for thousands of years. (Fazio, Moffett and Wodehouse 2013, 10-11)



Plan and Section of Chamber in Newgrange Tumulus.



ALL PICTURES ARE PROPERTY OF WIKIMEDIA COMMONS.

The pyramids of Giza and at Saqqara were more than tombs, they were thought of as eternity machines and thus more than monuments. (2013, 24-25)

Stonehenge (2900-1400 BCE) in the UK is made up of megaliths and is believed to have had cosmological properties and used as a cult site for vast stretches of time. (2013, 13-14)

Throughout my selection we see that they fall into a few categories – tombs; infrastructure; temples (churches, shrines, and mosques). There's also dwellings and a palace yet their remains are archeological discoveries which indicate they served their purpose and then were forgotten.

We also see a few wooden structures that have endured. All churches and shrines. Imperial Ise shrine (690 CE) is an interesting example, as mentioned above, as it is in a religious rite that is dismantled and re-erected each 20 years. This ensures its longevity and the ritual ties people to it. (2013, 97-98) (2007, 278)

STRATEGIES TO LAST INTO THE NEXT MILLENNIUM

Limitations are always necessary. They create boundaries to work against and create frameworks. Building materials have limits: the material's strength over time reduces, corrosion, breaking down processes et c. Even strong materials like concrete and steel withers over time. But not only physical limitations in materiality and tectonics, social and economic usages change over time. How we make use of a space today may differ substantially in just a decade. To be able to imagine the future we need to look into our past. What buildings today have been able to withstand the trials of time? What are those buildings, what were they built for? How come they are still standing? How come some structures withstand the edge of time for millennia while some crumbles into sand just in a few decades? These are questions we need to have in mind.

Below I will finally present three strategies for the 1000 years architecture:

I) The robust

II) The dynamic

III) Synthesis

I) The robust architecture strategy is that of stone or brick. Proven successful historically, we see the examples above of a lot of edifices and structures that have stood well beyond a thousand years. Labour-intensive and costly yet the investment is, hopefully, a one-off payment with relatively inexpensive maintenance. This strategy has some disadvantages due to the lack of flexibility in the buildings long term life, buildings that last may eventually lose their purpose. Its initial function may be rendered obsolete. If so, it needs repurposing and a transformation that could prove difficult.

II) The dynamic strategy involves materials that are constructed in a way that allows them to be replaced. Every architectural element and detail is able to be disassembled and exchanged for new fresh ones. I imagine the material to be more cost effective, and easily reproduced. The ship of Theseus-paradox comes into mind, is it the same building once everything is replaced? I would argue that it is, as long as it bears the same function or inhabits the same cultural meaning. Yet again, the Ise shrine serves as an example. In the Ise Jingu the practice of dismantling and rebuilding have religious connotations, connected to the Shinto belief of life and death and renewal. The resurrection of the buildings are analogous to life and everything's impermanence. (All that is solid...)

III) The third strategy is the synthesis of the two mentioned above. It combines a robust foundation or base, a skeleton with open spans for temporary changes. The skin on the building could be shed. I here want to implement Brand's six S's, as mentioned above, as a truly sustainable perspective on architecture. The layering of the building which in fact is what makes up the building. Architecture that is truly made out of time and the activity (labour) of its inhabitants, planned by its architects in the light of the future.

THE GLOBAL SEEDVAULT IN SVALBARD, NORWAY
Image property of Wikimedia Commons.

EXPLOSION
An annihilating explosion viewed from a distance erasing ever so permanent structures into oblivion.

NOTHING LAST FOREVER

Is it possible to design for eternity? A question hard to answer. Probably not. Eternity, as infinity, is infinitesimal. There are some things we can predict, with ever growing capabilities for prediction, such as virtual climate models, weather prediction, models of the movement of tectonic plates; the faster our computers grow the more variables are possible to put into the equations. Still, some events are probably inevitable.

Below you'll find listed some categories and subcategories of events that can be hard to predict and when they do, have catastrophic consequences. The biggest threats to the 1000 years architecture:

Natural disasters & catastrophes

- Volcanos
- Droughts
- Floodings
- Ecological collapse
  - Change in climate (desertification; sea-level rise)
- Earthquakes
- Tsunamis

Wars
- International or domestic conflicts

Neglect

We are, and have, in fact been terraforming our planet for a very long time. Humans have shaped their landscapes to be able to optimize crops for thousands of years. The Netherlands, located below the sea-level are using engineering to keep seawater from drowning its towns and cities. With better models we may come up with better ways to avoid, divert, or ease natural disasters. The better we will understand the ecosystems of our planet, the better we might be able to live in symbiosis. If we manage to share our resources internationally, to use the abundance created by the labour of the people of the Earth and distribute them equally, wars may be at least diminished.

"What the book is to literacy, architecture is to culture as a whole." (Kidder 2013, 2)

REFLECTION | CONCLUSIONS

I set out, starting this project, wanting to read and expand my boundaries, to gain a larger perspective and a deeper understanding of architecture. I barely scratched the surface. The conclusions I tried reaching in this thesis and all that have been discussed above started off in the form of a manifesto. I do not claim to have the definite answer to anything but I hope to raise a discussion, challenge the imagination of my readers and inspire long term architectural projects and thinking. A bold statement is often a good start for conversations. There are still many rocks to be turned and over the course of the semester in which I've been writing I have found numerous paths in different directions to go. This thesis is rather to be seen as an exploration into a line of questioning and studies in architecture that I will probably carry on following for many years to come. I wish the time perspective would be expanded and buildings to be built for the long term, leaving marks of cultural layers piling up for people to remember, and to see their history through a broader lens. There are so many books to be read and so little time, but each new viewpoint enriches our lives, our creativity. This thesis contains a wide variety of subjects and may at some points appear fragmented as I might have been a bit too tempted to try to squeeze in everything that ever raised my interest into the same text. I hope the reader despite this has found it somewhat interesting and found some lines of thoughts worth following beyond the scope of this thesis and may inspire further reading.

BIBLIOGRAPHY
FURTHER READING

ILLUSTRATIONS
All illustrations and photos, if not stated otherwise, are property of the author.

- Adorno, Theodor; Horkheimer, Max. 2019. *Towards a New Manifesto*. London: Verso.
- Berman, Marshall. 1988. *All that is solid melts into air*. Middlesex: Penguin Books.
- Brand, Stewart. 1994. How buildings learn. New York: Viking.
- Ching, D.K., Francis; Jarzombek, Mark M.; Prakash, Vikramaditya. 2007. *A Global History of Architecture*. New Jersey: John Wiley & Sons, Inc.
- Connerton, Paul. 2009. *How modernity forgets*. New York: Cambridge University Press.
- Curtis, J. R., William. 1996. *Modern architecture since 1900*. 3rd ed. London: Phaidon Press Limited.
- Fazio, Michael; Moffett, Marian; Wodehouse, Lawrence 2013. *A World History of Architecture*. 3rd ed. London: Laurence King Publishing Ltd.
- Frampton, Kenneth. 2007. *Modern architecture – a critical history*. 4th ed. London: Thames & Hudson Ltd.
- Frank, Adam. 2018. *Was There a Civilization on Earth Before Humans?* The Atlantic. 13 April. https://www.theatlantic.com/science/archive/2018/04/are-we-earths-only-civilization/557180/ (Accessed 2022-05-27)
- Freedman, Ralph. 1970. *The Glass Bead Game*. The New York Times. 4 January. https://www.nytimes.com/1970/01/04/archives/the-glass-bead-game-glass-bead.html (Accessed 2022-06-13)
- Hudson, Danny. 2013. *Magnus Larsson sculpts the Saharan desert with bacteria*. Designboom. 24 June. https://www.designboom.com/architecture/magnus-larsson-sculpts-the-saharan-desert-with-bacteria/. (Accessed 2022-05-31)
- Jencks, Charles. 1997. *Architecture of the jumping universe*. Revised edition. West Sussex: Academy editions.
- Kidder, Paul. 2013. *Thinkers for architects: Gadamer for architects*. New York: Routledge.
- Leman Stefanovic, Ingrid. 1994. *Temporality and architecture: a phenomenological reading of built form*. Journal of Architectural and Planning Research 11(3): 211-225. https://www.jstor.org/stable/43029125
- Mancini, Donato Paolo. 2017. *How colour-changing cats might warn future humans of radioactive waste*. The Guardian. 8 January. https://www.theguardian.com/environment/shortcuts/2017/jan/08/colour-changing-cats-warn-radioactive-waste-nuclear-plants-distant-descendants. (Accessed 2022-05-30)
- Marx, Karl. 1993. *Grundrisse*. London: Penguin Books.
- Monbiot, George. 2022. *The secret world beneath our feet is mind-blowing – and the key to our planet's future*.The Guardian. 7 May. https://www.theguardian.com/environment/2022/may/07/secret-world-beneath-our-feet-mind-blowing-key-to-planets-future. (Accessed 2022-05-30)
- Norberg-Schulz, Christian. 1980. *GENIUS LOCI – Towards a phenomenology of architecture*. London: Academy Editions.
- Pallassmaa, Juhani. 2012. *The eyes of the skin, architecture and the senses*. 3rd ed. West Sussex: John Wiley & Sons Ltd.
- Parker, Arthur C. 1916. The Constitution of the Five Nations. Albany: The University of the State of New York.
- Rapaport, Amos. 1969. *House Form and Culture*. Englewood Cliffs, N.J.: Prentice-Hall, Inc.
- Roser, Max; Ortiz-Ospina, Esteban; Ritchie, Hannah. Our World in Data. 2019. *Life Expectancy*. https://ourworldindata.org/life-expectancy#:~:text=Today%20most%20people%20in%20the,any%20country%20back%20in%201950. (Accessed 2022-04-20)
- Rose, Alexander. 2019. *How to build something that lasts 10,000 years*. BBC News. 11 June. https://www.bbc.com/future/article/20190611-how-to-build-something-that-lasts-10000-years. (Accessed 2022-05-30)
- Svensk Betong. 2022. *Livslängd för byggnader*. https://www.svenskbetong.se/bygga-med-betong/bygga-med-prefab/miljo-och-hallbarhet/livslangd-for-byggnader (2022-05-30)
- Zumthor, Peter. 2006. *Atmospheres*. Basel: Birkhäuser Verlag GmbH.
- Zumthor, Peter. 2010. *Thinking architecture*. 3rd ed. Basel: Birkhäuser Verlag GmbH.