The Overarching Essay

Theatre of Operations, or:
Construction Site as Architectural Design

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Doctor of Philosophy
2012 RMIT University, Melbourne, Australia
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Declaration

I certify that except where due acknowledgement has been made, the work is that of the author alone; the work has not been submitted previously, in whole or in part, to qualify for any other academic award; the content of the thesis is the result of work which has been carried out since the official commencement date of the approved research program; any editorial work, paid or unpaid, carried out by a third party is acknowledged; and, ethics procedures and guidelines have been followed.

Johan R. Van Den Berghe

09 September 2012.
Section 1  The Claim

This is a Ph.D. by project, starting from, and going back to architectural practice. My research has been conducted through design actions, and observations of past and current design actions. As such, I would like to call my research participant observation. I went undercover, I am both witness and accomplice, and I will inform you about what I have seen and done on the crime scene. Some of the projects described are like a crime scene investigation (the projects of my practice). Other projects are rather a crime scene reconstruction (My Grandmother’s House). Still other projects are ‘new crimes’, as to feel the kick again, just to be able to tell you how it works.

Through investigations on my work, and on the work of other architects, through reading, through making new designs in the core of this Ph.D., through self-validations and peer reviewed presentations and discussions, and through writing, I have worked my way through this research, and made my wondrous discoveries.

My contribution to the field is manifold, but all elements of it hide under my basic argument: a creation process in architecture all too automatically is considered as a unidirectional process that starts with the poetic image ($\pi$), that subsequently is substantiated on the construction site.$^2$

$\pi \rightarrow \circ$

My research has revealed that this assumed unidirectionality is false, that the process of creation, which includes the substantiation, is much more negotiated, two-directional, and that, in my work, and in the work of my communities of practice$^3$, the poetic image ($\pi$) is often more triggered by construction practice ($\circ$).

The dream is triggered by the Substance.

$\pi \leftrightarrow \circ$

I learned about the concept of mental space (van Schaik 2008), and I turned my own mental space from something implicit into an explicit awareness of its potential in the process of creation. Then, in my rush for an understanding of my basic argument, I discovered in my work, and in the work of others, a series of aprioristic conditions, conceptual labels and concepts and/or I made them explicit, and/or I gave them a name.

The aprioristic conditions:
A. the emergence of thickness and the concept of section;$^4$
B. Depth as the first dimension;$^5$

$^1$ The concept of the poetic image has been brought forwards proposed by Vitruvius, who called it the architectural idea, and following from this, Alberto Pérez-Gómez has further elaborated on it, “... the poetic image, called after Vitruvius the architectural idea (the images that are proposed by the architect, issuing from his or her mind’s eye” (Pérez-Gómez 2006.a).

$^2$ I have called this automatic—unaware—state the State of Grace. It is the state I want to leave behind in (my) future architectural practice.

$^3$ My communities of practice are the architects, and other cultural actors, whose work is adjacent to the production of my practice, and whose work contributes to my argument in this Ph.D. My communities of practice are a very important part of my literature study. I refer to their work in my texts in the way I refer to other (written) sources, and as such they have an equal status in my list of references (see Section 4.2: References).

$^4$ See Section 2.3.3 / 3-2.
The Concepts:
1. the eye level in the perspective, and the coming of time;\(^6\)
2. borrowing from tektonikos;\(^7\)
3. the chronological drawing;\(^8\)
4. designing in substance;\(^9\)
5. the labyrinthine slowness;\(^10\)
6. the X-Ray-drawing;\(^11\)
7. chronology on the drawing table;\(^12\)
8. substance on the drawing table.\(^13\)

Together, they explain my main argument, make it work in (my)(future) architectural practice, and they are all parts of my contribution to the field. These concepts co-exist as to become a specific moment in a specific place, merging the moment of *to dream* (π) with the place of *to make* (©) into an energetic *momentum*, the acute moment of creation when the designing architect can place himself/herself at the strategic intersection of time and space. I have called this moment of acuteness the State of Emergency.

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5  See Section 2.3.3 / 3-3.
6  See Section 2.3.4 / 2-2.
7  See Section 2.3.4 / 2-3.
8  See Section 2.3.4 / 2-4.
9  See Section 2.3.4 / 6-3.
10 See Section 2.3.3 / 2-5.
11 See Section 2.3.4 / 3-2.
12 See Section 2.3.4 / 4-1.
13 See Section 2.3.4 / 4-2.
An important part of the literature study is the constant study of the work of other architects, whose work contributes to the discussions of this Ph.D. This implies a lot of traveling, in order to visit the works themselves, and a lot of reading, but also studying their drawings, their stances, etc …

Top left: one (double) page of memo writing on reading an interview with Wang Shu (Amateur Architecture Studio), comparing his stances on the left of the page, with my comments and comparisons with the way I work in the right column.

Top right: three (double) pages of memo writing on my investigations on the work of Lacaton & Vassal compared with my own work (right column): House DG-DR (see Section 2.3.4 / 5), House VDV-C (see Section 2.3.4 / 2), House B (see Section 2.4.4).
Section 2  Theatre of Operations

2.1  Introduction to Section 2

This section is an overarching essay, in which I will develop my argument. Here, I will explore, explain and demonstrate the research theme through the basic stances of the work. Some of the projects elaborated on in this essay will be further demonstrated in the SmallBooks as to give priority to the continuous course of the main argument. In this essay, I will refer to work made by other people: architects, artists, philosophers, writers, ... who contribute to my argument. They are my communities of practice. Their works are the spine of my literature study.

In Section 2.2: The State of Grace, I present my research theme as I looked at it in the early stage of my research. Then I formulate a critique on it, based on the insights that came to the surface through this research. This critique introduces the subsequent stages in the research, through which the shift in my argument has occurred, in: The Shift\(^{15}\), and The State of Emergency\(^{16}\).

In Section 2.3: The Shift, I will put the aforementioned critique on hold in order to first go back to the informal formulation of my research theme at the outset of this Ph.D, and to the formal research question(s) that I have further formulated in the course of this Ph.D. Then, I will present the First Interrogation of the Practice, which has generated a series of first conceptual labels\(^{17}\). In order to better understand this first interrogation, I subsequently will present two cases: My Grandmother’s House, and The Excavation, that come forth from my mental space (van Schaik 2008), and on their sub-cases: ?, and The Meaning of Life. These two cases have strongly contributed to the shift, and they have generated my understanding of the basic layer of my work\(^{18}\). The conclusions drawn from these cases have enabled me to conduct the second interrogation of the practice\(^{19}\), through which I could find, understand, and explain a series of concepts\(^{20}\), and to better understand, and explain, my construction practice as architectural design\(^{21}\). Then, in a series of Ph.D Designs\(^{22}\), that have run parallel with the other research steps, I have been able to further test and clarify these concepts, hence my Research Theme. There, all the elements were at hand to move into Section 2.4: The State of Emergency.

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\(^{15}\) See Section 2.3: The Shift.

\(^{16}\) See Section 2.4: The State of Emergency.

\(^{17}\) See Section 2.3.2: The First Interrogation of the Practice: architectural drawings (mostly vertical sections), the eye level of a standing man, building materials (substance), drawing materials (pencils, paper), scale modeling, collaboration with craftsmen.

\(^{18}\) See Section 2.3.3 / 3-2: The Emergence of Thickness, and the Concept of Section, and Section 2.3.3 / 3-3: Depth as the First Dimension.

\(^{19}\) See Section 2.3.4: The Second Interrogation of the Practice.

\(^{20}\) See Section 2.3.4 / 2-2: The Eye Level in the Perspective, and the Coming of Time, Section 2.3.4 / 2-3: Borrowing from Tektonikos, Section 2.3.4 / 2-4: The First Chronological Drawing, Section 2.3.4 / 3-2: The X-Ray-Drawing, Section 2.3.4 / 4-1: Chronology on the Drawing Table, and Section 2.3.4 / 4-2: Substance on the Drawing Table.


\(^{22}\) See Section 2.3.5: The Ph.D Designs: Section 2.3.5 / 2: New Stairs, and Section 2.3.5 / 3: The Meaning of Life, and Section 2.3.5 / 4: Etude.
In Section 2.4: The State of Emergency, I will recollect the critique formulated in Section 2.2, and the insights brought forward through the precedent investigations. Through a series of recent and current projects\(^{23}\), I will focus on the innovated state of mind generated by these doctoral investigations, and demonstrate that intellectual change has taken place.

In Section 3: Conclusions and Future Directions, I will present the conclusions of this doctoral investigation, and lift the veil of what (my) future architectural practice might look like.

In Section 4, I include my biography, the references, the bibliography, and the acknowledgments of the Ph.D.

In Section 5, I explain the validation procedures of this research.

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2.2. The State of Grace

2.2.1 The Informal Formulation of the Initial Research Theme

At the outset of the Ph.D, it was my contention that a process of architectural design starts with *to dream* a poetic image (π), that subsequently has to become *to make* in the matter of the world (substance). The potential of the process of making—construction practice©—as a repertoire (Schön 1983) of poetic images was not completely absent, yet it was still a vague presumption to which I did not pay attention yet. I was focused on the transition from *dream* to *make* that had to be imposed by the genius mind of the architect on the ignorant substance of the world, with *dream* as the master, and *make* as the servant. It was my belief that the process from *dream* to *make* was unidirectional, and I thought that mapping this unidirectional process should be the aim and the theme of this research. I thought of the architect as the dreamer, and every contamination of the dream caused by the maker should be quickly annihilated by the dreamer.

I would like to explain two elements that were important in that stage of the research, and then I would like to formulate a critique on them from where I stand now.

Firstly, I found points of reference in principles put forward by Plato and Aristotle.

Plato, in *Ion*, stated: “Poetry is the art of divine madness or inspiration”. In Plato's metaphor of the three beds, the first bed is made by the gods, and it is the Platonic ideal. The second bed is made by the carpenter, the craftsman, who imitates God’s idea (mimesis). The third bed is made by the artist as an imitation of the carpenter’s bed. The first bed made by the gods is the ideal, the one that mankind should aspire through imitation, which is the concept of mimesis. But the ideal is at the same time unattainable. According to Plato, the craftsman’s *technê* (skill) has to serve *poiesis* (the bringing into existence of something that was not already there) to finally attain mimesis.

In *Built upon Love: Architectural Longing after Ethics and Aesthetics* (Pérez-Gómez 2006.a), Alberto Pérez-Gómez elaborates on this concept of mimesis, when he contends that: “Hans-Georg Gadamer has suggested that the poetic image is also mimesis in its original sense, a representation of “the star dance of the heavens” (Gadamer, 1986). The philosopher and the architect are often possessed by a madness that enables them to recollect “those things by virtue of being close to which god is divine” (Plato, Phaedrus)(Jowett and Hayden 2001). This madness, which architects aim to share through their work, is the enthusiasm of recollecting ideal beauty when they see beauty on earth. Souls thus become winged and are eager to fly upward. This inspiration is often frustrated and castigated as madness, yet it is “the noblest and highest and the offspring of the highest to him who has or shares it” (Plato, Phaedrus 249d-e)(Jowett and Hayden 2001). (…) Similarly, architecture (as *poiesis*—the bringing into existence of something that was not already there) discloses incarnate beauty through playful making.”

Aristotle stated four causes: the first cause, the formal cause, is the blueprint of an immortal idea. The second cause for him is the material a thing is made of. The third cause is the process through which the creator makes the thing. And the fourth cause is the good or the purpose and end of a thing (telos).
For Plato, as for Aristotle, there is a clearly distinguishable separation in time and space between respectively the ideal bed made by the gods (Plato), or the blueprint of an immortal idea (Aristotle), and the process through which respectively the carpenter is making a bed (Plato) or the creator is making a thing (Aristotle).

Both in Plato’s metaphor of the three beds, and in Aristotle’s concept of the blueprint as the immortal idea, I initially found a confirmation of my first contention (see above). In these early research stages of the Ph.D, I was confident that I had found good information about how my work and the work of architects I admire came into being through an understanding of the lucid separation between to dream and to make, presented by Plato and Aristotle. I saw their separation as a confirmation of what I thought that was going on in a process of architectural creation. Coming out of the fuzz I was residing in before I embarked on this research, this clarity must have been comforting, providing me with an insight in the analytical steps that marked the analytical phase I was going through. By now, it appears to me like a blind but necessary first grasping at anything that could help me on the stumbling way of my research path.

Secondly, in these early stages of the research, I was narrowly focusing on poetics in architecture, because I was intrigued by the power and the potential of poetry as a human concept by which architecture, like (a) language, is able to communicate from and to the human soul, and that architecture, like (a) language, by doing so, is capable of addressing and triggering deeply rooted emotions, thus comforting human existence by demonstrating and acknowledging (a) completeness beyond narrowing abstractions. In my experience, and in the experience of so many among us (as I find out through sincere communication with other people—my communities of practice) this is an indispensable aspect of (making) architecture, and learning to (better) master it through this Ph.D would help (me) to lift (my) architectural production to a higher and more humane level.

### 2.2.2 A Critique on the Initial Research theme

But:

I would like to present my critique on my contention at the departure of this Ph.D, formulated from the concluding period of it. This critique comes forth from two sources:

- on the one hand, from having closely observed my work, more specifically its creation processes, and from there, (the creation processes of) the works of other architects, which I will mention, and which matter to my argument, and whose works I recognise as the spine of my literature review;
- on the other hand, from the continuous self-validation of the research process, and from the other forms of peer review, where I could benefit from the feedback and the conversations with other people.

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24 My colleague Ph.D. students, my mentors and supervisors, architects I talk with, academics I have met at international conferences, but also the work of other architects I admire, and who contribute to my argument, even if they oppose it.

25 Which is not the final point of arrival of the discussion, as I may hope.

26 See Section 5: Validation Procedures.
1. My first critique is about Plato’s vision of the ideal, and Aristotle’s concept of blueprint.

I want to focus on the delay and separation I have found in their approach, hence on the unidirectionality in what they have put forward. Both in the approach of Plato and Aristotle, there is a delay and separation, in time as well as in space, between the genesis of the idea that comes first and the idea’s substantiation that only comes later. Both approaches present the process of creation as evolving in a unidirectional sense: from the idea(l) or the blueprint towards its substantiation.

This is contrary to my experience of design processes and construction practice, and to what I have found through close observations of them. In my experience, and in my observations, I have found two-directionality, which means the two-directional, simultaneous and equivalent transfer of design information from to dream to to make and from to make to to dream, and my research has revealed—as I will demonstrate throughout this Ph.D.—that it is possible to master all these steps in an integrated whole, instead of separating them. I have found examples, quotes and stances of this integrated approach in the work of other architects, writers, philosophers, … that contribute to my argument, and I will bring them into the discussion in the course of the upcoming descriptions. Together with evidence found in works from my own practice, I will underpin this critique and demonstrate an alternative implicitly present in the work, and more explicitly in the recent and current projects that I will describe at the end of this exegesis.27

For a number of projects, I have developed new design sessions in the core of this Ph.D. (New Stairs, Etude, The Boathouse 1 and The Boathouse 2, The Haystack Gallery, WoSho), in order to be the first witness of these experiences28, and to validate them, in order to make them explicit.

Alberto Pérez-Gómez contends that: “In Western architecture a space must be maintained between the poetic image, called after Vitruvius the architectural idea (the images that are proposed by the architect, issuing from his or her mind’s eye, originally called ichnographia, orthographia, and scenographia or skgiographia), and the building. The challenge is to make both present while accounting for the temporality of lived experience. A spark of eros moves across the space to activate delight in the inhabitant’s mind. According to Aristotle, delight is a movement of the soul. There has to be a difference between the actual and the possible for eros to be engaged” (Pérez-Gómez 2006.a).

I agree with Alberto Pérez-Gómez when he argues that “… the challenge is to make both present while accounting for temporality of lived experience”. When I literally read and understand his formulation, making both present may also suggest reducing the delay to a minimum, if possible reduce it to zero. My close observations of (my) design processes appear to confirm the benefits of this reduction of delay.

But, at the same time I criticize his argument that “There has to be a difference between the actual and the possible for Eros to be engaged”. Through this formulation, I began to ask myself questions about the initial formulation of my research theme, because I was beginning to presume a possible co-presence of, not a separation between, the actual and the possible. I assume a possible co-presence of to make and to dream, and I want to neutralise their separation, to reduce the “space (that) must be maintained between the poetic image (…) and the building”. It is my argument by now that, if an architect succeeds in reducing or avoiding the aforementioned delay, he/she may deliver a better architecture, because closer to the real: architecture-as-real, not as mimesis of the ideal.

27 See Section 2.3.5: The Ph.D Designs, and Section 2.4: The State of Emergency.
28 I suggest I call it participative observation.
Here, I would like to add that, according to Plato, the ideal bed made by the gods, proposed in his metaphor of the three beds, is unattainable for mankind, and the substantiation (by the carpenter) is merely an imitation of the ideal (mimesis). This approach encapsulates the inevitability of failure and disappointment. I am not prepared to accept this inevitability just like that, because it is not in my nature, nor appears it to be in the nature of other architects whose work matters to my argument. My attitude of resistance as an architect must have come forth from the grounds on which this critique is based. Moreover, the bed of Plato’s carpenter is merely a representation of the ideal, whereas I could see a strong presence of the real—as opposed to a representation of the ideal—during close observations of my work, and of the work of other architects. The process of creation in architecture thus encapsulates both construction practice that makes (and) the generation of the architectural idea. Through this Ph.D, my innovated process of creation (re-)unites both, and in the flow of architectural creation, they are experienceable as one.

2.
My second critique is about my aspired poetics in architecture. My notion of poetics in architecture at the outset of the Ph.D. was still too bereft of precision. This may be the reason why I was describing poetics in architecture in too many metaphors, which was the main argument of the feedback on my GRC presentation of November 2009 at Sint-Lucas School of Architecture. Metaphors incarcerated my discourse instead of liberating it, thus “avoiding the direct confrontation with the work itself”, as Tom Kovac correctly remarked. I was running in circles around it, not knowing at what point I should dive into it. When I began to understand the notion of poiesis—to bring into being through making-in-substance—through my encounter with mimesis (see above), I gradually could understand why and how to replace poetics by poiesis, since I found the aspect of making-in-substance more prominent in the notion of poiesis, in which I also found evident connections with my aspiration to reduce the aforementioned delay between to dream and to make, coming to the presumed convergence of themes I wanted to investigate through this Ph.D, whereas poetics may relate more to the effect the result of poiesis can have on the viewer or the beholder. So, my research shifted gradually from the beholder to the maker, as I became aware of my position as a maker-of-architecture. The aspect of making-in-substance became increasingly important because I gradually began to detect it through close observations of my work, and of the works made by other architects.

In the early stages of my research—The State of Grace—I adhered the Platonic ideal, still cultivating the distance between to dream and to make. This ideal(istic) approach is all too often being taught in schools of architecture, too automatically accepted in current architectural practice, and in mediated culture. The whole cult of starchitecture we have to live through is a clear demonstration of this. It is the Platonic concept of mimesis, the perfect imitation of the ideal form that comes forth from the genius mind of the architect, who sees himself as Little God, believing in the completely controllable, in the possibility of the master-genius to freeze the frame of the world in order to reside there in a State of Grace. I gradually began to doubt this vertical hierarchy between the ideal and the real, and the unidirectional process from to dream to to make.

Experience has taught me, and close observations of my work and of the work made by others have confirmed that this process could not be unidirectional. There was something coming back from the other direction (to make, construction practice ©), which means that the process of making was not a passive step subsequent to the moment of creation (to dream, the poetic image π), but explicitly belonging to it, conflicting with it, (in my work, and in the work of my communities of practice) generating it.

π ← ©
This was the end of my Platonic serenity, the end of The State of Grace. Banking on new and growing insights, I was entering a New State\(^{29}\): *The State of Emergency*.\(^{30}\) I will explain the transition between these stages in Section 2.3: The Shift.

### 2.2.3 House M-V (1989-91)

Before I start my elaborations on The Shift, I first present an early work that demonstrates my State of Grace and, forthcoming, my need to shift away from it. I had made other works like these, but I suggest I just take this one as an example.

House M-V (1989-1991) has been an early work in which I wanted to perform the unidirectional act from the master mind of the genius architect to the subservient substance on the construction site.

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\(^{29}\) Here, I would like to refer to Donald Schön’s book *Beyond The Stable State* (Schön 1971). Schön opens his book with: “I have believed for as long as I can remember in an afterlife within my own life—a calm, stable state to be reached after a time of troubles. When I was a child, that afterlife was Being Grown Up. As I have grown older, its content has become more nebulous, but the image of it stubbornly persists”. In this book, Schön suggests that the appropriate response to change is not to surrender to it or to resist it, but to understand it in order to incorporate it as to transform it into one’s own intellectual change as the seed and the engine for innovation in the world. This requires a constant alertness, an acute awareness of a necessity, with no time to waste.

\(^{30}\) The State of Emergency is declared by the authorities in a situation of great urgency, calling for an utmost attention by all the parties involved. For the architect, there is no excuse to suspend or to waste the opportunity to build, for the architect’s occasions are limited, and he’s running out of time. Acuteness. Urgency. This is what I propose: to sound the alarm, the wake up call for all the parties involved to be there: The State of Emergency.

\(^{31}\) House M-V: plan, scale model 1/50, detail stairwell, view from the orchard.
The client presented me an old farm with a courtyard surrounded by four wings, of which one wing was in a deplorable condition, to be removed and replaced by a new fourth wing. As a young architect, I had something to prove, and I wanted to make a design like Richard Meier\textsuperscript{32} would do.

The design process was very remote from construction practice, of which I had little experience. I was convinced of my abilities to impose my will upon substance and the craftsman. The new wing was a strained volume with tense lines, and all the surfaces were then finished in white plaster. I have applied the same finish for all the other walls of the existing wings of the farm, because I was obsessed by a complete white purity—Purism—like the white villa’s of Le Corbusier\textsuperscript{33} in the 1920’s. With this white purity, I wanted to save my local world (of architecture), that then was dominated by falsified vernacular versions of the Flemish farmhouse typology.

Then, the construction process was difficult and confronting. Making all the connections of these pure volumes waterproof, and invisible, because they would disturb the purity of the expression, was too big an endeavour for an architect of my age. Although I had made a considerable amount of drawings, they only partly could match with the real substance on the construction site, and it took a lot of patience and skillful work by the craftsmen to complete the construction process successfully (which they did!).

Finally, my desired pure white house was there, but not for long, and soon my frustrations, that had already grown during the construction process due to a continuous flow of questions by the craftsmen (“Explain to me: how am I going to do this?” “If you can draw beautiful forms in the air, how are we going to make this in substance?” “Did you ever spend more than five minutes on scaffoldings?”), began to even grow bigger. My white masterpiece (which it was for an architect of my age) was beginning to fade: gradually, little cracks began to appear in the plaster skin of the house, dirt and dust float in the air, and invisibly slow, moss began to nestle in cracks and silicone joints, turning them from my desired purity into an unwanted green and grey. My almost perfect and pure white world, instated by the force of will, was starting to crumble, and slowly I was losing my religion. I had still been thinking unidirectionally. I had not been able to listen to the messages sent from what was ‘the other side’ back then: by the process of-making-in-substance. I had no ears yet, since architecture to me was all about the eyes.

My belief in the unidirectional transfer of information between to dream the poetic image π, and to make on the construction site © began to fade to grey.

\[ \pi \rightarrow \circled{\text{©}} \]

I had to learn, and my foremost need was time, and it was calling me for a change.

\[ \text{32} \] Richard Meier was one of my heroes in that period. I had seen Meier’s Museum für Kunsthandwerk in Frankfurt-am-Main (Meier 1981-1984), and I wanted to equal him, be it in a much smaller project.

\[ \text{33} \] I was (and still am) fascinated by Le Corbusier’s Villa Savoye, Poissy, France (Le Corbusier 1929-1931), and his Villa Stein-de Monzie, Graches, France (Le Corbusier 1927).
2.3 The Shift

2.3.1 The Formal Research Question

In the previous section\(^{34}\), I have sketched my research theme at the outset of this research, and then I have formulated a critique on it from where I stand now, instead of reserving it until the very end, for three reasons:

firstly, because I wanted to install my critique in the overarching argument early in the discussion. By doing so, I want to facilitate an understanding of the shift in my research theme, and to present the subsequent reading with this information in mind;

secondly, because installing this meta-level of the discussion will enable the reader to position himself/herself in relation to it;

thirdly, in order to prepare for Section 2.4: The State of Emergency, where I will bring my argument to a closure—again, informing the reader here about where this is heading for in the end.

In this Section 2.3: The Shift, I will demonstrate the elements that have generated the shift.

In the upcoming \textit{flashback}, I will present my formal research question, following the informal formulation of my research theme as described in Section 2.2, and a short comment on it. Doing so, a solid understanding of (the evolution of) the research theme should be instated.

Subsequently, I will introduce the projects from my practice that contribute to my argument.\(^{35}\) I will also present two design research cases\(^{36}\), and their sub-cases\(^{37}\) that have acted from \textit{my mental space} \cite{VanSchaik2008} as the constitutive sources for the themes in my work. They have been the necessary piece of research to (better) understand my work, hence my research theme, and together with my investigations on the projects they have triggered the shift from the aforementioned State of Grace into the State of Emergency.

Before I explain the concept of mental space, I now present my formal research question(s).

In the slipstream of emerging new insights after my informal formulation of my research theme, I stated my formal research question(s) as follows, on the occasion of my formal enrolment in the Ph.D.:

\textbf{Research Theme:}

"(In my own body of work) an architectural design is a process that starts with \textit{to dream} a poetic image (the Embryo of the design) in the landscape, subsequently becoming \textit{to make} (techné) in the real matter of the world. In the landscape, techné invigorates/contaminates the poetic image of an architecture.

The intention of the maker (me?) is to reach \textit{poiesis} in its classical Greek connotation, which is: \textit{to make}, in the first place, and by doing so, possibly reaching poetics."

\(^{34}\) See Section 2.2: The State of Grace.

\(^{35}\) See Section 2.3.2: The First Interrogation of the Practice.

\(^{36}\) See Section 2.3.3 / 2: My Grandmother’s House, and Section 2.3.3 / 3: The Excavation

\(^{37}\) See Section 2.3.3 / 2-4: ? (Question Mark), and Section 2.3.5 / 3: The Meaning of Life.
Research Question:
How and to what extent is *to make* the invigorator/contaminator of *to dream* in the act of making architecture in the landscape?

Subquestion one, and starting point of the research: how and to what extent is *to make* the invigorator/contaminator of *to dream* in the act of making my own body of work as an architect?

Subquestion two, and speculation on the nature of my future practice, and on the nature of architectural practice as a whole: how and to what extent can my own body of work in connection with new designs that generate answers to the research question(s) become new knowledge that serves my future practice, the praxis of architecture as a whole, and thus society as a whole?

The material area I want to study starts with my own body of work as an architect, and expands to/is interwoven with my context of architectural/cultural mentors, my communities of practice who influenced me. Together with the investigation of my own practice by project, I intend to study its connection with its cultural context as a literature review, and point at their influences upon my own mastery and its potential on (my) future practice.”

This formal formulation of the research question(s) already has more precision and modulation than the vague circumscription at the outset of the Ph.D.38, yet it announces the elements that would be the subject of my critique on it.39 Again, two points of critique have to be mentioned here:

Firstly, the first subject of my critique from Section 2.2.2 is still present in the formulation of the research proposal: on the one hand, the assumed unidirectionality from *to dream* to *to make* is still predominant, occupying the opening sentence: “(In my body of work) an architectural design is a process that starts with *to dream* (…) subsequently becoming *to make*…”

on the other hand, a growing insight in the potential of *to make* is becoming apparent in the second part of the Research Theme: “The *intention of the maker is* (…) *to make, in the first place, and by doing so, possibly reaching poetics.*”

This means, apart from the assumed unidirectionality, and compared with the informal formulations of the research themes at the outset of my research, that in this formal research question(s), the importance of *to make* has grown as an informant of a creation process in architecture, “the invigorator/contaminator of *to dream*”, as I stated it in the research question), and that *to make* as a (the?) protagonist in the process of creation in architecture was no longer unthinkable at that formal moment, though not fully clear yet, since I apparently wanted to put a question mark behind it, since it was my research question. It has been a pre-conscious stage that I had to go through on my way to a better understanding that could only become conscious later, when my research had evolved from this point. But still, in this formulation, a shift in my vision on the transition between *to dream* and *to make* becomes apparent.

Secondly, my second element of critique from Section 2.2.2 is still present in the formal research question, in that the confusion between *poetics* and *poiesis* was still at work. It took more of intense research in order to clarify these concepts. I kept *poiesis* in the discussion, because it is intensely related to *to-make-*

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38 See Section 2.2.1: The Informal Formulation of the Research Theme.
39 See Section 2.2.2: A Critique on my Initial Research Theme.
in-substance. I left out poetics, not because I want to neglect it, but because it is more remote from my argument and my research subject, and I discovered new concepts on my research path.\textsuperscript{40}

Then, because I wanted things to take a start, I have thoroughly interrogated my practice.

\textsuperscript{40} See Section 2.3.3 / 3-2: The Emergence of Thickness, and the Concept of Section, Section 2.3.3 / 3-3: Depth as the First Dimension, Section 2.3.4 / 2-2: The Eye Level in the Perspective, and the Coming of Time, Section 2.3.4 /2-3: Borrowing from Tektonikos, Section 2.3.4 / 2-4: The First Chronological Drawing, Section 2.3.4 / 2-2: The X-Ray-Drawing, and Section 2.3.4 / 4-1: Chronology on the Drawing Table, and Section 2.3.4 / 4-2: Substance on the Drawing Table.
2.3.2  The First Interrogation of the Practice

2.3.2 / 1  King Lear and Cordelia

Before I start to unpack the body of work through the first interrogation of the practice, I will outline how and where this research started.

In the emerging research climate at Sint-Lucas School of Architecture, keeping up with the Bologna Process, and through the Research Training Sessions (RTS)—a pre-doctoral program at Sint-Lucas School of Architecture developed by Johan Verbeke—we (as teachers-practitioners) could make acquaintance with an array of knowledge and research paradigms, compare them, and participate in an emerging international network of researchers in architecture that had been co-built by Johan Verbeke and the research staff of Sint-Lucas over a period that in the meanwhile spans many years. We were on the eve of embarking on research, a real sense of breakthrough.

After having considered different paradigms and options, I have decided to do this research through the medium of design itself, for which the Ph.D By Practice By Invitation (van Schaik and Johnson 2011), refined by the RMIT research and innovation staff (Melbourne, Australia) since the late 1980’s, appears to be closest to, even in design practice. “I was determined that what we should research was the architectural production of architects, and that we should do this through their architecture: in the medium itself” (Leon van Schaik, in: van Schaik and Johnson 2011).

“Consider yourself invited”, it says on top of the ideogram ‘The Invitational Cube’, in which “the invitation also creates the prosenium arch” (Leon van Schaik, in: van Schaik and Johnson 2011).

Leon van Schaik and Richard Blythe had demonstrated the principles of the Invitational Cube, together with ideogram 1: A perspective of the process (past, present, future), ideogram 2: a plan of the process (proposition, tranche 1, tranche 2, tranche 3, Ph.D moment, completion), and ideogram 3: a conical view of the process (‘The Cone’) in the RTS session at Sint-Lucas School of Architecture in Brussels on 14 September 2007, a few days before Leon van Schaik’s book Mastering Architecture (van Schaik 2005) has been the subject of the second RIBA research symposium in London on 19 September 2007 (RIBA 2007). For a full record of these ideograms, I refer to Leon van Schaik’s writings in general, and to Design Practice Research: The Method (van Schaik 2009) more specifically. In this paper, presented at Sint-Lucas School of Architecture on 20 November 2009, van Schaik is very clear about the nature of design practice research: “It is closely observed design practice”, and that is exactly how my research has been conducted, as I will demonstrate in the upcoming paragraphs and sections.

I must have perfectly fitted in ‘The Invitational Cube’: the natural history of the creative individual (Gardner 1993), being in the periphery, wanting to innovate, experiencing a sense of breakthrough, seeking recognition and having metropolitan ambitions, but still wanting to remain ‘a local’. I was looking for/beginning to participate in public behaviours (Collins 2000) that support intellectual change. Having sneaked my way into the seminar of the previous RTS-batch, I took the opportunity offered to me by Leon van Schaik and Richard Blythe to present my work to a group of peers in September 2007. The return was surprising, as an immediate and honest recognition of the work arose, and I could benefit from the feedback produced by my peers, and by the aforementioned tutors. “By actually understanding the individual behaviours, we can better support the public behaviours and enable what we want to do” (van Schaik 2005 / RIBA 2007). I understood, by experiencing it, what van Schaik means by “curating cultural capital” (ibidem). When Dag Boutsen, who was in my RTS batch and who is currently Head of Sint-Lucas School of Architecture, asked Leon van Schaik: “What does Jo now have to do in order to be accepted as a PhD student at RMIT”, Leon immediately replied: “He already is accepted!”. “This research defines the community that the practice addresses, or seeks to address” (van Schaik 2005).
I considered myself invited. And later that afternoon, our peer discussions continued in L’Archiduc, a Jazz club in the Dansaerstraat in Brussels, with a good glass of red wine.

From then on, I subsequently looked inwards, thoroughly interrogating the practice, and outwards, bringing my work and the interrogation of it on the public forum of the subsequent GRC’s, where I would demonstrate the nature of the work, the proceedings of the investigations of it, and the way I conducted these investigations, and I put all this under the investigation by my peers, this by then vibrant community of practitioners and academics. This subsequent looking inwards and outwards, and the proclamation (dissemination) of, and public discussions on my (intermediary) research results correspond with what Richard Blythe, in his lecture Creative Practice Research: What We Do, How We Do It, and What We Discover (van Schaik, Blythe and Stamm 2012), explains as the critical phases in the research we do at RMIT, which have been identified by Richard Blythe through a series of research steps (phases) visualised in the Reflection Model ideogram (Richard Blythe), which explains core reflection concepts in this kind of research. We will now go through these steps. For the ideograms, I advise the reader to consult the references mentioned in the upcoming paragraphs.

Step 1 of the Reflection Model ideogram shows the practitioner-researcher who looks inwards, reflecting on a body of work (R-o). In Leon van Schaik’s Ideogram 1 (van Schaik 2009), I situate step 1 of the Reflection Model ideogram (Blythe 2012) as “turned to look down the slope of past practice (shown as a tube). This is how the reflection begins” (van Schaik 2009).

This is what I have done in the ‘Cordelia-phase’ of my research (see below): the First Interrogation of the Practice. There, I have also been inspired by what Martyn Hook, in his Ph.D The Act of Reflective Practice, The Emergence of Iredale Pedersen Hook Architects (Hook 2008), has called “constructing families: this drawing is an attempt to collect and understand a body of work, 6 years and almost 150 projects. Mapping becomes the means by which project diagrams may be grouped and explored with-in a format that permits relationships to emerge” (Hook 2008).

I refer to my fieldnotes further in the current section and in the exhibition. These fieldnotes are a comparable attempt of constructing families. Also, in this phase I actively have started to unveil my enchainments with my heroes, the work of architects whose work I admire and who contribute to the discussions of this Ph.D. I refer to the field notes on that part of my literature study in Section 1: The Claim, and in the exhibition. “We have looked a lot at the way in which people work by linking different contexts. Here sometimes being conscious of mentorship is really crucial, you start getting people to fully understand who their hidden mentors are” (van Schaik, in: RIBA 2007).

At the end of this stage, the research on my mental space (van Schaik 2008) has been the first turntable of this Ph.D. In my research, Step 1 investigates the past design practice.

Step 2 of the Reflection Model ideogram (Richard Blythe) is the research phase of reflection in the design process (R-i), which means while the design process is ongoing. “The reflection takes place ‘in’ the activity of making the next project, so while engaged in the activity of designing (or art making), and this becomes the ‘scene’ of the reflection—temporally and contextually synthesised” (Blythe 2012).

In Leon van Schaik’s Ideogram 1 (van Schaik 2009), I situate step 2 of the Reflection Model ideogram (Blythe 2012) as the phase in which “the practitioner looks full face across the current work in their practice, now informed by the research into their past practice” (van Schaik 2009).

I started this phase with the Second Interrogation of the Practice, so as to culminate in making the Ph.D Designs that I could investigate ‘in the making’. The Ph.D Designs have been the second turntable if this Ph.D. “Here it is now not possible to step away from the project (being designed)
entirely and describe it in a different space but where in fact the reflection happens while fully immersed in the creative process—identified by Marcelo Stamm as a kind of instantiated reflection” (Blythe 2012).

In my research, Step 2 investigates the (past and) present design practice.

Step 3 of the Reflection Model ideogram is the research phase of reflection for (R-f), “a projection forward to a set of future possibilities that are emerging in the moment of the creative act” (Blythe 2012).

In Leon van Schaik’s ideogram 1 (van Schaik 2009), I situate step 3 of the Reflection Model ideogram (Blythe 2012) as the phase in which “the practitioner profile looks to the right up the slope of future, prospective practice about which the research has enabled a meaningful design speculation” (van Schaik 2009).

I could come into this phase through making the Ph.D Designs (see step 2), and then further evolved into design speculation by making real projects: the Boathouse44, just coming out of the design process of WoSho / Fashion45, re-making46 the design of House B47 that triggered48 the making of a speculative design The Haystack Gallery49, and by creating the first glimpses of WoSho / Architecture50, which I consider as the vanguard or the most advanced proposition on (my) future architectural practice.

In my research, Step 3 investigates the (present and) future design practice.

Step 4 in the Reflection Model ideogram: as Richard Blythe has demonstrated in his lecture Creative Practice Research: What We Do, How We Do It, and What We Discover (van Schaik, Blythe and Stamm 2012), by and while drawing it in an overarching scheme (which in itself is R-i!), these critical phases

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44 See Section 2.4.3: The Boathouse 1 and the Boathouse 2.
45 See Section 2.4.6 / 1: WoSho / Fashion.
46 “The work undertaken by creative practitioners (researchers) in the PRS (Practice Research Symposium, the new name for GRC or Graduate Research Conference, jvdb) programme reveals that when people are in the process of designing the work itself they are also reflecting in another way. They remember earlier instances while working on a current project. This remembering involves a re-membering or re-constructing a version of an earlier, a process that is substantially different to simply recalling in the sense that what emerges are all sorts of possibilities for creating a new construction of that earlier instance” (Blythe 2012).
47 See Section 2.4.4: The Third Chronological Drawing: House B, which I have re-made for the exhibition The Urban Tendency at Westminster University School of Architecture and the Built Environment, London (2008), and of which construction site photographs began to haunt me in the step 3-phase of my research with regards to (my) future architectural practice. These photographs would be the trigger for The Haystack Gallery (see Section 2.4.5).
48 Marcelo Stamm observed (in a blackboard conversation with Richard Blythe in November 2011: “ah, what’s going on here with the projects, with the ‘back story’, is that while working on a current project there’s a reflective thing going on where an earlier instance is reflected, re-membered, in the current project, this is one way of identifying where the reflection is, it is in the surfaces of the family tree of projects” (van Schaik, Blythe and Stamm 2012), “So what we see is that in the very act of creating a new project practitioners see in past projects opportunities and possibilities for new projects emerging as it were from the ghosts of projects past, and that this new gap, or new window, a new view was not possible without the act of creating a new project” (Blythe 2012), hence my spontaneous use of the word “haunting” when I mean the way in which the construction site photographs of House B have triggered the design of The Haystack Gallery.
49 See Section 2.4.5: The Haystack Gallery.
50 See Section 2.4.6 / 2: WoSho / Architecture.
(steps) come together around “the runway of projects” so as to form the “Theatre of Practice”, “a kind of synthesised, synthetic space in which these three moves of reflection are happening in a simultaneous way in something that we might begin to think about as a synthesised reflection model” (Blythe 2012), where the public of peers and academics provides the research process with feedback (“authorities”), and criticism (“challengers”) and calibration. This is exactly what has been going on in my research through the subsequent GRC’s and seminars, and to the particular moments of supervisory advice in which a well balanced interplay of proximity (commitment) and distance (overview) between me and my work on the one hand, and both my supervisors Prof.dr. Richard Blythe and Prof.dr. Johan Verbeke and my work on the other hand, have provided the research with criticism, imput, comments and good advice.

I have presented a runway of projects in the theatre of practice for the first time during the GRC of November 2010, where I have put up an exhibition of scale models and drawings around which an open discussion could emerge and a further calibration of my research process could take a shape. Later, and banking on my experiences with this first runway of projects, and for the sake of the quality of the Ph.D moment, I have presented my exhibition concept at my Penultimate GRC in April 2012 at Sint-Lucas School of Architecture in Ghent. In my view, even the ‘Ph.D Defence’ is another learning moment around this runway of projects in the theatre of practice, where the latter co-exists with the theatre of research, and this has been the reason for me to adopt Theatre of Operations (both in practice and in research—the latter takes place in the medium itself, in practice) as the title for this Ph.D.

Coming to a closure on this RMIT research method, I would like to point at Leon van Schaik’s Conical view of the process—the ‘Cone’—as he demonstrated it to us through his first lecture at the RTS session in September 2007 at Sint-Lucas School of Architecture in Brussels, and published in Reflections +13 (van Schaik 2009). Now I would like to connect van Schaik’s cone with the structure of this research: Tranche 1 in the Cone corresponds with the First Interrogation of the Practice (see Section 2.3.2).

The thin double line in the Cone (gap 1) corresponds with the Concept of Mental Space (the first turntable in this Ph.D) (see Section 2.3.3).

Tranche 2 in the Cone corresponds with the Second Interrogation of the Practice (see Section 2.3.4).

The next thin double line in the Cone (gap 2) corresponds with the Ph.D Designs (the second turntable in this Ph.D) (see Section 2.3.5).

Tranche 3 in the Cone corresponds with the design and research in The State of Emergency, the final tranche of the work (in this research!) (van Schaik 2009) (see Section 2.4).

“At the tip of the cone sits the Ph.D moment—a place of ease from which the entire research can be contemplated, and a pipette inserted into it—here shown entering from top right—and taking the samples from which the Ph.D narrative is extracted and constructed” (van Schaik 2009). Sitting at the tip of the Cone, I have sucked my Ph.D out of it and written my conclusions and future directions (see Section 3).

Step 5 in the Reflective Model ideogram (Blythe 2012) then is the moment when this research can be overseen, observed from the outside (by me, by other people), commented on, communicated/explicated in terms of: what is this research about, and where did the shift(s) take place? It is the moment when dissemination starts through the exhibition, the DVR (Durable Visual Record), and through my spoken word in the Ph.D presentation, and later, when I will be philosoping about it, having doctored it all out through this research. Doctor of Philosophy.

In my research, looking at it from Step 5: the dynamic transcendental moment (Reflective Model ideogram, Richard Blythe), a fundamental shift has clearly taken place between the initial State of Grace (see Section 2.2) and the State of Emergency (see Section 2.4), mainly produced through what happened in the 51 That corresponds with my exhibition concept that we all look are looking at, and that also corresponds with my core concept of section, that I will explain further in this overarching essay.

52 For a complete record of these “public behaviours” I refer to Section 4 and Section 5.

53 Here, I invite the reader to also take at hand the table of content, printed in SmallBook 1.
gaps that have lodged the first turntable of this Ph.D (in which I discovered my mental space) and the second turntable of this Ph.D (in which I generated the Ph.D Designs). And then, hinging on these two turntables, the whole research has gradually unveiled what it was that was shifting in order to generate this new knowledge, this intellectual change so as to lift the obstructions towards (my) future architectural practice. I refer here to Richard Blythe’s Topological Fallacy ideogram54 (Blythe 2012) as explained in his keynote lecture at Sint-Lucas School of Architecture in Ghent, and to his explanation on this shift: “This transformative reflection is also about the emergence then of a new proposition that exceeds the boundaries of the condition from where it came. I refer to this idea in my PhD thesis as searching for the ‘cracks in the surface of things’ through which creative practitioners strive for a glimpse of new possibilities (Blythe, 2008)” (Blythe 2012). “The research is then grounded in and qualified (gains its quality from) by differences and shifts, and the extent to which new propositions are enabled by this process to exceed the boundaries of their original context, by the extent to which the design researcher has been able to crack open the surface of an existing condition and to extend out through that surface a scenario or proposition that exceeds, even if in some incremental way, precedent” (ibidem).

This was also demonstrated by Marcelo Stamm (Stamm 2011), when he explained the shift in his lecture at the GRC opening night on 3 June 2011 at RMIT in Melbourne, inviting the audience to see what was there in a dotted image, and then to look closely and carefully so as to see another image in the same graphic representation. Then, at the keynote lecture of the GRC_EU at Sint-Lucas School of Architecture in Ghent on 27 April 2012 (van Schaik, Blythe and Stamm 2012), and in his lecture in the Slovene Pavilion at the Venice Biennale on 26 August 2012, Marcelo Stamm explained the rabbit-duck55 shift, what he then called “a minimal eidetic reflection scenario”, as a perfect example of a shift in seeing and/or an example of looking at the same thing—for instance on the runway of projects—from different angles, which generates more than one insight, and all these insights hinged together generate the shift in the overarching insight. Here again, I refer to the Topological Fallacy ideogram (Richard Blythe 2012) “showing how multiple fields of enquiry intersect a subject/topic. At the coincidence point a reflective hinge is established in which fields reflect back into each other while retaining their autonomy and autonomous authority” (Blythe 2012).

Going through this research, and especially through the hinge moments of the gaps (the first and second turntables of this Ph.D) has generated the overall shift in insights in this Ph.D. that first made me see the work, and then, when I started to look closely and intensely at it, see that what I first saw in fact is (about) something else.

In the background of this RMIT research paradigm, which is doing research in the medium of design itself, there are elements of Qualitative Research (Stake 1995, Becker 1998, Denzin & Lincon 2003), mainly based on the principles of Grounded56 Theory Research (Glaser & Strauss 1967, Glaser 1978, Strauss 1987, Corbin & Strauss, forthcoming 1990), and on (Participatory) Action Research (Lewin 1946)(Torbert 1991)(McNiff et al. 1996)(Kemmis & Mc. Taggart 2000)(Stringer 2007). Although these research methods come forth from social sciences57, they have proven to be useful in some places of the research,
additional to the architectural research in the RMIT mode as described above. The methods, coming forth from social sciences, have then been carefully adapted as to better fit with the research context in architecture.\footnote{Becker argues that “The qualitative researcher can rely on a variety of methods to obtain information: observations, reflexive journals, interviews, field notes, analysis of material and so on. As a bricoleur he will use whatever strategies, methods and empirical materials that are at hand.” (Becker 1998, p.2). “If needed he [the researcher] will invent new tools or techniques in the course of this research according to the given setting at that time” (Denzin & Lincoln 2003, p.4).}
For the First Interrogation of the Practice, I have brought data from my archive back in my studio.\(^{59}\) A direct and continuous analysis of the data has tagged the data collecting as to better guide the next round of data collecting. I have systematically compared the data of the practice under scrutiny with the research theme, and vice versa. The latter, at the moment of this first selection, was not clearly delineated yet\(^ {60}\), but collecting and processing the incoming data has strongly contributed to finetune the formulation of my research theme.

The data in this research have been collected through **observations** and **design actions:**
- observations of past and current design actions from the practice;
- observations of the re-design of two projects from the past practice\(^ {61}\), as to better discover the characteristics of my work hence of the formulation of the research theme. This has been done by interviews, and by observations of my ongoing re-design actions;
- observations of ‘theoretical’ Ph.D Designs\(^ {62}\), made in the course of the research as to test and validate very specific design aspects that could not be done in the ‘regular’ practice;\(^ {63}\)
- observations of new design actions from the practice, deliberately brought into this research as to observe them while ongoing.\(^ {64}\) The Boathouse 2 covers both the practice and the research, directly testing the validity of the ‘theoretical’ Ph.D Designs into real architectural practice, from where these ongoing ‘theoretical’ design processes could be better informed;

It is important to note that the design actions always have been first in the chronology, then followed by observations of them. Design actions come first, then come observations, but some design actions (see Section 2.3.5: The Ph.D Designs) have been ‘designed’, in order to subsequently observe them, or could be observed as design actions in the innovated practice (see Section 2.4: The State of Emergency).

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\(^{59}\) Which encompasses both the construction site and the drawing table.

\(^{60}\) See Section 2.2.1: The Informal Formulation of the Research Theme.

\(^{61}\) See Section 2.3.4 / 5: House DG-DR (1999-2004), and Section 2.4.4: House B (2005-2007). I have re-designed these houses into the more acute versions of them, and presented them at the Exhibition *The Urban Tendency*, at the Westminster University School of Architecture and the Built Environment in the summer of 2008. There, I have asked visitors what these exhibited design revealed to them about the nature of my practice. I have chosen these projects for this research step, based on my presumption that these designs were standing the closest to my research theme, in order to better guide and inform the first Interrogation of the practice, and in order to further finetune the formulation of my research theme. These short interviews revealed the following themes, apparently characteristic for my work: substance, section, making scale models, meticulosity, craft, enigmatic, a piece of furniture.

\(^{62}\) See Section 2.3.5: The Ph.D Designs, and Section 2.4.5: The Haystack Gallery.

\(^{63}\) Because the ‘normal’ design briefs did not give me the opportunity to specifically design these aspects I wanted to further investigate, for instance: designing Depth of Darkness through Thickness of Substance, coming forth from My Grandmother’s House (see Section 2.3.3 / 2), further elaborated on through the design of a subterranean ‘house’ that consists of a poet’s bed that moves overnight, a wine vault, and a bathroom (See Section 2.3.5 / 4: Etude), or a shelter for two sheep and a wandering couple (See Section 2.4.5: The Haystack Gallery).

\(^{64}\) See Section 2.4.3: The Boathouse 1 and The Boathouse 2.
I promised myself a design-research table (March 2009)
I made myself a design-research table (August 2009)
My design-research table with scale models, drawings, samples of construction materials, etc … (October 2009).
To do this interrogation, I have promised myself a design-research table, on which I collected drawings, site reports, sketches, and other documents, scale models, samples of materials, books from my study, my computer, my favourite pencil, my Yard-O-Led fountain pen. Though I was still calibrating my research theme, I have aimed for precision, consistency, and relevance in the sample-taking in this first interrogation of the practice.

I compared the projects and immediately began to make field notes of these comparisons. Doing so, my data analysis turned into giving conceptual labels to projects (based on emerging characteristics), subsequently moving into the grouping of conceptual labels based on constant comparisons. I collected my intermediary insights through direct schematic memo-writing, and writing papers.\(^68\) I have orally presented and discussed this ongoing process of data collecting, comparing, and conceptual labeling with colleagues, other researchers and academics.\(^69\)

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\(^{68}\) See Section 4.1.5: Publications.

\(^{69}\) See Section 5: Validation Procedures. I recall a full day discussion in my studio with my second supervisor, Johan Verbeke, making a thorough revision of the data collecting, comparing, conceptual labelling. We had placed ourselves amidst the material I was selecting, listening to the information that came back from the interrogation of the scale models, drawings, archive documents, and field notes. We would repeat a workshop like this one year later, on 20 August 2010, at Sint-Lucas School of Architecture in Brussels, where we could discuss the proceedings of this research, based on the ongoing interrogation of the practice. We spent an intense afternoon, looking at an extensive set of sketches I had collected from my practice (a lot of them were sketches from the ongoing design process of the Boathouse 2 that overlaps both the practice and the research), and making schemes with chalk on a board, like mathematicians do.

\(^{70}\) Field notes from the First Interrogation of the Practice.
Field notes from the First Interrogation of the Practice.
Direct schematic memo writing.

Scheme (chalk on board, Brussels, 20 August 2010).
My practice so far has produced approximately 137 projects that, together with my literature study (my communities of practice, and a thorough process of reading), are the data of this research.

Ph.D scheme in early 2009.

Scheme Research by / through Design Johan Verbeke (Verbeke 2002).

Scheme Research by / through Design, EAAE Conference, Brussels, 21 January 2012 (Van Den Berghe 2012).
An early schematic overview of the Ph.D, which I have made in early 2009, for a long time has been very helpful to keep my overview of the whole process. Then, I have made this scheme (Van Den Berghe 2012), based on the scheme made by Johan Verbeke (Verbeke 2002), in which Verbeke precisely describes and presents an overview of the stages and procedures through which research by/through design evolves.

My input (data) consists of approximately 137 projects and the literature study (my communities of practice). Then, in a series of operations these data are processed (design actions, and observations of design actions), which leads to an output (research results) that has knowledgeability, and that is translated in language as to make it explicit, and to disseminate it through deliverables (exhibition and exegesis and oral presentation).

Note that the literature study (the communities of practice) is present in every stage of the research, which provides context throughout the whole process. Note also that design is also present in every stage of the research (as I will demonstrate in this exegesis).

In a first round in my archive77, as to establish an overview and a timeline, I have observed a practice that started in 1987.78 I became aware of the concept of interrogation—me and the work as two persons—and I started my version of a persona creation79 (Grudin and Pruitt 2003), and scenario development (Carroll 2000; Cooper 1999; Kuniavsky 2003, Yee 2007). This was when I found this short conversation from William Shakespeare’s play King Lear (Shakespeare 1605), in which King Lear interrogates his daughter Cordelia:

**King Lear:** “... what can you say to draw, a third more opulent than your sisters? Speak.”

**Cordelia:** “Nothing, my lord”.

**King Lear:** “Nothing?!”

77 Looking at the backs of archive boxes: names, places, and dates. I have then imagined—mentally rehearsed—the whole practice.

78 After three years of apprenticeship in the studio of architect Lampens. See Section 2.3.4 / 4-2: Substance on the Drawing Table.

79 This also resonates with what Rolf Hughes and Katja Grillner describe as alter ego’s (Hughes and Grillner 2006), at work in mentative processes. “This means that one should be able to choose one’s ‘way of seeing’—assuming, of course, that such a choice is available to us in the first place—instead of being ensnared within a relatively narrow range of culturally legitimised perspectives and discourses. It also means that we consider research not as a codified form of academic inquiry but rather as a cultural practice that occurs by and through interaction with other cultural practices and that leads to knowledge that is always understood as situated.” Hughes then quotes Fernando Pessoa, from The Book of Disquiet: “Each of us is several, is many, is a profusion of selves” (Pessoa 2002). Later, during a tutorial session at Sint-Lucas School of Architecture in Brussels on 27 February 2009, Rolf Hughes and I talked about the concept of dédoublement, described by Denis Diderot, in Paradoxe sur le Comédien (Diderot 1773-1777, 1830), the paradox of the actor who, on the one hand, plays the character that wheeps on stage where he has to be ‘convincing’ as a wheeper, and on the other hand has to take care of his character as not to wheep too much in order not to lose control. In the same way, during this first interrogation of the practice, I kept one eye on the work, and the other on the first informal formulation of the research theme.

Arthur Rimbaud, when he wrote about the poet-as-seer who adopts different personae, wrote in a letter to his teacher Georges Izambard: “Je est un autre” (Rimbaud 1871).

For a clear elaboration on the mechanisms at work between the self and the other, I refer to Ranulph Glanville’s essay The Self and the Other: the Purpose of Distinction (Glanville 1990.02).

Finally, Edmund Husserl provides us with a fundamental description of the concept of the alter ego, and its central role in his transcendental subjectivity, wherein he points at it as the first otherness—self-as-other—encountered by the self-as-given (Husserl 1950), and the helpful and indispensable intermediary between the self-as-given and the other-as-other. For further elaboration on this theme, I also refer to Daniel Birnbaum, The Hospitality of Presence: Problems of Otherness in Husserl’s Phenomenology (Birnbaum 2008).
Cordelia: “Nothing”.
King Lear: “Nothing will come of nothing, speak again”.

There is reciprocity in this conversation: as King Lear wants to be flattered by his daughter, he first circles around her, creating the right circumstance and carefully looking for the right question to ask her, even tempting her by comparing her to her sisters: “a third more opulent than your sisters”, in order to create the opportunity to be flattered reciprocally by her.
At first, the interrogated Cordelia does not say much: “Nothing, my lord”.
Then, circularity comes into it, by repeating to her “Nothing, my lord” with “Nothing?!”, in its turn repeated again by her: “Nothing”.
And then, there is acceleration in the circularity, by repeating twice “Nothing” in a short sentence, and then the circle turns inwards into a sudden spiral—we may see a spiral as a ‘circle-with-insistence’: “speak again.”
And clearly, if she would answer with “nothing”, it would not be accepted by her father! So here, the insistence goes for immediate gratification.

Within the First Interrogation of the Practice, I organised a first interrogation round of the practice according to the movements of this small but meaningful interrogation of Cordelia.
In the first interrogation round, I was King Lear, and my work was Cordelia:
so: (King Lear as the interrogator) of (Cordelia as the work)

In a second interrogation round, I interrogated the interrogator (me), who interrogated the work: 80
so: (me as interrogator) of ((King Lear as interrogator) of (Cordelia as the work))
or: improvement of an observation into a high quality observation 81
or: observing myself when observing the observed 82

And then, in the umpteenth round of interrogations, I insisted, like King Lear all of a sudden insisted on Cordelia: 83
so: insisting on the observer (King Lear), and on the observed (Cordelia-my work): after having circled around the body of work repeatedly, this circular movement of observation then turns inwards into a sudden spiral the moment I decide to ‘insist’ in another series of observations. Out of these series of interrogations, the further unpacking of the work (see Section 2.3.2 / 2: Work) takes place.

In TABLE 1, I give an overview, and hard data, of the past practice that spans almost 27 years. In the second part of this table, I present the works I have selected through the First Interrogation of the Practice. For an overview of all the works produced, with some hard data, I refer to TABLE 3 in Section 4.1.2: Projects. Subsequently, I will further focus on these works in SmallBook (3): Work.

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80 This is the moment I decided to open up the archive boxes, and look beyond the method of memory and imagination I had applied up till now, suscited by the names and dates on the backs of the archive boxes. And then, all the documents came out, on which I did a next round of observations.
81 See Ranulph Glanville’s paper Doing the Right Thing: the Problems of … Gerard de Zeeuw, Academic Guerilla (Glanville 2002.03), where Glanville elaborates on de Zeeuw’s concept of improvement: how to turn observations into high quality observations by turning these observations, in a second round of observation, into an observable in its own right, as to go for improved observations that generate improvement of action.
82 With me as the actor who is weeping (see Diderot).
83 When was this? I do not know exactly. It was when time was ripe, when “rigour and honesty” (Glanville 2009) had brought me there, when peer reviews and assessments were beginning to send signals, when I felt it was time.
### Typologies of Projects

<table>
<thead>
<tr>
<th>Typologies of Projects</th>
<th>Number</th>
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<tr>
<td>family houses</td>
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<td>29.93</td>
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<tr>
<td>family houses / transformations</td>
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<td>31.39</td>
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<tr>
<td>furniture</td>
<td>12</td>
<td>8.76</td>
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<tr>
<td>apartment blocks</td>
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<td>1.46</td>
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<tr>
<td>practice/business/industry</td>
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<td>12.41</td>
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<td>public buildings</td>
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<tr>
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<td>Total number of Projects (August 2012)</td>
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### Built Projects / Unbuilt Projects

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<tr>
<th>Urban</th>
<th>Suburban</th>
<th>Country</th>
<th>Nature Reserve</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>41</td>
<td>51</td>
<td>19</td>
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<td>24</td>
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<tr>
<td>35.76</td>
<td>37.22</td>
<td>13.87</td>
<td>1.46</td>
<td>17.52</td>
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### The First Interrogation of the Practice / Selection

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<th>Section</th>
<th>Name Project</th>
<th>New / Transform.</th>
<th>Built / Unbuilt</th>
<th>Location</th>
<th>Program</th>
<th>Status</th>
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<tbody>
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<td>2.3.2 / 2.1</td>
<td>Social Housing Ghent (1989 / unbuilt)</td>
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<td>urban</td>
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<td>private</td>
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<td>House S-U (1989-1991)</td>
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<td>built</td>
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<td>private</td>
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<tr>
<td>2.3.2 / 2.3</td>
<td>House VDV-C (1990 / unbuilt)</td>
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<td>unbuilt</td>
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</tr>
<tr>
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<td>built</td>
<td>suburban</td>
<td>community centre</td>
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<td>built</td>
<td>urban</td>
<td>design studio</td>
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<td>house + truck workshop</td>
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<td>House B (2005-2007)</td>
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<td>house/fashion workshop</td>
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<th>Built</th>
<th>Country</th>
<th>House</th>
<th>Fashion Workshop</th>
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### Selected and Nature Reserve

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See SmallBook (3): Work
2.3.2 / 3 There still is a Gap!

Having done this first interrogation of the practice, I have presented my emerging understandings at the GRC_EU of April 2010, at Sint-Lucas School of Architecture in Ghent. I was not unhappy with this presentation, having observed my work in the context of work made by other architects who contribute to my argument, and I received encouraging comments.

The data collecting of this First Interrogation of the Practice, and the immediate processing of these data, was the phase of ‘open coding’\textsuperscript{84} in the research, which is “the interpretive process by which data are broken down analytically. Its purpose is to give the analyst new insights by breaking through standard ways of thinking about or interpreting phenomena reflected in the data” (Corbin & Strauss 1990 p. 12).

Doing so, I could begin to give conceptual labels to phenomena of which I could see the importance through repetition in the samples of my work, and which are:

- architectural drawings (mostly vertical sections);
- the eye level of a standing man;
- building materials (substance);
- drawing materials (pencils, paper);
- scale modeling;
- collaboration with craftsmen;

But I felt that there still was ‘something else’ in there, underneath my habitual ways of seeing, calling for discovery.

This has been the moment when the concept of Mental Space (Van Schaik 2008) has entered and triggered the shift in my research.

\textsuperscript{84} in Grounded Theory Research.
2.3.3 The Concept of Mental Space

Introduction to the Concept of Mental Space

I was both closely observing my own work in connection with the work of other architects, and reading Leon van Schaik’s book *Spatial Intelligence: New Futures for Architecture* (van Schaik 2008) at the time when this shift began to occur. This book was teaching me about the concept of mental space, through which I discovered the existence of my own mental space.

The concept of Mental Space needs some explanation first. For a more profound reading, I refer to Leon van Schaik’s book.

Mental space is the medium in which the eidetic spatial experiences of our past gather. We all have a mental space, so we share it as a concept yet every human being has his/her personal version of it, based on his/her individual spatial experiences. Our mental space is our personal collection of constitutive spatial moments in our life that give rise to our spatial intelligence, which is, like any other form of intelligence we incorporate, an ability—in this case: our ability to better conceive our new spaces, or shape and refine our concept of space—with information coming forth from, and connecting us with our deepest self (soul), where these gathered spatial moments wait to come to the surface, for instance, in the flow of creation.

“There is something in ontological scholarship that we do have to consider, because we have a very deep history in space, and in that history there are aeons of finding caves and working out how to use them, aeons of making temporary shelters and huts, and working out how to create secure thresholds between the wilderness and where we would sleep—that so vital time for the workings of our intelligence, as we have seen. And there were aeons of weaving fabrics and cording ropes and inventing the intricate structures of tents that could withstand sandstorms in deserts, and so on; and we cannot assume that these experiences have not become part of our inherited spatial capability” (van Schaik 2008).

As Jessica Marshall argues, “It is as if, embedded somewhere in your brain, there is a time machine that can take you forwards and backwards at will. What if the thing we call memory works both ways, helping us to both recall the past and imagine the future?” (Marshall 2007).

Through this doctoral research, my mental space transformed from a passive archive that was only implicitly there into an active and explicit medium where I can find and consult the deepest roots of my spatial intelligence, through which I can understand better my practice under scrutiny and the work of my communities of practice, and out of which my work can be produced better.

Then, I carefully began to uncover my mental space, trying to find the eidetic moments that have constituted my spatial intelligence: My Grandmother’s House, and The Excavation. This has been an intense process of self-questioning, descending in the subjective Depths of my own past. In order to avoid bias, I have soon decided to take two indispensable measures with which to validate and regularly calibrate this part of the research.

Firstly, I have decided to communicate about this with other people: colleagues who are also in a research process (most of them in a Ph.D. and whom I met on a regular basis at research seminars)85, my mentors86 and my supervisors87, colleagues and academics I have met at international conferences where I have presented this topic as soon as possible in order to test my methods and my intermediary conclusions on what I had found.88

Through all these encounters I could incorporate their feedback in my research, strengthen my argument, and finally understand and make explicit what I had found.

Secondly, I have asked for expert input for my research from a clinical psychologist, in order to understand the Darkness out of which these rediscovered experiences came forth, in order to structure the sometimes confronting and conflicting information that was coming to the surface, and in order to guide this information to an appropriate place in my mind, and from there in my research. These psychologist sessions have clarified to me that it appears to be the integrated activity and interplay of the human senses that seem to store constitutive information, and through which past experiences can (easily) be recalled. Memory appears to go through the body.

Architects tend to over-estimate the sense of vision. To underpin this, I rely on my personal experiences, and on my experiences with colleagues in the field of architecture, and on the way architecture has become visually mediatised over the past decades. I do not want to explore the world of neuropsychology here, because I am not an expert in it, and because it is not a central issue in my argument itself. But it may be important to mention the following notions: through these sessions, I have learned the importance and the potential of the interplay of the human senses, and I also learned that the other senses are capable of standing in whenever gaps occur in the functioning of one of them. In that respect, the sense of smell has proven to be utterly effective. Psychotherapy, in cases of (severe) trauma, makes use of the sense of smell in order to trigger the patient’s memory which can be the key to regression, to re-live a situation, in order to cure it. Also, victims of (severe) crime can be triggered to remember details of the crime scene or the perpetrator through the recall of smell. As Juhani Pallasmaa argues, “The strongest memory of a space is often its odor. I cannot remember the appearance of the door to my grandfather’s farmhouse from my early childhood, but I do remember the resistance of its weight, the patina of its wood surface scarred by half a century of use, and I recall especially the scent of home that hit my face as an invisible wall behind the door” (Pallasmaa 2006). Then, Pallasmaa quotes Gaston Bachelard, in which he says that “(...) Memory and imagination remain associated.” (...) “I alone in my memories of another century can open the deep cupboard that still retains for me alone that unique odor, the odor of raisins, drying on a wicker tray. The odor of raisins! It is an odor that is beyond description, one that takes a lot of imagination to smell” (Bachelard 1958). Architects can exploit the potential of auditive memory to improve the acoustic quality of a room. And haven’t we all felt the sense of touch by seeing, smelling or hearing the incision in a Substance?

Having mentioned this, the presentation of the following two cases will be much more vivid, appealing to your understanding, not by reason alone, but through your whole body, like they have done (and still do) through mine.

I had done the first interrogation of the practice. This interrogation had brought me to select a number of works, out of which a set of conceptual labels was emerging.89 In order to better understand these works, and this set of emerging conceptual labels, I first had to interrogate my mental space, where I found two
main design research cases: My Grandmother's House and The Excavation. From these two cases, a number of lines back into my work and the works of other architects can be traced. Both cases belong to the remembrance of my earliest personal beginnings, which I would like to call the soul of the architect, and which appears to root my past and current architectural practice. Through this part of the research, I could find out that the basic themes of my work, and my appreciation for the themes of the works of other architects that contribute to my argument, are coming forth from what is there. Making this forthcoming explicit is (part of) the output of this research.

Firstly, there has been My Grandmother's House. It is the reconstruction of a house (a sequence of rooms as places-with-Substance) of my early childhood. I have made the reconstruction through drawings, a scale model, a description of my explorative wandering in there, and a series of peer reviewed presentations of it. Question Mark is the subcase of My Grandmother's House. It is the textual transcription of a recurrent dream. This dream has appeared to be the constant mental processing of my experiences in My Grandmother's House.

Secondly, there has been The Excavation. It is my memory of a construction site I have seen on my daily walks as a child from home to primary school, connected with House VDV-C. Through this research I have found that this house is fundamental for the way I practice, for the way I now understand (the position of) my own work (in the longitudinal section of the (my) landscape), for the way I understand the work made by other architects I admire, and for the way I appear to understand the world. It goes back to The Excavation in my childhood. I have made drawings, and a textual description of my discovery of both The Excavation and House VDV-C. I have presented it at the GRC-EU of April 2012 at Sint-Lucas School of Architecture Ghent. As a section, it has become the spine of the doctoral exhibition.

The Meaning of Life is a short story and a drawing (a section) that presents the production of added value by understanding a slice of landscape. The in-situ discovery of the excavation of Substance (clay) has generated the honest creation of shelter (bricks, architecture). This section is the sub-case of The Excavation, that has become one of the Ph.D Designs.

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90 See Section 4.1.4: Research and Lecturing, and Section 5: Validation Procedures.
92 “We understand from history that some design projects change the way that practice happens and others change the way we understand the world” (Blythe 2010)
93 See Section 2.3.5 / 3: The Meaning of Life.
2.3.3 / 2 My Grandmother’s House

2.3.3 / 2-1 Introduction to a Reconstructed House
I have introduced the concept of mental space. My research has revealed that My Grandmother’s House is essential in my mental space, and a main contribution to my spatial intelligence, and it is of a major influence on my work as an architect.

The family sold the house, and it was demolished in 1991.

The research on My Grandmother’s House through the reconstruction of it has evolved in subsequent steps.

1. I have made a material reconstruction, ‘like architects do’. I have redesigned the house through a series of sketches and (annotated) drawings, through which I have recorded shreds of memories. Then, I have numbered these annotations in the sequence they had occurred to me, which was the sequence in which I had written them down on the drawings, and which was a first indication of the order of importance of each memory.

After a while, I have experienced that the sketches and the annotations on them were not sufficient as to encompass the wholeness of the house, as it presented itself to my mind’s eye. Then I have decided to make a scale model of the house and the buildings of importance in its immediate proximity, in order to better fill in the blank spots, left open by the sketches and the annotations. Before the final assembly of the parts of the scale model, I have taken photographs of them, in order to make a record of the internal elements of the house. Then, I have made the final assemblage of the scale model. All this has been helpful to make accurate scale drawings of the floor plans of the house, in which I have drawn the lines by which my exploratory walks through the house have taken place, and along these paths, I have marked the important moments: surprise (!), uncertainty (?), disappointment (:-(), discovery (:-)).

Subsequently, I have compared these moments on the plan with the annotated moments on the sketches and the drawings. This has helped me to refine the order of importance, and the nature of the eidetic moments in my memory, that have been constitutive of my spatial intelligence.

2. I have presented these sketches, drawings, the scale model, and the photographs of the scale model, at subsequent seminars and Graduate Research Conferences, where I have produced oral descriptions of this house, and explained how and to what extent this house has been constitutive of my spatial intelligence. At these occasions, I have also made links with my other work, and with the work produced by other architects that contribute to my research theme. Audio records of these presentations have been made, and I have received useful feedback from international panels of academics and architects which could help me on my research path. I have also presented it at the Aarhus School of Architecture in November 2010, and at The International Conference on Design Creativity in Kobe, Japan, in December 2010.

3. I want to make an explanation of the Method of Loci.

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94 See Section 2.3.3 / 1: Introduction to the Concept of Mental Space.
95 And these drawings have been the inspiration for the design of two new stairs I have made in the slipstream of My Grandmother’s House, and that will be built in 2013. See Section 2.3.5 / 2: New Stairs (2010).
96 See Section 4.1.4: Research and Lecturing, and Section 5: Validation Procedures.
This reconstruction of a house demolished more than thirty years ago, and only relying on the memory of fragments, objects and sensorial remains is comparable with the Method of Loci, in that memories of fragments and inherited physical objects, of which many are here with me now, displayed on shelves in my study, have enabled me to recall the whole.

The Method of Loci is a mnemonic technique. “It relies on memorized spatial relationships to establish, order and recollect memorial content. (...) The Method of Loci is also commonly called the mental walk. In basic terms, it is a method of memory enhancement which uses visualisation to organise and recall information.”97 Sharon Gutman describes the method of loci as “a mnemonic device involving the creation of a visual map of one’s house (Gutman 2001). The Method of Loci goes back to Roman rhetoric, mentioned in the anonymous Rhetorica ad Herennium, Cicero’s De Oratore, and Quintilian’s Institutio Oratoria, and is said to have been first introduced by the Greek poet Simonides of Ceos in the fifth and sixth centuries BC, when recalling the faces of the recently deceased guests by relying on the seating arrangements in a collapsed banquet hall. For further reading, I refer to Frances Yates’s The Art of Memory (Yates 1966), and to Jonathan D. Spence’s The Memory Palace of Matteo Ricci (Spence 1984). I also refer to my aforementioned sessions with a clinical psychologist,”98 as the term ‘method of loci’ is often used in the context of psychology and neurobiology.

I have further explored and tested these reconstructions and verbal descriptions in a 14 week workshop with my students at Sint-Lucas School of Architecture, together with my colleague drs. Mira Sanders, in the first semester of 2011, where we have investigated the transition between mental space and architectural creation.99

We also have called this workshop The Method of Loci, in which we have asked our students to reconstruct the eidetic moment(s) in the constitution of their mental space, for the students to learn the existence and the concept of it, and to apply it in a subsequent design process, and in their future design processes. This workshop has enabled me to test the methods and procedures of my own research by applying them to 12 parallel research paths of our students. So doing, I could spread this part of my research over a wider range of research cases.

The main conclusion on this design exercise has been:
- the methods I had applied, subsequently also have been applied on 12 parallel research tracks by our students, who have gone through similar sequences of design research steps, using the same tools of sketching, modelling, drawing, and producing verbal and written discourse. In the course of the workshop, and after the jury’s deliberations, the students have all confirmed that these working methods had been most effective.
- the method has proven to be viable, in that it has generated understandings and output by the students, comparable to the ones I had discovered in my research, and in that the students have been able to confirm, verbally, and through their work (the output), that this method had generated understandings for themselves that otherwise would not have been brought to the surface, and that the application of this method had improved their design processes in a substantial way, because now they had understood where the roots of their poetic images were located.
- the output produced by our students has been displayed through 12 installations for a public jury and the general public with an exhibition in the last week of May 2011. Both the comments of the jury, and the reactions of the general public have contributed to further testing, understanding and developing this part of my research theme, and to refining my insights, adding to the subtleties in my argument, and to the explicit dissemination of it.

97 Wikipedia, last visited on 12 June 2012.
98 See Section 2.3.3 / 1: Introduction to the Concept of Mental Space.
99 For this, I also refer to the paper The Imaginative Process of Thinking (Van Den Berghe 2010.b) which I have written and presented at the International Conference on Design Creativity 2010 in Kobe, Japan, in December 2010, and which has been used as basic input for this workshop.
4.
I have written a descriptive section on my spatial and material experiences in My Grandmother’s House\textsuperscript{100}, that will never be the full and final description though, but which I consider as the main part of this reconstruction, because it has enabled me to become explicit about so many details of the house. In this description, I have decided to install a system of footnotes more extensive than ‘usual’, tagging the description of the house with an immediate explanation and contextualisation of a number of themes that come to the surface. The reader can leave out the footnotes in a first reading as to be immersed in the atmosphere of the house in an uninterrupted stream of consciousness, and include the footnotes in a second reading.

It is important to note that my experiences in this house have been recollected in my memory, of which the facts are situated in my childhood. It is the ‘man-Jo’ who visits the mind of the ‘boy-Jo’. This information should help the reader to position his/her reading in the correct perspective. I have seriously considered the writing style, I have waited until the final months of the Ph.D before writing the final version of it, I have decided to write these descriptions, ‘loaded’ with descriptive detail and emotions, as to encompass as much information as possible, and I have consciously applied the narrative style as a tool to serve the main argument of this Ph.D. This has been the way I ‘took’ the text, instead of letting the text take me.

I present this description as a walk through the house. It is the collection of memories and moments that have really taken place, be it at different times and moments throughout my childhood. As such, it is comparable with a walk through an English landscape garden in the way Pietro Valle describes it in \textit{Landschape with Narratives: a narrative approach to space}: “The movement through the park thus is not in space-time, typical of a walk, but that of a mnemonic reconstruction of unity from a multiplicity of fragments” (Valle 2009).

I suggest the reader takes a piece of paper and a pencil to draw his/her version of the plan of the house as he/she progresses with reading, in order to construct his/her version of it. Who knows what this sketching may reveal to the reader.

5.
In an explanatory section at the end of this description, I elaborate on the influence that my infant discoveries in this house have had on some of the main characteristics of my work, and how it has unveiled the basic design themes of the practice.

\textsuperscript{100} The reader can consult this description in SmallBook (4): The Book of Narratives, Section 2.3.3 / 2-2. This allows for a modular reading: a more systematic reading by directly going to the conclusions on this part of my research, or a more literary reading of the full description of My Grandmother’s House, which has been written in literary prose as to form a novel, or a scale model with words, within the Ph.D.
Annotated drawing of My Grandmother’s House, through which I have recorded shreds of memories in order of occurrence.
Memo writing: connecting My Grandmother’s House with projects from the practice, looking for traces of my mental space in the precedent practice.
To make a scale model in order to better fill in the blank spots, left open by the sketches and the annotations. Before the final assembly of the parts of the scale model, I have taken photographs of them, in order to make a record of the internal elements of the house.
Lines of the exploratory walks, projected on the plan of My Grandmother’s House.
Before we dive into My Grandmother’s House, I would like to refer to four works that have inspired me to do this exploration. I have read Aldo Rossi’s *Scientific Autobiography* (Rossi 1981). In this autobiographic book, Rossi elaborates on his inspirations, and on the histories of his memories as an architect.

In Peter Zumthor’s book *Thinking Architecture* (Zumthor 2006), I have found descriptions, among so many things, of how the door handle of the door to his aunts garden felt, which awoke comparable memories in my own mental space, just like Marcel Proust (1871-1922) recalls moments and places from his childhood by the taste and smell of a madeleine cake in *A la Recherche du Temps Perdu* (Proust 1913).

Jean-Jacques Rousseau (1712-1778), in his *Rêveries du Promeneur Solitaire* (Reveries of a Solitary Walker) (Rousseau 1776-78), describes ten *promenades*¹⁰⁵, in a state of contemplation and close relation to nature. He does so by writing in the first person who observes and makes a record, hence gradually procuring the reader with insights on human nature in general.

Finally, Leon van Schaiks book *Spatial Intelligence: New Futures for Architecture* (van Schaik 2008), and my personal conversations with him, have encouraged me to start this explorative endeavour.

Just like their mental spaces have been shaped and populated by memories and experiences of places, so has mine.

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¹⁰⁵ I consider the description of a number of cases in this Ph.D. as my *promenades*. 
2.3.3 / 2-2    A Journey into Memory and Imagination
See SmallBook (4): The Book of Narratives
2.3.3 / 2-3  Introduction to a ?
(the Concept of the Hidden Room).

The story ‘?’ is a written architectural design. It is the verbal reconstruction of a dream, recurrent since my childhood. The sleep and the dream—as we know—are the time of recollection and sorting out of important information that has come in during daytime. This dream has helped me to understand the impact of My Grandmother’s House, hence of my mental space. The house in the dream has striking similarities with My Grandmother’s House. In the past, this dream used to frighten me. Now, I have come to see it as an early first step, be it an unconscious one, of this research. The latter, as such, all of a sudden appears to expand backwards into my childhood.

I also consider storytelling as one effective component of the exegesis of a Ph.D. As Jeremy Till contends, “Of all the modes of communication that could be used in architectural production, that of storytelling is probably the least used but potentially the most productive. All of us have stories within us, be they descriptive of the past or fictional for the future, anecdotal or practical. Stories have within them elements that are both personal and social; they become a means of describing one’s place in the world, of locating the individual within shared spaces” (Till 2009). Then, as Ross argues, “The act of storytelling is an act that presumes in its interlocutor an equality of intelligence rather than an inequality of knowledge, posits equality, just as the act of explication posits inequality” (Ross 1991).

Before I invite you in my recurrent dream, I would first like to demonstrate (a part) of a design I have made. It is a part of an early stage of The Boathouse 2 (2008-2012), more specifically the brick version of it.106

In the fragment of the plan of The Boathouse 2 printed here, I have encapsulated a hidden treasury room, as one element of the design brief. It is completely surrounded by brick walls, and even the entrance door is a pivoting part of the brick wall. In order to amplify the feeling of enclosure, I have sunk the floor level of this hidden room by four steps. There, in a moment and a place of rest, the family’s important objects are stored. The uninformed visitor has no clue, he/she does not presume the presence of this secret room within the Thickness of what is perceived as a brick wall, even when walking the whole tour around it. Without the use of a floor plan, the presence of the room remains a secret hidden in the Thickness of the brick Substance. The door is to be opened by a secret lock, some metres remote from the door itself.107 In a comparable way, I was most fascinated by the shortcut I discovered on Raphael’s and Antonio da Sangallo’s plan for the Villa Madama, Rome (Raphael and da Sangallo 1518 or 1519), which can also be seen on the drawings of Palladio (Palladio c.1541)(although in Palladio’s version it is a stairway that curves into the other direction than Raffael and da Sagallo’s shortcut that is situated in the opposite corner of the room in the plan), and on the reconstruction drawing of Percier and Fontaine (Percier and Fontaine 1809), where it is a shortcut again. This shortcut, or stairway, is the inverse version of the hidden room I designed for The Boathouse 2 (2008-2012), in that my secret treasury room is to be walked around without being apparent, whereas this shortcut, or stairway, is to be walked through without being apparent, possibly being a servant’s shortcut in order not to disturb the guests in the main rooms, or to be quickly there, when requested for, at the service of their masters. Both my secret treasury room, and the shortcut/stairway on the drawings of Raphael/da Sangallo, Palladio, and Percier/Fontaine are secret spaces, hidden within the Thickness of a wall. And this Concept of the Hidden Room is what the upcoming description of ? is about.108

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106 See Section 2.4.4: The Boathouse 1 and The Boathouse 2.
107 No need to insist. I will neither unveil where it is, nor how it works.
108 Other spatial features of this plan have been elaborated on by Robin Evans, in Translations from Drawing to Building, and other essay’s (Evans 1997).
This version of the design, together with the design for The Boathouse 1 (2008)\textsuperscript{109}, has substantially informed the design process of Etude (2010-2012)\textsuperscript{110}, and of The Haystack Gallery (2011-2013)\textsuperscript{111}.

\textsuperscript{109} See Section 2.4.3: The Boathouse 1 and The Boathouse 2.
\textsuperscript{110} See Section 2.3.5 / 4: Etude.
\textsuperscript{111} See Section 2.4.5: The Haystack Gallery.
\textsuperscript{112} The Boathouse 2 (2008-2012): hidden treasury room, as one element of the design brief. It is completely surrounded by brick walls, and the entrance door is a pivoting part of the brick wall.
113 Villa Madama, Raphael and da Sangallo (1518 or 1519), plan with shortcut.

114 Villa Madama, drawing by Palladio (c.1541), plan with 'hidden' stairway.
2.3.3 / 2-4 ?
(the Concept of the Hidden Room).

See SmallBook (4): The Book of Narratives
2.3.3 / 2-5  

**Understandings of a Reconstructed House**

In this section, I present my understandings that have emerged from the reconstruction of My Grandmother’s House, complemented with my understandings of a recurrent dream.\(^{115}\) Forthcoming from these understandings\(^ {116}\), I will further explain my work.\(^ {117} \)\(^ {118}\) For a thorough reading of these understandings, a separate and exclusive reading of the descriptions I have made of this house is indispensable.\(^ {119}\) Written as an annotated novel, I have included it in a separate volume.\(^ {120}\)

This is the set of 4 understandings that has come forth from the investigations on (reconstruction of) My Grandmother’s House:

1. **DARKNESS, DEPTH, THICKNESS, SUBSTANCE:**
   I have discovered four themes: Darkness, Depth, Thickness and Substance. They clearly resonate in my work, in the work of my communities of practice, hence in my research. I would discover these four themes in my work, as I will describe in the upcoming descriptions, and I also find them in the work of my communities of practice. I refer to all the places in the description of My Grandmother’s House where I have explicitly have mentioned these themes.

2. **ENLIGHTENING DARKNESS:**
   I have experienced and re-discovered Darkness—paradoxically—as enlightening: in the grotto, under the secondary vault in the basement, in my grandparents’ bedroom during the electrical storm, in the photography studio.\(^ {121}\) These darkest moments have generated the constitutive moments of enlightenment in my mental space.
   My work has been a search for this Darkness, because it allows me to shine a light, of which I could sense that it would enlighten me. I have experienced it as a quality in the work of others.

   To explain this, I would like to turn to the painters of the Picturesque. And then I would like to talk about John Ruskin and William Turner.

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\(^{115}\) See Section 2.3.3 / 2-3: ?.
\(^{116}\) And from the understandings coming forth from The Excavation, with which they intertwine.
\(^{117}\) See Section 2.3.4: The Second Interrogation of the Practice.
\(^{118}\) It is important to note that The Excavation (see Section 2.3.3 / 3), and its forthcoming sub-sections, have generated understandings that are complementary with the ones presented here.
\(^{119}\) See Section 2.3.3 / 2-2: A Journey into Memory and Imagination.
\(^{120}\) See SmallBook (4): The Book of Narratives.
\(^{121}\) Which I did not describe yet. I have chosen not to describe it, because it has been the darkest of them all. I want to leave something dark in the description. Not unveiling everything leaves the mystery intact, and this—in my view—makes the description stronger. I have only included a floor plan of it.
The late 18th century painters of the Picturesque encouraged themselves to adopt a specific way of seeing their landscapes. One way to provoke this seeing was the use of **claude glasses** or black mirrors, named after the 17th-century French painter Claude (le) Lorrain (c.1600-1682). The dark tinted claude glasses affected the view of the see-er, as to transform objective observations—which were perceived as being imposed by the Cartesian debate—into gloomy subjective visions, striving to liberate the contemporary cultural debate. By using claude glasses, the painters of the Picturesque believed they could more directly connect with the sublime.\(^{122}\)\(^{123}\) In a comparable way, Darkness that has triggered my imagination in My Grandmother’s House: my quest for the sublime, as if coming too close to beauty in order to make sure that you miss nothing of it, going as far as the limits where beauty becomes frightening: the vanishing point in the grotto, under the vault in the basement, …

This Darkness I seek must also have been the Darkness that inspired John Ruskin to write his *Seven Lamps of Architecture* (Ruskin 1849). Ruskin applies the term **lamps** as to re-enlight the aprioristic Darkness he goes into as the indispensable condition from where architecture subsequently can shine a light—a lamp. In *Modern Painters* (Ruskin 1843), Ruskin had put a focus on new painters that emerge from the self provoked Darkness (see above) by the painters of the Picturesque, and he lifts the veil from the work of William Turner (1775-1851), whose paintings\(^{124}\) appear to step out of that Darkness into the dawn of light yet demonstrate, by doing so, an unmeasurable Depth\(^{125}\) and acknowledge Darkness as the indispensable condition that allows for the subsequent demonstration of light. This must have been *my moment* in the Darkness I was illegally seeking in my grandparents’ bedroom, the Sublime, frighteningly struck by lightning—the moment of enlightenment—amidst the electrical storm.

Coming out of Darkness, Ruskin craves for a new light in his *Seven Lamps*, and Turner paints (a) visible light due to the proximity of the omnipresent Darkness.

And here, the discussion turns into materiality: Substance. Because Turner’s *new light* no longer is abstract and without smell or taste, but loaded\(^{126}\) with the presence of fog and smoke and steam and rain. Due to the aprioristic Darkness, his humane pictorial intervention in the world makes light and Depth physically tangible by giving to his air a Thickness-of-Substance, generating embodiment in the experience of the observer.

The painters of the Picturesque turned their visions into Darkness as to re-instate Depth\(^{127}\), and so did I.

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\(^{122}\) As both the Beautiful, and the Frightening aspect of Beauty—called the *terribilità* by Michelangelo. We all have seen these moments when extreme beauty falls upon us in a frightening whim.

\(^{123}\) Herefore, I refer to William Gilpin’s *Observations of the River Wye, and Several Parts of South Wales, etc. relative chiefly to Picturesque Beauty; made in the summer of the year 1770* (Gilpin 1782).

\(^{124}\) I am thinking in particular of two works by Turner: *Snow Storm—Steam—Boat off a Harbour’s Mouth* (c. 1842), and *Rain Steam and Speed—The Great Western Railway* (1844).

\(^{125}\) Depth, in this context, is to be taken literal in the way painters describe and demonstrate the concept of Depth. Here, I explicitly refer to three aforementioned works (see Section 2.3.3 / 2-2: A Journey into Memory and Imagination): Leonardo da Vinci’s *St.John the Baptist* (da Vinci 1513-1516), where St.John emerges out of the Depth and Darkness to step into the light as to offer it to us, and to Kasimir Malevich’s Darkness of his *Black Square* (Malevich 1915), where complete Darkness suggests unmeasurable Depth, even enhanced by his *Black Cross* (Malevich 1923) that, additional to its black Darkness, suggests an amplified Depth by the suggestion of the central perspective in it.

\(^{126}\) I recall and understand now the sleeve design of *Loaded* (The Velvet Underground 1970).
Then, Turner and Ruskin have found this Darkness as the aprioristic condition that enabled the demonstration and the re-instatement of light, espousing their theory by the presence of Thickness-of-Substance, and so did I.

In my work, hence in this research, I encompass this whole move: from the instatement of Darkness and Depth by the painters of the Picturesque as the aprioristic condition to disappear into, to the demonstration of the embodiment of Thickness-of-Substance of William Turner by which to step again into the foreground, into the light, straight into the direct and physical experience of the observer.

3. CO-PRESENCE:

The four aforementioned themes are intertwined. Whenever one theme prevails, the other three are co-present.

Most of what happens in My Grandmother's House starts from and comes back to Darkness.\textsuperscript{128} To underpin this, I refer to the second understanding (see above). I want to step into Darkness, because I want to come back—step out—from it, like St. John does in Leonardo da Vinci's painting \textit{St. John the Baptist} (da Vinci 1513-1516).

Then, for an understanding of the co-presence of Darkness and Depth, I first refer to the second understanding again (see above). Subsequently, Darkness suggests infinite Depth\textsuperscript{129}, that indissolubly is connected with Darkness. Co-present, they present perspectives that gaze into imagination (\textit{to dream}), much more than abundant light does, where everything is too clear, too preconceived, too finished. The Depth we cannot clearly see, by Darkness, is deeper. (The suggestion of) Depth presented by Darkness is a stronger trigger for imagination than the unambiguous abundance of light that sadly washes away the qualities of the secret and the promise of the erotic. For this reason, Depth should be re-instated as the first dimension in architecture\textsuperscript{130}, hence by its co-presence with Darkness, the latter becomes even more indispensable in architectural design. Darkness and Depth are a couple.

Then, for the understanding of the co-presence of Thickness and Substance, I again refer to my descriptions of My Grandmother's House.\textsuperscript{131} Firstly, Substance, in that house, was not abstract, not Platonic. It was in the flesh, on the spot, in the present instant, and it tantalised the interplay of all the human senses: brick vaults for a grotto for the Holy Mary, and for the moment of enlightenment in the basement, of which I can recall the humid smell, like I recall the dampy scent of soldering zinc and the look of the soldering seam, the festal light and touch of brass sheets on the doors of a cabinet, the precision of brick arches of the inglenook, my breathing of woodcurls, the workshop of the furniture maker, the drawings on the working bench, screws with the right size.\textsuperscript{132}

\textsuperscript{127} Depth as opposed to Cartesian ‘thinning’ of space. “Descartes must be held responsible for the ‘thinning’ and objectification of space, now erected into a positive being (…) chora had been objectified, assumed to be transparent to mathematical reason, rather than the “in-between” Being and Becoming that characterizes embodied existence” (Pérez-Gómez 2006.b). See also Section 2.3.3 / 3-3: Depth as the First Dimension.

\textsuperscript{128} For this understanding, I explicitly refer to the full description of My Grandmother’s House (see Section 2.3.3 / 2-2).

\textsuperscript{129} As the most appropriate reference to underpin this, I strongly advise Jun’ ichirõ Tanizaki’s \textit{In Praise of Shadows} (Tanizaki 1933).

\textsuperscript{130} As I describe in Section 2.3.3 / 3-3: Depth as the First Dimension.

\textsuperscript{131} See Section 2.3.3 / 2-2: A Journey into Memory and Imagination.

\textsuperscript{132} Note the omnipresence of the hands of the craftsman. Both my grandmother and my grandfather have immersed me in the connections between craft and culture: my grandmother’s ‘métier’, the art of cooking in red wine, the furniture workshop, the way I saw my grandfather write music scores with a black ballpoint, music notes like greasy black bullets on paper with refined parallel lines, starting with the gracious treble clefs, the photography studio, the different degrees of blackness, green that tends to blue in the landscape with the feathered peacock in my recurrent dream.
Thickness, then, is the ultimate celebration of the presence of Substance, of the co-presence with Substance, the abundant consumption of its sensuous qualities. Cutting through the Thickness of Substance\textsuperscript{133} makes the latter bodily experienceable, avariciously consumable, hence my preference, as an architect, for the concept of section\textsuperscript{134}, and for visible sections of wooden window frames.

Secondly, to explain this further, I would again like to turn to what I have written about William Turner’s Thickness-of-Substance (see above, in understanding 2). Turner demonstrates how it takes Substance, however thin, but always with a Thickness, to generate the embodied experience. Substance and Thickness are another couple.

Finally, as for the co-presence of the four themes, I have understood from my research how the two aforementioned couples co-exist.

I have understood that the second couple (Thickness and Substance) is tangible, whereas the first couple (Depth and Darkness) is ephemeral.

Then, I have connected each of the four themes with words that appeal to architectural practice:

- **Thickness** → dimensions
- **Substance** → materials
- **Depth** → space
- **Darkness** → atmosphere

Coupling them again, I have found:

- **to make**
  - Thickness → dimensions
  - Substance → materials

- **to dream**
  - Depth → space
  - Darkness → atmosphere

To conclude:

- There is no Darkness that suggests Depth when Substance with a Thickness is absent.
- Or putting it the other way round:
  - it takes Thickness of Substance to generate the Depth of Darkness,
  - or, it takes *to cut in* Thickness of Substance to generate *to gaze* in the Depth of Darkness,
  - or, it takes *to make* Thickness of Substance to generate *to dream* in the Depth of Darkness,

\textsuperscript{133} The small window next to the organ in Gunnar Asplund’s Woodland Chapel (Asplund 1917-1920).

\textsuperscript{134} See Section 2.3.3 / 3-2: The Emergence of Thickness, and The Concept of Section.
4. LABYRINTHINE SLOWNESS:
In my childhood experience of the explorative walks, the discovery of dimensions (Thickness), materials (Substance), spaces (Depth) and atmospheres (Darkness) occurred gradually, secrets unveiled slowly. This would become an element of foremost importance in my own work. Through this understanding, I also understand my preference for Adolf Loos's Raumplan, and for the English Landscape Garden.
I have experienced the exploration of this house as a slow invasion into a labyrinth of blocks of closed Thickness-of-Substance, in whose Depth I had to penetrate as to find my forbidden Darkness. Arrived there, having deciphered the labyrinth, the enigmatic, the unknown, I would find peace of mind. I had to fight my way through it, and so I belong to those who want to make an effort, who want to resist the obstacles. I had to climb my way up to decipher my labyrinth, to my enlightenment in the dormer window in the attic.
Still, looking at my work, I appear to make architecture as closed volumes of Substance, with often coarse, layered skins, to be peeled off one by one in order to unravel the enigmatic—only partly—yet through the difficult deciphering of the labyrinthine—built-in resistance in my work. I often recall the Thickness of the wall that the architect can only make visible by making a window in it, one window, as not to undermine the demonstrated and desired Thickness, like Asplund's window bay in the corner of his chapel, when you cautiously enter the edifice, after the Darkness of the porch has summoned you to … , yes, to what? There is no word for it, but there is a little ‘golden’ angel sitting on the cornice of the chapel.

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135 See Section 2.3.2: The First Interrogation of the Practice, Section 2.3.4: The Second Interrogation of the Practice, and Section 2.3.5: The Ph.D Designs.
136 I refer to Section 2.3.4 / 6-1: Summerhouse (2001-2004), and Section 2.4.6: WoSho (1986-2013).
138 Gunnar Asplund, Woodland Funeral Chapel: window bay (photograph by the author).
Still, looking at my work, I appear to make architecture as closed volumes of Substance, with often coarse, layered skins, to be peeled off one by one in order to unravel the enigmatic—only partly—yet through the difficult deciphering of the labyrinthine—the built-in resistance in my work.
Summerhouse (2001-2004): See Section 2.3.4 / 6-1.
WoSho (2004-2007): See Section 2.4.6 / 1
2.3.3 / 3  The Excavation

2.3.3 / 3-1  Introduction

I have introduced the concept of mental space\(^{143}\), of which comes forth The Excavation. In the previous section, I have discussed My Grandmother’s House. In this section, I will discuss The Excavation, and the understandings that have come forth from it. My research has revealed that both My Grandmother’s House and The Excavation in the Thickness of the landscape have a central place in my mental space (van Schaik 2008), and my discovery, first of My Grandmother’s House, then of The Excavation, has been the turning point of this Ph.D. From what is present in these cases, my work has been deeply influenced, even constituted. My discovery of their co-presence in the investigated projects, has triggered my shift from my initial State of Grace into my current State of Emergency. Through the research on The Excavation, my understanding of the second part of my research theme, which is an investigation into the substantiation of the poetic image, could really take a start.

I have come to understand the importance of The Excavation in the Thickness of the landscape through my investigations on House VDV-C (1990-92 / unbuilt). Through my investigations on this house, I could recall how the themes and the concepts from the upcoming descriptions\(^{144}\) were already—but implicitly—there amidst architectural practice, while I was designing House VDV-C, and that these themes, recalled through my activated mental space now can be made explicit. I will first explain how the Emergence of Thickness—my landscape—is the basic layer of my work\(^{145}\), that literally carries and enables the co-presence of both the Darkness and Depth and Thickness and Substance of My Grandmother’s House, and the Substance and Thickness and Depth of The Excavation. I will explain how I have come to understand this through The Excavation, how my eye level in The Excavation has generated my Concept of Section—the anatomisation—as both my understanding of the longitudinal section through my personal landscape (which encompasses both the landscape and my work in it), and my way of working in and with the landscape’s Substance, and how I (re)discovered Depth as the first dimension.

\(^{143}\) See Section 2.3.3 / 1.

\(^{144}\) See Section 2.3.3 / 3-2: The Emergence of Thickness, and The Concept of Section, and Section 2.3.3 / 3-3: Depth as the First Dimension.

2.3.3 / 3-2  The Emergence of Thickness, and the Concept of Section

I consider the landscape as the basic layer of my mental space, of which comes forth my spatial intelligence (van Schaik 2008). This may be so for most of us, thinking back of our personal landscapes that we come forth from, and where we have played as children.

I have been an apprentice of Prof. Arch. Juliaan Lampens, a cult architect in Belgium and beyond, and a prominent professor at Sint-Lucas School of Architecture. He retired in 1995, but he still remains mythical to current generations of students. One of his basic stances that explains his commitment to architecture, and the way he practices, is that “the landscape is the first commissioner, and the last cooperator” (Lampens 1991). My architectural education has been a thorough reminder of the basic connection between me and the landscape. Lampens has trained this into us as students, and he trained it deeper into me as his apprentice.

In the current section, I want to explain why and how the Emergence of Thickness and The Concept of Section, coming forth from my landscape, are fundamental in my work.

Both during the Graduate Research Conference-Europe (GRC_EU) in November 2010 in Ghent, during the Graduate Research Conference-Europe (GRC_EU) in April 2011, also in Ghent, and during the Graduate Research Conference (GRC) in June 2011 in Melbourne, Sue Anne Ware pointed at the strong presence of landscape in my work, repeating that “there is a landscape architect in you”.

To clarify this, here I would like to make a turn into my profound and personal connection with the (my) landscape.¹⁴⁶

¹⁴⁶ On a map of Europe, I have marked the line on which my landscape-as-section is situated. The findings of this Ph.D, situated on this line, are exportable knowledgeables, useful for other (architectural) practices, situated on comparable landscapes-as-sections, or on other landscapes-as-sections, based on the triggered awareness on the landscape-as-section, as a concept.
Map of Europe: sectional line from lowland to emerging hills. On this sectional line, the section of my practice—which is the section of this Ph.D—is situated.
The northern province of my country is a part of the great plain that stretches over Northwestern Europe. At its southern fringes, the plain emerges and curves quite suddenly into hills with fluent tops and brooks that have cut themselves in over the ages. I was born and raised in this transition between massif and plain.

My Mother comes forth of the lowland, whereas my father has his roots in the hills. From a male predominant position back then, my father decided that the hills would be the cradle for his new family. So, these hills are the landscape I was constituted by. They have been my local here, although always with remembrance of and reference to the lowland, where my grandmother’s house was evidently present in a small town—the only town I have known as a child—that seemed to have always been my metropolitan there. Occasionally I stayed at Grandma’s. At night, I could imagine how things were going in the hills, when I risked my way up through secret dark rooms and steep stairways that brought me to her metropolitan attic, where I looked through the dormer window, trying to catch the hills in my night view under the southern hemisphere.

As so often is the case, the child considers it his task to bridge the gaps that occur between the mother and the father, even to the point that it consumes almost a lifetime in failing to come to terms with it. Whilst at Grandma’s, I felt the shining excitement of being a metropolitan, whereas I was proud to be a local whilst at home in my gloomy interstice between two hills. I guess, after a long time of living and wandering, that nothing can change this basic state of mind, and this at first quite painful stretch by now leaves me with grateful acceptance for the richness of its duality. Looking from metropolis in the plain, I can see how unyielding the solid masses of the hills emerge and become Thickness above my infant eye level: I deciphered, accepted, and silently understood the Thickness of my world. I came to understand my world as a longitudinal section through my landscape. Through the Emergence of Thickness of the hills, which I could see from that dormer window in the attic of a house in the lowland, my Concept of Section was born.

Looking at the landscape from a meta level, I can now see my place, and understand why I have always felt different in comparison with many of my fellow architects in Belgium and Holland—my radius of action. Most of them had grown up in the lowland and were based there as architects, since the major part of these countries consists of lowland. The flatness of the landscape there is unquestionable and absolute. Making scale models of projects there can start on a flat cardboard, immediately putting the house on it. Construction practice has not first to deal with the three dimensionality of the landscape-as-given: the landscape and the construction site present themselves as flat and show no Thickness, and the local Substance is perceived more abstractly as length by width, not digging into the Thickness of its Substance but seen from above, inviting for a quick situating of the building in the plan (not the section!), and off we go.

Where I come from, the landscape is not flat, not absolute, but relative. I operate in it as an architect. Genetically, I had been acquainted early on with these co-existing landscapes in the geological conflict between lowland and hills, between the Mother and the Father. The difference between levels asks for...
attention in the early stages of design and construction processes, on sections, scale models and construction site excavations, and this difficult struggle with Thickness and Substance asks for a meticulous and lean approach, rather multicultural and layered, than monocultural and flat.\textsuperscript{151}

I remember that, as a child, the older girl from next door took me by the hand as we walked to the nursery school. Then, I first saw a construction site nearby my house, where workers were digging an excavation for a basement, and I gazed into the Substance in the almost perfect vertical section of the excavation, and through the layered geology of the soil, the concept of section became clear to me. I passed by the construction site day by day, and I could see that, whereas the excavation was deep enough to install the basement at the backside of the house, the same floor level of the basement became the floor level of the garage at the streetside of the house, all by the subtle inclination of the site. Then I understood that the correct positioning of the floor level in the Thickness of the landscape was essential, and that the inclining landscape could be exploited economically to the benefit of basements in the back side of the

\textsuperscript{151} In this basic constitution of my landscape, I find the origins for my preference for Adolf Loos’s Raumplan, for instance in Villa Müller (Loos 1928-1930), above Le Corbusier’s Plan Libre, for instance in his Villa Stein-de Monzie (Le Corbusier 1927), of his Villa Savoye (Le Corbusier 1929-1931).
house that became garages in the front, adding value\textsuperscript{152} to restricted budgets that smartly could make use of differences in levels up to 2.5 meters, and that these differences represented the shape and scale of a man standing tall with his arms stretched up high, and that landscape was Thickness and Substance with the size of a man.

My Concept of Section\textsuperscript{153}, born out of the Emergence of Thickness I had witnessed from the dormer window in my grandmother’s attic, now was confirmed through my physical confrontation—my infant eye level—with the Emergence of Thickness in The Excavation, that suddenly had come very close to me, and it had the smell of soil.\textsuperscript{154}

\textsuperscript{152} About this aspect of adding value to characteristics of the landscape-as-given, I refer to Conditions N°4: Added Value: The Meaning of Life, an Assumption, a Short Story, pp.72-75, Joana da Rocha Sà Lima, Tor Inge Hjemdal, Anders Melsom eds., Oslo, Norway (Van Den Berghe 2010.a).

\textsuperscript{153} The Concept of Section seems to be present in most of the GRC-presentations I have done: the section through the landscape by which I have presented House VDV-C at the Supernova Exhibition in Brussels in 2000 (see Section 4.1.6: Exhibitions), the scale model of the imaginary town that was the presentation of the preliminary research output at the exhibition at Westminster University, London (2008)(see Section 4.1.6: Exhibitions), the drawings-as-sections and the scale model of My Grandmother’s House (see Section 2.3.3 / 2: My Grandmother’s House) and Etude (see Section 2.3.5 / 4: Etude), the drawing-as-section through my landscape of House VDV-C, through which I have re-discovered the Concept of Section in my Mental Space, the drawings that I have selected from my archives—most of them appear to be sections, and the central part of the final exhibition concept of this Ph.D, which I have presented at the GRC_EU, in April 2012, at Sint-Lucas School of Architecture, Ghent.

\textsuperscript{154} Through this face to face confrontation with the Substance of soil in the Concept of Section, my Concept of Section, therefore, is mostly vertical, rarely horizontal, which we then call a plan.
The Concept of Section appears to be present in most of the GRC-presentations I have done, because it is omnipresent in the past practice: a part of the big scale model (the landscape section) of the Supernova Exhibition in Brussels (2000) (see Section 4.1.6: Exhibitions) is incorporated in the installation I have
In the creation process, this Concept of Section anatomises the Thickness of the landscape and passes by the making of drawings-as-sections, that I later will explain as chronological drawings, in which the architect merges the Thickness of the landscape with construction practice. The architect then encompasses the scale of man\textsuperscript{157} in relation with his/her horizon, which is his/her eye level as the quintessential measure in the material construction of perspectives. As such, the Concept of Section, as I will demonstrate in the case of House VDV-C, and upcoming descriptions of other examples of my work, confirm what Sverre Fehn argues, in that “it [the horizon] is trapped somewhere between the cave and the tower, and at the same time, the earth reveals its limitations. The architect becomes the surgeon who cuts open the earth and is unafraid to tear the sail that has moved the horizon and defended the unlimited. He can establish places under the ground, and these become the new way to travel into the past, as the horizon faces a new journey. The room of Darkness confronts the precise decision of light” (Fjeld 2009). Alberto Pérez-Gómez suggests that the section is of a foremost importance in the architect’s work, as a prediction on the casting of shadows, pointing at the anatomic nature of the section that, applied by the architect “break[s] the skin of things in order to show” (Pérez-Gómez 2006.a), completing his argument with Merleau-Ponty, “how the things become things, how the world becomes a world” (Merleau-Ponty 1964). Reading these authors on the occasion of this Ph.D. was both surprising and confirming, coming into my body in waves of stunning recognition: the cave, the hatch removed from the draw well in the garden, the grotto in My Grandmother’s House, the brick vaults in the basement, the Darkness in the subsequent vanishing points that have enlightened me, the excavation from my childhood, my preference for sections as a draftsman and an architect, my fascination with construction sites that look like sections-in-the-flesh, that confront us with the real as long as the construction of the house remains unfinished, and my

\textsuperscript{156} The Concept of Section in the subsequent steps of the research, from left to right: scale model for the installation in the Exhibition ‘The Urban Tendency’ (London 2008), installation in the exhibition the Urban Tendency (London 2008), research sketch My Grandmother’s House (2010), scale model of My Grandmother’s House (2010), research sketch for House VDV-C (2010), embryonal research sketch for Etude (2010), drawing of the exhibition concept of this Ph.D (04/2012): all of these design-research steps appear to be sections.

\textsuperscript{157} The scale of man, in my view, is not an absolute number, like Le Corbusier’s standard ‘Org-Man’, or his Modulor. It is relative, variable in time, variable even in the same person, the person who is designing, or who is being designed for. It is a man, a woman and a child. It alters with the coming of age. It travels from the infant to the man to the presbyter, and the other way round. The architect must be aware of this potential of the traveling measure of ‘the scale of a man’. I will further elaborate on the scale of a man, and more specifically on the eye level, in Section 2.3.4 / 2-2: The Eye Level in the Perspective, and the Coming of Time.
understanding of my disappointment with the image of a finished house, because it conceals forever the constitutive condition of an architecture by blocking the insight in its section\textsuperscript{158} by the mere vulgarity of façades.

\textsuperscript{158} I refer here to Section 2.4.5: The Haystack Gallery. This is a speculative design, explicitly made to test and demonstrate the possibilities of (my) future architectural practice, of which the vertical section should remain visible as to be the elevation. It has been triggered by my haunting images of the construction site of House B (2005-2007)(see Section 2.4.4: The Third Chronological Drawing: House B (2005-2007)). The Haystack Gallery is a spin-off and a further development of the two speculative designs I had made before, also as design-research designs: The Meaning of Life (see Section 2.3.5 / 3: The meaning of life (2010)), and Etude (see Section 2.3.5 / 4: Etude (2010-2012)).

\textsuperscript{159} The Haystack Gallery (2011-2013)(see Section 2.4.5).

\textsuperscript{160} House B (2005-2007)(see Section 2.4.4).
2.3.3 / 3-3  Depth as the First Dimension

I have begun to question an aspect all too easily considered as evident: the hierarchy of the three dimensions we tend to see and apply in the creation process of architecture. It is important, at least for the way I want to innovate (my) architectural practice, and I have decided to change the commonly accepted and applied hierarchy of these dimensions.

This is forthcoming from my understandings of The Concept of Section.\(^{161}\) I have understood the excavation-as-section through investigations on my work, first on House VDV-V (1990-1992 / unbuilt), which is my specific way to understand the third dimension through the Concept of Section, and it has been confirmed through further investigations on other works in my practice.\(^{162}\)

Here comes my logic argument:

1. As we have been taught in primary school, and as we usually do, we tend to treat *height* as the third dimension. Through many years of practice, through investigating my work and works of other architects, and through years of teaching architectural design to many students, I have noticed that we only bring the third dimension in the discussion when necessary, starting with the evident (why?) two dimensional *length x width*:

\[
\text{Length} \times \text{Width} \times \text{(Height)}
\]

1st dimension 2nd dimension (3rd dimension)

2. I have replaced height by Depth, because Depth is connecting more with my mental space as I have described it above by My Grandmother’s House and The Excavation:

\[
\text{Length} \times \text{Width} \times \text{Height}
\]

\[
\text{Depth}
\]

3. I have asked myself these questions: why is it so evident to bring in the third dimension only ‘when necessary’ or ‘later in the process’, since architecture is spatial? Why is it so evident to put these three dimensions in this sequence as we know it? And why should we keep doing so?

To answer my questions, I decided to change the sequence of the three dimensions, and by doing so, to immediately bring in Depth, the *spatial dimension*, so that there is no way around it:

\[
\text{Depth} \times \text{Width} \times \text{Length}
\]

1st dimension 2nd dimension 3rd dimension

\(^{161}\) See Section 2.3.3 / 3-2: The Emergence of Thickness, and The Concept of Section.

It is my suggestion to apply these dimensions in this sequence in (my) design processes, and to first do so through the Concept of Section, because it offers an immediate insight in the vertical dimension of Depth. I decided to suggest and even actively impose this on the design processes of my students—they are the future generations of architects—in order not to forget about it and to avoid two dimensional architecture that subsequently gets sadly extruded between parallel horizontal slabs.

I also suggest to consider Depth beyond the quantitative boundaries of mere measurement\textsuperscript{163}, and to immediately bring Depth on the psychic level, which is the level upon which I have discussed it in My Grandmother’s House\textsuperscript{164}, where it can become an all pervasive quality as to satisfy the unmeasurable Depth of the human soul. Depth as the invasion into the unknown, into the wondrous Substance of the world. The acknowledgment of Depth as the First Dimension, applied through the Concept of Section, must be seen as one (intermediary) output of this Ph.D.

According to Alberto Pérez-Gómez, in Built upon Love: Architectural Longing after Ethics and Aesthetics, the third—spatial—dimension had already been acknowledged in Renaissance theory as the most important one, first described by Alberti at the beginning of his De re aedificatoria (Alberti 1485/1988). Alberti’s lineamenti, literally a set of lines, “referred to the essential geometric idea that issued from the architect’s mind, took the form of a drawing, and guided the production of architecture (...) the early desire to encompass the “whole building in a drawing”.\textsuperscript{165} Then Pérez-Gómez continues: “During the Renaissance, imagines or graphicæ were constructed with lines; they included some scaled drawings by architects and sketches in the margins of manuscripts by Francesco di Giorgio and Filarete, for example. In an evocative account, Francesco tries to understand the nature of architectural drawings by interpreting the famous passage in Vitruvius’s first book (chap. 2, para. 2), describing the plan (iconografia) as the able use of the compass and ruler to delineate forms and intervals in a horizontal plane, the elevation (orthografia) as the front and figure of the future building, and, most significantly, scenographia as the foreshadowing or adumbration of the front and sides of the building as they respond to the center of a compass. The last corresponds to the function of the gnomon or shadow tracer, a daidalon that orientated humans in space-time and that inaugurated cities and buildings. The projection of shadows and the imagination of a future building are acts of prediction and propitiation” (Pérez-Gómez 2006.a)(Vitruvius 85-20 BC).

Here, in an attempt to see the whole picture, Pérez-Gómez suggests the foremost importance of the dimension of Depth, as jargon calls it in drawings and paintings and photography (not height!). Scenographia, here, has been introduced with the words “most significantly”, then honoring “the front and sides of the building” as the adumbration. From this, I understand that adumbration—shadow, Darkness—orientates humans, makes Depth experiencable, which generates (in)sights in man’s spatial situation in the world.\textsuperscript{166} This makes us understand, mostly during the moments of drawing and creation, the importance of Depth in making architecture, hence the (my) quest for Depth as the ultimate destination of the creation process of architecture.

\textsuperscript{163} It is important to note that ‘the third dimension’ is a mediocre name for what it really is, totally reducing the real of its multi-dimensionality to ‘realism’—a mere cipher, a digit—and this reduction all too often is enhanced by mediocre versions of digit-alised architectural practice. The third dimension, now the First Dimension, is not one cipher, one digit, it is a myriad of ciphers that we merely try to give one name.

\textsuperscript{164} See Section 2.3.3 / 2: My Grandmother’s House.

\textsuperscript{165} Here I refer to Section 2.3.4 / 2-4: The First Chronological Drawing, and to Section 2.3.4 / 3-2: the X-Ray-drawing, as concepts I have developed for myself, in order “to encompass the whole building in a drawing”, as to get a grip on the chronology of construction processes. By doing so, I connect construction practice with the poetic image. These kinds of drawings have transported my act of drawing from a mere speculative and realistic representation as to please in the State of Grace, into an active and operative instrument at work on the Theatre of Operations, where the action of construction is ongoing. There, it is the presentation of the real in the State of Emergency. Further in section 2.3.4, I will explain my understanding of the Greek tektonikos (see Section 2.3.4 / 2-3).

\textsuperscript{166} As it has done to my understandings in the grotto, and under the secondary vault in My Grandmother’s House (see Section 2.3.3 / 2: My Grandmother’s House).
These descriptions by Pérez-Gómez resonate with Robin Evans’s description of the drawing of the elevation of the Campanile of Santa Maria del Fiore, Florence, a drawing ascribed to Giotto. In *Translations from Drawing to Building and Other Essays* (Evans 1997), Evans demonstrates the efforts and elaborations of architects and draftsmen to capture the characteristics of Depth in their representations, in order to learn to understand Depth as a quality in the drawing as a (re)presentation of the aspired built reality, thus implicitly acknowledging Depth as a quality to be obtained in the built results that come forth from it.

Plato, in *Timaeus*, introduces the Chora as the third term, the necessary place between Being and Becoming, or the fertile (female) ground in which (male) Being disperses his semen to allow for the genesis of the offspring, which is Becoming. According to Plato, the Chora is the receptacle, the female, in which “affirmations of the Being as ‘given’ (indeed, a gift) through a proffering action in the infinite Thickness of the present” (Pérez-Gómez 2006.b) can occur. Here I would like to develop a metaphor: the female Chora is the Landscape-as-given, the receptacle for male semen or Being-as-given, in which architecture-as-offspring (or Becoming) can come into being, and the infinite thickness of the present—Chora—then is the infinite Thickness of Landscape, and this Thickness calls for Depth, which is the Thickness-as-Depth through the Substance-of-landscape, and then the competent architect can make this emergence of Thickness experienceable through the drawing-as-section (used in the creation processes of architecture) and in the section-as-excavation—the substantiation of the drawing-as-section—once arrived at the construction site. In this Ph.D, as in construction practice, I am longing to bring together drawing-as-section and section-as-excavation at one place on one moment, that magic moment when *momentum* emerges, when substantiation and dream merge on the construction site (Magical Realism). Then, we can understand that Landscape is the female Chora, the indispensible Depth for the architect to invade in as male-Being, in order to pro-create architecture as their offspring or Becoming.

This Depth has been a central theme in culture for centuries. I find it in Japanese culture, reading Jun’Ichi Tanizaki’s *In Praise of Shadows* (Tanizaki 1933). I experienced it in the temples and *Sanctuaries of Kyoto* (Kyoto 2010), reading the subsequent ‘screeneries’ of gradually increasing Darkness. I found it in the *Cathedral of Chartres*, and in abandoned Romanesque churches in La France Profonde (the Depth of France). Renaissance painters and architects assumed to be residing in it. I already mentioned Giotto’s drawing of the campanile, and I am thinking now of Leonardo da Vinci’s *St. John the Baptist* (da Vinci 1513-1516). Until Descartes objectified the Chora by reducing the place in between—which is the realm of Eros to move back and forth—to abstract space: “Descartes must be held responsible for the ‘thinning’ and objectification of space, now erected into a positive being (…) chora had been objectified, assumed to be transparent to mathematical reason, rather than the ‘in-between’ Being and Becoming that characterizes embodied existence” (Pérez-Gómez 2006.b). As such, Descartes has attempted to tame the real, bereft of the erotic, reducing the real to realistic for the sake of measurement. It is my belief that this tamed version of the real may begin to displease the world (of architecture), because—by definition—it is false.

Then Merleau-Ponty argues that “This consecration of perspectiva artificialis as the prime epistemological model led Depth to lose its status as ‘first’ dimension, to become merely one of three dimensions, analogous to length and breadth” (Merleau-Ponty 1964). My pleading, thus, to re-instate Depth as the first dimension is to be read as moving out again from the ‘safe’ Cartesian objectification of space in order to move back into the ‘risky’ subjective, the erotic, the humane, that deserves to be placed at the centre of the process of architectural creation.

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167 Richard Blythe has mentioned the strong aspect of Magical Realism in the presentation of my work, when he first saw it, in September 2007, at Sint-Lucas School of Architecture in Brussels.

168 I refer to my descriptions of My Grandmother’s House, where I have connected this work of Leonardo with my emerging insight under the brick vault in the basement.
In my research, as I come to demonstrate in the previous paragraphs, I have found that the subjective is an unquestionably reliable base to work with, and I assert to find it in the work of other architects who contribute to my argument, my allies. I am especially thinking now of the late work of Sigurd Lewerentz.\textsuperscript{169} I am also thinking of some of my students now. From that point of view, the flattening egalisation of the personal and the unique in the name of measurement, with the mere excuse that this is what it takes to save the world, is unacceptable, even a lie. I think there is the ground for my fundamental \textit{resistance}, my \textit{Rage Against the Machine}.\textsuperscript{171}

\textsuperscript{169} \textit{San Petri Church}, Klippan, Sweden (Lewerentz 1962-1966), and the \textit{Flower Shop}, Malmö, Sweden (Lewerentz 1969).

\textsuperscript{170} I am also thinking of Hans Scharoun, Hans Poelzig, Adolf Loos, John Soane and William Lethaby and Edwin Lutyens, Carlo Scarpa, Rudolph Schindler, Bruce Goff, and of Peter Zumthor, Steven Holl, Sverre Fehn, Juliaan Lampens, the early Alvaro Siza, the early James Stirling, Juan Navarro Baldeweg, Enric Miralles, Caruso St John, Robbrecht & Daem, Amateur Architecture Studio, Terunobu Fujimori, Studio Mumbai, Tham & Videgård, Bow Wow, and many others.

\textsuperscript{171} A Los Angeles based rapcore rockband.
2.3.3 / 3-4  Understandings of the Excavation

In this section, I will present my understandings of The Excavation of my childhood, that have been triggered by my investigations on House VDV-C (1990-1992 / unbuilt). It is important to note that these understandings are complementary with my understandings coming from the reconstruction of My Grandmother's House.172

This is the set of 2 understandings that has come forth from the investigations on The Excavation, and on House VDV-C:

1. THE EMERGENCE OF THICKNESS, AND THE CONCEPT OF SECTION:
I consider the Concept of Section as the most important understanding that has come forth from The Excavation. This section is vertical, as my confrontation with the soil-Substance in my childhood was face to face. The section is situated in my landscape, of which the Emergence of Thickness invites for the incision. The Emergence of Thickness is there to anatomise, the Concept of Section is there to anatomise with.

The section allows for the anatomisation of the world, and the work we make as architects. I also had seen The Emergence of Thickness looking from the dormer window in the attic of My Grandmother's House, and around the Emergence of Thickness both cases meet.

Looking at my work, as I demonstrate through the descriptions of it, my preference for the Concept of Section has always been implicitly there, and it has become explicit through this research.173 It has become my most preferred instrument as an architect, and I like to precisely cut it in my paper with a sharp pencil.

2. DEPTH AS THE FIRST DIMENSION, BY THE APPLICATION OF THE CONCEPT OF SECTION:
Then, Depth as the First Dimension is the second understanding coming forth from the Excavation. It is closely related to the Concept of Section, because the vertical section directly confronts the architect with the isolation depth of the spaces he/she is designing174, and offers a possible escape from the absence of Depth in the seductive two-dimensionality of the plan.175 Depth as the First Dimension is the first dimension of the Emergence of Thickness, and it is there to anatomise for.

Depth as the First Dimension also becomes apparent to the designing architect, when he/she combines the Concept of Section with the spatial insight of the central perspective. Therefore, I refer to my experiences in My Grandmother's House: the grotto in the garden, and the vault in the basement, the draw well in the garden. This is an element that requires more research.176

172 See Section 2.3.3 / 2: My Grandmother's House.
173 As has been confirmed by my further research, see Section 2.3.4 / 2-4: The First Chronological Drawing, Section 2.3.4 / 6-3: The Second Chronological Drawing, Section 2.4.4: The Third Chronological Drawing, Section 2.3.4 / 3-2: The X-Ray-Drawing, and Section 2.4.5: The Haystack Gallery. All of these research steps, and their outcome, appear to be vertical sections.
174 The Concept of (vertical) Section more easily gives access to the concept of the Raumplan developed by Adolf Loos.
175 In the plan, the designing architect all too often forgets about the spatial potential of Depth.
176 Together with the concept of the X-Ray-Drawing (see Section 2.3.4 / 3-2), and combined with it, this concept of Central Perspective can be a subject of further research after this Ph.D. Also, the concept of Anamorphosis is, in my view, related to it. These three concepts, brought together in one concept, directly resonate with my infant experiences in the grotto and under the secondary vault in the basement of My Grandmother's House (see Section 2.3.3 / 2-2).
Conclusion:
The Excavation has revealed two elements, which I would like to call the aprioristic conditions, without which my mental space cannot exist, and without which the investigated work could not have been made or understood. As such, I take them as a given.¹⁷⁷
– The Emergence of Thickness (and The Concept of Section)
– Depth as the First Dimension
The Emergence of Thickness clearly is the basic layer, the landscape, the carrier of my Mental Space.¹⁷⁸ Depth as the First Dimension is the nature itself of the Emergence of Thickness.
The Emergence of Thickness is what has to be anatomised, the Concept of Section is there to anatomise with, and Depth is what I anatomise for. The Emergence of Thickness (and the Concept of Section), and Depth as the First Dimension are the aprioristic conditions that have to be fullfilled in order to perform the basic design themes of Thickness, Substance, Depth, Darkness.

¹⁷⁷ My further research has revealed that I can refer every site to them, which confirms I can take them as a given.
¹⁷⁸ See Section 2.3.3 / 4: Conclusions on My Grandmother’s House and The Excavation: the Cave and the Tower.
2.3.3 / 4 Conclusions on My Grandmother’s House and The Excavation: the Cave and the Tower.

The investigations on my mental space have unveiled two eidetic moments that constitute my spatial intelligence (van Schaik 2008): My Grandmother’s House, and The Excavation.

My Grandmother’s House has revealed a set of four basic design themes, that I also could find, and finally understand, scattered in the work made by other architects and cultural actors who contribute to my argument.

These four basic design themes are:
- Thickness
- Substance
- Depth
- Darkness

A number of sub-themes connect these major four themes and further load them with detail and anecdotics: the aspect of co-presence of these themes, the enlightening aspect of Darkness, and the labyrinthine slowness.

The Excavation has revealed two elements, which I would like to call the aprioristic conditions, without which my mental space cannot exist, and without which the investigated work could not have been made or understood. As such, I take them as a given.179
- The Emergence of Thickness (and The Concept of Section)
- Depth as the First Dimension

The Emergence of Thickness clearly is the basic layer, the landscape, the carrier of my Mental Space.180 Depth as the First Dimension is the nature itself of the Emergence of Thickness.

The Emergence of Thickness is what has to be anatomised, the Concept of Section is there to anatomise with, and Depth is what I anatomise for.

The Emergence of Thickness (and the Concept of Section), and Depth as the First Dimension are the aprioristic conditions that have to be fulfilled in order to perform the basic design themes of Thickness, Substance, Depth, Darkness.

Through the (re)discovery of the Emergence of Thickness, my Concept of Section was born, and I began to see the (my) landscape as a vertical section.

In my landscape, I witness and commit the act of cutting—the section—as to make an excavation. The Excavation is subtraction-of-Substance, the cave (a minus operation), and in The Excavation, I can hide.

Then, the subtracted Substance is amassed as to build a house, for instance: My Grandmother’s House, the addition-of-Substance, the tower (a plus operation), and in this house, I can hide.

Once amassed, Substance subtracted from the landscape-as-section becomes Thickness of Substance as closed volumes with layered, often coarse skins, Depth of Darkness (moratorium spaces), only accessible for those who want ot make an effort (the labyrinthine).

In the longitudinal section of my landscape, an architectural balance emerges between the cave and the tower.

179 My further research has revealed that I can refer every site to them. I can take these aprioristic conditions as a given.
180 See Section 2.3.3 / 4: Conclusions on My Grandmother’s House and The Excavation: the Cave and the Tower.
I have included this drawing of *my* landscape-as-section that carries both *The Excavation* and *My Grandmother’s House*, in order to grasp my whole stance in one drawing. The investigations on my mental space have been the first turntable of this Ph.D., and it has been perceived and commented on as such at subsequent seminars, GRC’s, and other international conferences.\(^{181}\)

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\(^{181}\) See Section 4.1.4: Research and Lecturing, and Section 5: Validation Procedures.

\(^{182}\) In the longitudinal section of *my* landscape, an architectural balance emerges between the cave and the tower.
2.3.4  The Second Interrogation of the Practice

Through the investigation of the cases I have found in my mental space\(^{183}\), I have found four basic design themes, and two aprioristic conditions in which these four basic design themes can exist, which has enabled me to further interrogate the practice in a more articulate way. This second process of data collecting and analysis has helped me to refine the formulation of my research theme that, by refining it, in its turn has helped to further refine the process of sampling. In the Second Interrogation of the Practice, the sampling and the formulation of the research question(s) converged, and generated a series of concepts.

Parallel with these research actions, I have made a series of speculative designs, the Ph.D Designs: I have written The Meaning of Life in March 2010 (Van Den Berghe 2010.a), in early 2010 I have started the design process of Etude, and I started the design of New Stairs in late April 2010. This design cycle has contributed to the aforementioned generation of concepts in The Second Interrogation of the Practice through more narrowly focusing on the conceptual labels.

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\(^{183}\) See Section 2.3.3 / 2: My Grandmother’s House, and Section 2.3.3 / 3: The Excavation.
coming forth from The First Interrogation of the Practice, subsequently further developing these conceptual labels by designing. Because I now want to further unpack the work, I will first look at a number of works from the past practice, and then I will return to the Ph.D Designs in Section 2.3.5.

I have left out a number of works from the First Interrogation of the Practice because they did not add to my argument. I kept the other projects from the First Interrogation in the discussion because their meanings for the research, presumed in the First Interrogation, have been confirmed through my ongoing investigations.

The selection for the Second Interrogation of the Practice has been informed by the set of conceptual labels from the First Interrogation of the Practice, by the research results on my mental space, and by the already ongoing design actions in the Ph.D Designs.

TABLE 2 gives an overview of the projects selected through the Second Interrogation of the Practice, combined with a glimpse of the concepts they have generated through the Second Interrogation of the Practice, which has been: asking the research questions to the work itself. The first four projects appear to have generated these concepts, that have been further refined and applied in the second series of four projects. For this reason, I have grouped them under ‘Construction Practice as Architectural Design’.

Finally, this set of concepts has been made explicit through the investigations of this Ph.D. At the moment of selection, the concepts were not made explicit yet, not even found yet. They were gradually emerging out of the first set of conceptual labels, and it has been through the Second Interrogation of the Practice that they would become explicit.

I will now continue with House VDV-C to demonstrate how my investigations on this project have triggered new insights, that I will further develop in a series of subsequent projects.

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184 See Section 2.3.2: The First Interrogation of the Practice.
186 I refer to the short introductory texts that describe my arguments for selection of the projects presented in Section 2.3.2 / 2: Work.
187 See Section 2.3.2: The First Interrogation of the Practice.
188 See Section 2.3.3 / 4: Conclusions on My Grandmother’s House and The Excavation: the Cave and the Tower.
189 See Section 2.3.5: The Ph.D Designs.
<table>
<thead>
<tr>
<th>SECTION</th>
<th>NAME PROJECT</th>
<th>CONCEPT</th>
<th>NEW / TRANSFORM</th>
<th>BUILT / UNBUILT</th>
<th>LOCATION</th>
<th>PROGRAM</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.3.2 / 2</td>
<td>House VDV-C (1990 / unbuilt)</td>
<td>The Eye Level in the Perpactive, and the Coming of Time Borrowing from Tektönikos</td>
<td>new</td>
<td>unbuilt</td>
<td>country</td>
<td>house</td>
<td>private</td>
</tr>
<tr>
<td>2.3.4 / 3</td>
<td>House ST (1998-2001)</td>
<td>The First Chronological Drawing</td>
<td>new</td>
<td>built</td>
<td>suburban</td>
<td>house + truck workshop</td>
<td>private + business</td>
</tr>
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<td>2.3.4 / 6</td>
<td>Construction Practice as Architectural Design:</td>
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</tr>
<tr>
<td>2.3.4 / 6-1</td>
<td>Summerhouse (2001-2004)</td>
<td>The (Core) Concept of Section Further Research on the X-Ray-Drawing</td>
<td>new</td>
<td>transformation</td>
<td>nature reserve</td>
<td>holiday house</td>
<td>private</td>
</tr>
<tr>
<td>2.3.4 / 6-2</td>
<td>House D-R (2004-2007)</td>
<td></td>
<td>new</td>
<td>built</td>
<td>suburban</td>
<td>house extension</td>
<td>private</td>
</tr>
<tr>
<td>2.3.4 / 6-3</td>
<td>House T-A (2001-2002 / unbuilt)</td>
<td></td>
<td>new</td>
<td>unbuilt</td>
<td>country</td>
<td>house</td>
<td>private</td>
</tr>
<tr>
<td>2.3.4 / 6-4</td>
<td>House B-M (2003-2006 / unbuilt)</td>
<td></td>
<td>new</td>
<td>unbuilt</td>
<td>country</td>
<td>house</td>
<td>private</td>
</tr>
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<td>12.50%</td>
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</tr>
</tbody>
</table>
After a series of projects in my early practice\textsuperscript{192}, House VDV-C (1990-92 / unbuilt) has been my first real attempt to perform the large stretch from \textit{to dream} to \textit{to make}.\textsuperscript{193} My research on this house has revealed that the close relationship with the landscape not only has influenced this design alone, but it also gave access to The Excavation as the deeper layer of it in my mental space, from where I subsequently could investigate and understand forthcoming projects.\textsuperscript{194}


\textsuperscript{193} Until then, I had worked under a self imposed limitation concerning the stretch from \textit{to dream} to \textit{to make}, because I felt that my mastery of construction practice still had to develop towards more maturity through a series of first modest projects.

\textsuperscript{194} See Section 2.3.4 / 6-3: House T-A (2001-2002), Section 2.3.4 / 3: House ST (1998-2001), Section 2.3.4 / 6-1: Summerhouse (2001-2004), Section 2.3.4 / 5: House DG-DR (1999-2004), Section 2.3.4 / 6-4: House B-M (2003-2006 / unbuilt), Section 2.3.5 / 3: The meaning of life (2010), Section 2.3.5 / 4: Etude
A direct connection with the landscape-as-section has determined the overall shape of house VDV-C. It is situated on the inclination of a hill. It has been designed upwards, with the intention to climb it as stairs, in order to look over the ridge and see a Romanesque church tower in the neighbouring village five kilometers away. Due to the proximity of the Romanesque church, I have wanted this house to be a reminiscence of Romanesque architecture, of which I admire the Thickness-of-Substance and the massivity of its stacked volumes. The notion of a romantic liaison between the house and the old church was crucial to give meaning to my pondered intervention in the landscape.

Even though House VDV-C has not been built in this form, it has been very important in the development of my practice. I have completely designed it in direct connection with construction practice in mind, putting all my maturity I had carefully collected—through building a series of first modest projects as a young architect—in it. I was triggered by the Substance of the landscape and I wanted to amass it as to make my imagination in real Substance. The deplorable decision not to build it has resulted in another version of it, which I do not dislike, but which has abandoned the essence of its beginnings. This undoubtedly has—in the early years of my practice—strongly contributed to my attitude of resistance as an architect.

Having discovered the my landscape-as-section, I would now like to turn to Gottfried Semper who, in The Four Elements of Architecture (Semper 1851), proposes an understanding of architecture on an anthropological—humane—basis. He presents us four elements that, according to him, constitute architecture, and he connects each of them with a craft, and a specific Substance:

- the hearth: fire the ceramist;
- the roof: wood the carpenter;
- the enclosure: fabric the weaver;
- the mound: brick or stone the (stone)mason.

In connection with my discussions on The Excavation in my Landscape as-section, and in the context of House VDV-C, I would here like to focus on Semper’s understanding of the enclosure and the mound. Semper presents the first enclosure, woven fabric, logically connected with nomadism. It is about finding the appropriate fibers, and the early human craft of weaving, subsequently taking the woven tissues on the backs of horses or camels, since one can coil or fold them: the tent. Woven fibers as fabric, together with fur, also are the human’s first protection against the elements: clothing.

Then, Semper argues, only when weight-bearing capacities of the woven enclosure are required, tectonics enter the game, and the Substance and characteristics of the woven screen prudently mutate into those of a wall. Then, the enclosure mutates into a mound, becoming a sedentary dwelling. The mound, still according to Semper, is a massive protection in the landscape, and in making a mound the concept of section and the emergence of Thickness become apparent, even necessary in the series of empirical judgments and ad hoc decisions that lead to it. In the act of digging, and/or amassing, or in a combination of both, a surrounding and comforting gesture—a mound—unfolds in the landscape.


195 See Section 2.3.3 / 3.
196 I have touched Semper’s first two elements, the hearth and the roof, implicitly in my descriptions of My Grandmother’s House, respectively the inglenook/the devil-stove, and my grandfather’s furniture workshop under the roof in the attic.
197 For instance: digging The Excavation in order to instate it as a mound, and/or to exploit clay to produce bricks, for instance for My Grandmother’s House.
Here, I would like to refer to Maiden Castle (600 BC), in Dorset, England, a striking example of the excavation and the amassing in the landscape—making a mound. There, shaping the land\textsuperscript{198} fulfills two basic human needs. Firstly, the need for protection, demonstrating Thickness “where one notices alterations of the ground created to build protective fences. Here an entire hill is carved along its perimeter with four rings of green buttresses, gigantic earth works at a territorial scale” (Valle 2009). Secondly, the need to overlook the surroundings at three hundred and sixty degrees.

The desire to overlook makes the need for the protective mound aprioristic. Even so, fulfilling the desire to see the Romanesque tower one village away from the new towering house on the inclination nearby the top of a hill makes an excavation in order to precisely insert the house into the landscape-as-section aprioristic in the design and construction process of House VDV-C (1990-1992 / unbuilt). And this also connects with my conclusions on My Grandmother’s House and The Excavation.\textsuperscript{199}

Apparently, the desire to overlook seems to first need protection and hiding or camouflage\textsuperscript{200}, as not to be seen while overlooking, as to keep the privilege to overlook for yourself, out of the sight of others. Elaborating on Maiden Castle, Pietro Valle argues that “The artifice hides away, it camouflages itself. Where is the border between natural landscape and man’s intervention? It is everywhere, pulverized at every moment on the way” (Valle 2009). Maiden Castle is using the characteristics of the site itself as the camouflage of/for this refuge, thus smartly combining the cultivation of the need to see the light of the whole world from a preferential position (the piramid) with the reassuring feeling to be covered in the back by Thickness and Substance and Darkness and Depth (the labyrinth).\textsuperscript{201} 202 The co-presence of the mound (the labyrinth) and the overview (the piramid) is the necessary condition that enables us to enjoy life, and as architects we should be aware of that. They are the poles between which we want to oscillate and reside. The desire to stand in the open and see the light, paradoxically amplifies the necessity for protection by Darkness.

The concept of interplay between the excavated protection and the overview has triggered the design of House VDV-C (1990-1992 / unbuilt), and of other houses\textsuperscript{203} I have subsequently designed, each of them celebrating its own specific balance between excavation (subtraction of Substance) and amassing

\textsuperscript{198} In Dutch, for landscape there is the word landschap. It not only means the material thing itself, but also includes the notion of to create, scheppen, wherein the land as the object-as-given is then worked upon by the shaping human intervention. Moreover, the second meaning for the Dutch verb scheppen is: to shovel, which immediately relates to: making an excavation. All this also explains the Dutch competence to gain land from the sea, to create land.

\textsuperscript{199} See Section 2.3.3 / 4.

\textsuperscript{200} This must have been the reason for me to put a military camouflage net on the roof of my house, back in 2005 (see Section 2.4.6: WoSho).

\textsuperscript{201} See also: The Manhattan Transcripts, Bernard Tschumi (Tschumi 1976 -81).

\textsuperscript{202} Here again, I refer to My Grandmother’s House, its protecting Depth-of-Darkness through Thickness-of-Substance, in which the labyrinthine sequence of spaces finally leads to the point where I could see my world: the dormer window in the attic.

\textsuperscript{203} See the following sections:
  Section 2.3.4 / 6-1: Summerhouse (2001-2004)
  Section 2.3.4 / 6-2: House T-A (2001-2002 / unbuilt)
  Section 2.3.4 / 6-4: House B-M (2003-2006 / unbuilt)
  Section 2.3.5 / 3: The meaning of life (2010)
  Section 2.3.5 / 4: Etude (2010-2012)
  Section 2.4.3: The Boathouse 1 and The Boathouse 2 (2008-2012)
  Section 2.4.5: The Haystack Gallery (2011-2013).
(addition of Substance), between protection and overview, between the cave and the tower, between Darkness as condition and light as celebration. I have now come to understand the essential elements of their whereabouts, and this is what I want to make explicit here.

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The precision with which The Excavation in my childhood had been made is the precision with which house VDV-C had to be inserted in the landscape. This precision had been informed by my eye-level in connection with the vertical dimensions of the levels in the landscape-as-given. This calls for an utmost attention and empathy of the architect, not for abstraction. This does not work in a State of Grace. This emergent Thickness calls for a State of Emergency.

Now here, I want to connect the need for protection in the mound with the measure and scale of the human body. I already mentioned the scale of a man standing tall with his arms stretched above his head. As already mentioned in Section 2.3.3 / 3-2: The Emergence of Thickness, and the Concept of Section, the scale of man, in my view, is not an absolute number, like Le Corbusier's standard 'Org-Man', or his Modulor. It is relative, variable in time, variable even in the same person, the person who is designing, or who is being designed for. It is a man, a woman and a child. It alters with the coming of age. It travels from the infant to the man to the presbyter, and the other way round. The architect must be aware of this potential of the traveling measure of ‘the scale of a man’, of the fact that it is mobile, ever changing, traveling, and of the fact that it is ever present with us. With me! 182 cm. How about you? Me! You? This is the tall standing man who travels with me now, the one who constitutes the measure and scale of the things I make. He is my architecture, and he explains to you what the measure and scale of your architecture can be(come).
I had noticed in the excavation on the construction site of my childhood how a mason was taking measures to prepare the formwork for a concrete beam that had to span the two garage doors of the house he was building. This measure of a standing man, at that particular moment in my childhood, has become the criterion, the scale, the unit of measurement, not only for the construction of that house, but as the measure of the excavation and Depth in the landscape-as-section that has nestled in my mental space. In the section-as-excavation. The vertical—tectonic—cumulation of these construction elements:

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208 See Section 2.3.3 / 3-2.
209 As I have explained before, the garage was in the basement that, due to the inclination of the site, became the street level at the street side of the house, where the garage doors were situated.
210 Here, I use the term tectonic in the way Gottfried Semper defines it, in *Der Stil in der technischen und tektonischen Kunsten*, as “the art of bringing together rigid, bar-like components into a system that is unshakeable in itself” (Semper 1860-1862). Possibly, Semper connected his understanding of
a foundation slab, and a concrete column with the size of a standing man (me! you?), and a concrete beam, and a concrete slab, smartly combined with the angle of inclination of the site, and the length of the building, prepare the architect for the precision with which to insert the house into the Thickness of the landscape-as-section. The sum of these elements wonderfully corresponded with the Depth of the excavation. There was a concrete column between the two garage doors. If this column would not have been there, the concrete beam would have had to span twice the distance it had to span now, so the beam would have had to be higher—approximately twice the height—and this would undoubtedly have affected the way in which the building would have had to be inserted into the Thickness of the landscape-as-section.

By now, I have become fully aware of the consequence of design decisions in the landscape-as-section, but more importantly, I know the consequences of (the vertical section of) landscape characteristics for design decisions. The following data:

1. the size of a tall standing man (me! you?)
2. the correct angle of inclination of the site
3. the length of the building,

have to be put on a drawing by the architect-as-draftsman. Together, these data then constitute the main lineamenti (Alberti 1485/1988) that “encompass the whole building in a drawing” (Alberti 1485), and they determine all the other design decisions to come.

Having rediscovered the vertical standing body of a man (me, a woman, maybe you?), I will now discuss the precise position of the eye in the human body, hence its unique position in the landscape-as-section.

As I already have discussed, my body and mind are tied to the site by my (infant) eye level, the horizontal plane of reference in my perspective, perpendicular to the vertical section-as-excavation. At the intersection of this horizontal and vertical plane is the precise incision that marks the connection between the exact position of the eye in the tall and vertical standing body of the designing architect with the section-as-excavation, and that collects all the construction lines to the vanishing points of his/her perspectives. Only when standing there, the (eye of) the designing architect is fully at work. The construction site—the section-as-excavation—then becomes the real and only place of architectural creation (tektonikos).

The eye level is highly personal, unique. Like the size and scale of a tall standing man (me! you?), but even more fragile and subtle, it is relative, variable in time, variable even in the same person, the person who is designing, or who is being designed for. It is a man, a woman and a child. It alters with the coming of age. It travels from the infant eye level that looks at the world in its immediate proximity to the horizon of a (wo)man who makes plans and looks into the distant vanishing points of perspectives and it returns to the nearby myopia of the presbyter, and the other way round. The architect must be aware of this potential of the traveling measure of ‘the scale of a man’. So this is not a pledge for Le Corbusier’s Modulor, or his standardised Org-Man, with a rigid set of measures and behaviours. Rather, it is a pledge for Carlo Scarpa, who designed a room with the size of a man—that man—and a room—that room—the tectonics with Tectonics as a province of Geology, the science that investigates the structure and the crust of the Earth, its change in form and appearance, especially in its causal relationship with the way it comes into being.
eternal grave for a specific person. A pledge, also, in favour of Frank Lloyd Wright, who was not a big man, and who designed his houses with the size of a (tall) standing man—his size, he did it for himself. I guess, when I mention the scale and the size of a tall standing man, I mean me, myself and I. Selfish, perhaps, but very personal. The eye level belongs to the constitution of the body and is therefore unchangeable, that is to say: the only change is my tendency to bend my knees a little as to move from my current eye level to my infant eye level, because there I can re-live my discovery of the world. My subjective camera is physical, thus less susceptible for abstractions, generalisations. Face to face with Substance in the section-as-excavation, my nostrils touch the smell of soil, and of woodcurls on top of the working bench in the furniture workshop: the exact level of my nose at the age of four. My nose, back then, was as remote from my eye level as it is now. The precise position of my eye has remained the centre of my world, and every feedback loop reaches out from it, explores and negotiates with the world, and—informed—comes back to it. My eye travels with me, and its level defines the precision with which I want to see (my) architecture inserted in the landscape, the local Thickness of the world.

This careful negotiation between the architect, who sends sonar signals to the landscape, and the landscape that sends something in return, is the existential détour. Reciprocity. Call it negotiated boomerang reciprocity.

Looking closely at my work, and especially at House VDV-C, that has unveiled The Excavation from my mental space, I have seen that my eye level as the constitutive design parameter, in connection with the landscape-as-section, is the common denominator of my works. It craves for the Concept of Section. I invite you to try this with your own and personal constitutive design parameter. Apply (the level of) your eye. (Don’t) wait and see!

As for the relationship between the architect and the landscape, I will not discuss the points of view of architects that do not (enough) take the landscape into account. Their approaches all too often lead to meaningless objects on the surface of the globe wherever people want to pay for it, not having a connection with the eye level in the perspective, which ties the designer to the place. They represent the prostitutational and pornographic opposite of my argument. No names. Do not insist.

In my quest for the precision with which to insert (my) architecture in the landscape-as-section, I have been on the lookout for allies whom I have unpromptedly encountered in the course of my research, by consequently studying my research theme. I have done so in order to clarify my own position in the proximity of (some of) my communities of practice.

Martin Heidegger, in his lecture Bauen, Wohnen, Denken, describes the importance of the precise setting of a bridge as essential when he states, nothing more or less, that “… the bridge sets a scene” (Heidegger 1951). In Heidegger’s view, the bridge builder irrevocably defines the specificity of place in the

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211 The height under the steel beam that carries the massive sliding door that encloses my courtyard, which is the height of the shelter for my sheep, which is the height of the library in my study. This architecture is embodiment. It is not there for me, it is me. And this is my pledge: the architecture is not merely for the end user, it is the end user.

212 In The Excavation.

213 In my Grandmother’s House.

214 As I have described for House VDV-C (1990-1992 / unbuilt), and as I will demonstrate through the further descriptions of my work: see Section 2.3.4 / 6-3: House T-A (2001-2002 / unbuilt), and Section 2.3.4 / 6-1: Summerhouse (2001-2004), and Section 2.3.4 / 6-4: House B-M (2003-2006). Then, it has also been constitutive of Section 2.3.5 / 3: The meaning of life (2010), and Section 2.3.5 / 4: Etude (2010-2012), and Section 2.4.3: The Boathouse 1 and The Boathouse 2 (2008-2012), and Section 2.4.4: House B (2005-2007), and Section 2.4.5: The Haystack Gallery (2001-2012).
generality of abstract space by the precision with which he inserts the bridge into the landscape. As Akos Moravânsky comments on Heidegger’s stance, “Meaning is reached through the precision with which the object is made and with which it is inserted into the topography (...) Tectonics transforms the unlimited expansion of space into a structure of places that can be experienced” (Moravânsky 2005).

Now I detect different ways to obtain my precision.

Glenn Murcutt lifts his houses on stilts, behaving cautiously, not disturbing the subtle topography. Although Murcutt may not fully agree with Philip Drew, when the latter writes “Touch this Earth lightly” (Drew 1999), Murcutt’s work behaves like that. This is his way of merging with the surface by not touching it. Floating to disappear.215

Sverre Fehn, on the other hand, invades the topography thoroughly, identifying himself with a surgeon, yet he always cuts with diplomatic negotiation. In an interview with Olaf Fjeld, in 1985, Fehn has argued that “The architect becomes the surgeon who cuts open the earth and is unafraid to tear the sail that has moved the horizon and defended the unlimited. He can establish places under the ground, and these become the new way to travel into the past, as the horizon faces a new journey. The room of Darkness confronts the precise decision of light” (Fjeld 2009).

Fehn is always searching for the relationship between man’s objects and the surface of the Earth, when he exclaims “How shall we respond to man and his objects afixed to the surface of the earth? Everything we build must be adjusted to the ground, thus the horizon becomes an important aspect of architecture.” (Fjeld 2009). Fehn finds his horizon by digging deep into the Substance of the landscape216, or willingly nestling in existing excavations217, whereas Murcutt finds his horizon by standing on stilts. Seemingly opposite, they resemble each other in their aspiration to instate their horizon that offers a different perspective by which to look into the real.

I share Murcutt’s and Fehn’s concern to find the horizon, which is the eye level in the perspective of the world. After brooding on their horizons for a long time, I have found where my horizon is. I situate my horizon just below Murcutt’s, who stands on stilts, and just above Fehn’s, who wants “to establish places under the ground” (Fjeld 2009). This is my position as an architect in a world of architects.

In this way, House VDV-C has started with an excavation in the inclination of the hill.

From my re-discovered eye level in the vertical section of my world, the emergence of Thickness becomes tangible through the concept of section. Then, the drawing-as-section becomes Substance in the section-as-excavation, which is the Depth of the excavation-as-construction site. I want to bring the moment of the idea (to dream, the drawing-as-section) and the space where its substantiation takes place (to make, section-as-excavation) together in one place (the excavation as construction site) where time and space are co-present. The State of Grace vanishes there. There becomes Then, Where becomes When. The architect becomes the hunter who bends his knees a little218, lowering his profile in order to merge with the topography, to sneak, to hide, where and when every second counts. The hunter thinks first in terms of time, of now-or-never, and time reigns in the State of Emergency.

215 See: the Marie Short House, Kempsey, New South Wales, Australia (1974-75), or the Marika Alderton House, Yirrkalla, Northern Territories, Australia, 1991-94.
216 Wasa Ship Museum (Fehn 1982).
217 Hedmark County Museum (Fehn 1978).
218 Like I bend my knees to return to my infant eye level—see above.
Coming from my personal eye level, and deeply informed by my mental space, this is another unique way to see the world, and to act accordingly. This is my addition to the State of the Art. And this is what I disseminate.

Before I start my discussion on the chronological drawing—which is the coming of time—by further ‘excavating’ House VDV-C (1990-1992 / unbuilt), and subsequently a series of other projects, I first will explain my borrowing of the Greek notion of tektonikos.
2.3.4 / 2-3 Borrowing from Tektonikos

I am borrowing from the Greek notion of Tektonikos\textsuperscript{219} because it helps me to discover, understand, and make explicit some basic characteristics in my work, and in the work of other architects, more specifically: it helps me to understand what it is that attracts me in their work, hence it helps me to understand what it is that I definitely want to incorporate in my work.

\textsuperscript{219} Tektonikos is described/defined as:

Greek Dictionary (Bartelink 1958):

τεκτονικός: pertaining to the art of building, competent in construction practice, (belonging to the set of skills of) the master builder, skillful carpenter.

τεκτόν: craftsman, (ship)builder.


tektonikos: pertaining to construction.

tekton: carpenter, shipbuilder.


the Greek word tektonikos, τεκτονικός derived from the Greek word tekton, τέκτων (an artificer (as producer of fabrics); (specially), a craftsman in wood) derived from the Proto-Indo-European root *teks-.

Greek in origin, the term tectonic derives form the work tekton, signifying carpenter or builder. The corresponding verb is tektainomai. This in turn is related to the Sanskrit taksan, referring to the craft of carpentry and to the use of the axe (...) Needless to say, the role of the tekton leads eventually to the emergence of the master builder or architekton. (Kenneth Frampton, Studies in Techtonic Culture)(Frampton 1995).


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1. tectonic - pertaining to the structure or movement of the earth’s crust; "tectonic plates"; "tectonic valleys"

2. tectonic - of or pertaining to construction or architecture

architectonic


Techne: The term is distinguished from episteme ( ἐπιστήμη ), being etymologically derived from the Greek word τέχνη (Ancient Greek: [ték’nì], Modern Greek: [tek-nil]) which is often translated as craftsmanship, craft, or art. Techne, is a Greek term used within considerations pertaining to philosophy. Techne resembles epistêmê in the implication of knowledge of principles, although techne differs in that its intent is making or doing, as opposed to "disinterested understanding."

Sesam Atlas of Architecture: General Overview from Mesopotamia to Byzantium:
As a young man, I have been trained in the classic tradition, studying the world of antiquity: Greece. Back then, my teachers have spoken about the architect, arch + tekton, emphasising on the construction site as the moment and place of creation, like the agora—the public square—was the co-existence of moment and place of creation of speech, society, debate, democracy.

The Greek Tektonikos is construction site as both place and moment of imaginative material operations, with no division between the moment of invention (to dream) and the place of construction (to make): time and space co-exist as to become a concrete and energetic moment (momentum). To investigate tektonikos is wanting to understand how the magic moment of incarnation (substantiation) inspires the generation of the poetic image, by and whilst incarnating it.

Tektonikos is etymologically related to techné: art, a trade, skill. According to the Greek, techné is the set of skills the poietikos, the maker, doer and poet has to master in order to perform poiesis, which is to make or do, to bring into existence what was not already there. Then, the Greek tektainomai means: to make, to construct (in wood), to build.

My affinity with techné must be in my remembrance of the maker, the poet, the doer: the mason taking measures for the formwork of a concrete beam, my grandfather in his furniture workshop, the visible joy of soldering zinc, the act of cutting in the soil, the precision of the masonry in the draw well which is the precision of the masonry of the factory chimney standing next to it. In that respect, tektonikos belongs to the Concept of Section, that explains the (past, present, and future) actions on the construction site much more than the facade does, as the latter all too often occludes more than it explains.

In Tektonikos, the moment of making includes the element of time which is indispensable if (my) future architectural practice is to be at its best, able to grasp the energy and the information that is offered by the moment-of-operation. Then, the co-presence of time and space can be re-instated by the designing architect who can actively position himself / herself in the nowness, the time-space intersection, where architecture is in the making.

In order to connect the previous section on The Coming of Time with the upcoming section on The First Chronological Drawing, I would like to turn to the crucial role of the architectural drawing, which can be brought at this intersection of time and space by the designing architect who has become aware of its potential, and doing so, occupies his/her sector of this intersection. This is my experience I bring in this research from practice. I was implicitly aware of it, and I can make it explicit through this research.
Contrary to Leon Battista Alberti, who seems to disconnect the architect’s idea (as formulated in the architectural drawing) from construction practice, when he argues that “it is quite possible to project whole forms in the mind without recourse to the material” (Alberti c. 1450, 1988), and who, in this reasoning, even does not mention the drawing, I see the (re-)instatement of the connections between the architect’s idea (as formulated in the architectural drawing), and material in construction practice, already present in my practice, and in the practices of those architects who contribute to my argument (my communities of practice), and I want to make it explicit and improve it through this research, and implement it explicitly in (my) future architectural practice. Adam Caruso, in his essay Sigurd Lewerentz and a Material Basis of Form, argues that “I have been to a very small number of buildings that are almost perfect. They are characterised by a mastery of the act of building that has nothing to do with displays of virtuosity and everything to do with an all pervasive, existential character that fills their every pore. This character is usually indistinguishable from that of their architect, not in the conventional manner of the artist-genius and the work of art, but as a result of a completely internalised, synthetic way of working where issues of construction and thematic intent become one” (Caruso, 1997). As Jonathan Hill contends “... the drawing of a line on paper and the drawing forth of an idea from the mind into physical reality. Desegno implies a direct link between an idea and a thing” (Hill 2005). Desegno, here, has the Italian significance, as Ranulph Glanville makes us understand through his elaboration on different meanings for design, by comparing the use and significance of the word in different European languages, when he argues that “It is interesting to consider words for design in various European languages. The German refers to the whole (Gestaltung, as in Gestalt Psychology). The Dutch use vormgeving (to give form to). The Italians use designare (to draw, to designate or give significance to), which relates to the Greek skediazos (to intend or sketch)” (Glanville, 2009.05).

Then, the Greek skediazos combines to intend (thinking, to project, to dream) with to sketch (doing, to make)—in the moment, on the spot, in real time—as the act performed by the competent architect. I would like to connect “a thing” as brought forward by Hill, with the substantiation in matter, as “the drawing forth” from “the drawing of a line on paper” (Hill 2005).

My aspired connection between drawing (forth) and construction practice, is strongly inspired by the practices of Medieval master builders of cathedrals, and their Nineteenth Century successors of the Arts and Crafts Movement and the Gothic Revival (who have not been fully absent ever since).

In a pledge for the material fulfilment of the unmeasurable desires of the soul, the substance of the construction site—“the material basis of form”—deserves to be reinstated at the centre of actual and future architectural practice.

As Kenneth Frampton argues, “During the past two decades, the academic realm at large has taken a distinct distance from the world of practice. Some schools have all but turned their backs to the reality of construction. This withdrawal is motivated understandably by the prevailing vulgarity of today’s standardised architectural practice. But the separation of the intellectual endeavour from the realities of matter, making and use has resulted in an air of self-referentiality and autism. The tectonic view of architecture promises to tie the development of theory back to the essences of construction and experience. It questions the validity of the fashionable architecture of arbitrary image” (Frampton 1995).

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224 It suffices to look at the impressive set of drawings Sigurd Lewerentz has made for the St. Petri Church (Lewerentz 1962-1966), and to see “the synthetic way of working where issues of construction and thematic content become one.” I refer here to the set of drawings in pencil on tracing paper, on which Lewerentz has drawn all the bricks as if he was the mason, the bricklayer himself, literally working his way up from the foundations to the roof: patterns, arches, vaults between steel beams (O’Neil Ford 2009).
I situate the practice investigated in this Ph.D in a group of practices (my communities of practice), to be found in inspiring architectural practices in the re-emerging cultures of the New World, for instance: Amateur Architecture Studio in China, or Studio Mumbai in India, or in the work of Terunobu Fujimori, Kazuo Shinohara’s, or Kengo Kuma in Japan. They are my allies.

In the work of Amateur Architecture Studio, I discover a resistance, also present in my work, through a direct confrontation with Substance, like for instance the recycling of materials coming forth from a demolished neighbourhood, like the Ningbo History Museum (Wang Shu and Lu Wenyu 2008). Also, the exploitation of the essence of Substance and craft looks familiar to me. I feel closely connected with what Wang Shu says in an interview with A+, a prominent architecture magazine in Belgium: “The architecture made by amateurs—spontaneous, illegal, temporary—is a challenge for the architectural profession. Professional architects all too often see buildings as physical objects, and in that respect amateurs can teach them a lot (…) Asked if he considers himself as an ‘international’, like Ma Quingyun (MADA s.p.a.m.) or Ma Yangsong (MAD), he answers without hesitation, but not without mild irony: “These are real international architects. I am a local. I am not brilliant enough to become as famous as they are” (A+ 219).

Then, in the same interview, I was fascinated by Wang Shu’s explanations on the brick patterns of the Ningbo History Museum: “But I have designed the patterns on the wall of this museum. When the construction process started, the craftsmen were working behind scaffoldings. It was all very mysterious, because nobody could see what was going on, including myself. But when the scaffoldings were removed, I was excited, exactly because the construction process had prevailed over the design I had made before” (A+ 219). The nowness of the construction site competed with, and prevailed over the previous theoretical preparations. Tektonikos.

This is comparable with the way Studio Mumbai practices. “Studio Mumbai is a human infrastructure of skilled craftsmen and architects who design and build the work directly. (…) Projects are developed through careful consideration of place and practice that draws from traditional skills, local building techniques, materials. (…) The endeavour is to show the genuine possibility in creating buildings that emerge through a process of collective dialogue and face-to-face sharing of knowledge” (El Croquis 157). “I am very curious about how one builds a studio. How does one build a practice? Part of the reason we have shaped our practice in this way is because the people I have been with longest are my carpenters and masons. They have a language that I am now able to speak, and they have met me halfway. I have to meet them from their point of view and they have tried to meet me from my point of view, but we do not quite get to each other’s place. We work from the places where we overlap”, Bijoy Jain says in a conversation with Dr. Balkrishna V. Doshi (El Croquis 157).

I have seen the practice of Studio Mumbai, where carpenters and architects and craftsmen work together under one roof, and where scale models and drawings and building materials have an equal status: they share the same moments and the same space, even the same shelves. In assume that the concept of (my) future architectural practice is to be found in this concept of practice. Then, I have noticed how the sketches made by carpenters are guiding an immediate and hands-on design-construction process, and in between, the amount of ‘official’ documents (plans, prescriptions, forms, …) is reduced to the minimum, as to give way to direct communication between all the people involved on the site: the carpenters, the stonemasons, the architects. Also, I have noticed the utmost importance of scale models in their practice, made by carpenters to inform carpenters, stonemasons, clients, and maybe even the

225 Translation by the author.
226 For instance: the scale models made for the Copper House N°1 (Studio Mumbai 2009), but also the full scale mock-ups, an inspiration for the full scale mock-ups we had made for The Boathouse 2 (2008-2012)(see Section 2.4.3).
Again, like with Wang Shu, the real centre of action of the architectural practice is the construction site, which in the case of Studio Mumbai has been brought maximally into the studio of the architect—very inspiring to me.

What strikes me is the fact that both Amateur Architecture Studio, and Studio Mumbai, do not even mention the names of their leading architects in the name of their studios. It is teamwork, and each member of the team is granted his/her righteous ‘sector’ in the occupation of the time-space intersection of ‘Tektonikos’.

Then, the work of Terunobu Fujimori has a similar hands-on quality through a genuine materiality applied with skilled craft. His stubborn attitude appeals directly to the deepest layers of my mental space, where it connects with images and experiences of my grandmother’s house, with the world of fairy tales we all share. I am also very fascinated by his naive drawings that are the provocative proposition of the seemingly impossible—for instance: Dandelion House (Fujimori 1994-1995)—allowing for an immediate connection between to dream and to make, like we have all practiced as little girls and boys.

Kazuo Shinohara’s emotional intuition of his first-style houses, combined with their earthly aspect of making-in-Substance also connects with what I have found in my practice, and that points at a direction I see (my) future architectural practice evolve into.

These ‘earthly’ practices are inspiring for (my) future architectural practice, and they remind me of Bruno Latour and Albena Yaneva, who contend, in their essay Give me a Gun and I will make all the Buildings move: an Ant’s view of Architecture (Latour & Yaneva 2008), also point at this earthly and thingly quality buildings should offer: “Only by generating earthly accounts of buildings and design processes, tracing pluralities of concrete entities in the specific spaces and times of their co-existence, instead of referring to abstract theoretical frameworks outside architecture, will architectural theory become a relevant field for architects, for end users, for promoters, and for builders. ( … ) and tackle the admittedly daunting task of inventing a visual vocabulary that will finally do justice to the thingly nature of buildings, by contrast to their tired, old objective nature”.

By borrowing from the Greek notion of Tektonikos, I want to better understand, and create the co-presence of the architect-as-draftsman and the draftsman-as-master builder, who possibly—hopefully—reside in one person, the co-presence of the place of to make and the time of to dream, as to become a specific and energetic moment-in-place: the momentum wherein architectural creation can fully happen.

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227 This was a moment of recognition for me: I am also very skilled in making scale models, using them to convince clients, showing a thing in real substance, something they appear to like. Scale models are tangible, they show space and volume in real Substance, they have (in my case) the smell of wood, and I nurse them like little children.

228 Like the plasterwork for Takasugi-an (Too-high Tea House)(Fujimori 2003-2004), or the black charred cedar planks of Lamune Onsen (Lamune Hot Spring House)(Fujimori 2004-2005), and the volcanic slates, the grass and the dandelions of the gorgeous Tanpopo House (Dandelion House)(Fujimori, in collaboration with Yoshio Uchida, 1994-1995).

229 Kazuo Shinohara’s connection with earth as a Substance in Earth House (Shinohara 1964-1966), House with Earthen Floor (Shinohara 1963), and Tanikawa House (Shinohara 1972-1974). For the latter, Shinohara published the essay When Naked Space is Traversed (The Japan Architect 1976-2). In that essay, Shinohara quotes the poet Tanikawa’s (who was the client) design brief, that reads like a poem: “Winter house or pioneer cabin / Summer space or church for a pantheist.” I hereby also refer to the honest, visible and hands-on construction principles put forward in the work by the Japanese architect Kengo Kuma that also appeal to my view on (my) future architectural practice: Nasu History Museum (Kuma 1999-2000), and Soba Restaurant (Kuma 2002-2003).
“I know that every techné comes to this point: the equation of the thing and the imagination, but also the reduction of imagination to its basic principles, its foundations, to earth and flesh” (Rossi 1981).

Here, I already would like to introduce Etude\textsuperscript{230}, which is an investigation—through designing—in order to better understand a twofold:

1. I want to make explicit an attempt to re-build the principles of a temple of Ancient Greece, let’s say: the Parthenon, which is: to anatomise the site (the landscape) through the concept of section, in order to understand better how to suck an architecture out of its geology. Then, the anatomisation can take a start as the act of cutting into Substance and Depth as to see what is in the section at the eye level. In the section is Substance, and the Parthenon is built with the Substance, the stones it is standing on, stones cut out of the Thickness, the local crust of the Earth.

2. Then, I want to connect this anatomisation with the most intimate moments of a person, like I had seen as a boy, in the excavation of my neighbour, seen from a specific point in my body—the individual eye level, the unique viewpoint of a person on the world, just like I had seen in the draw well in the garden of My Grandmother’s House, cut out of the brick Substance of the world, that then had been used to erect the brick factory chimney standing next to it, standing next to me, the boy who was standing in between both, the Mother and the Father, understanding the one by looking at the other.

Designing Etude, and making the drawing and the description of The Meaning of Life: an Assumption, a Short Story (Van Den Berghe 2010.a)\textsuperscript{231} have been essential research steps in this Ph.D, as they have triggered the understandings I have written down in the previous paragraphs.

For the architects of ancient Greece, the emergence of Thickness of the Earth becomes visible through the concept of section—the geology—revealed to them as tectonic layers of stone they could see in the flanks of mountains. They see the stones of the world, brought together as “rigid, bar-like components into a system that is unshakeable in itself” (Semper 1860-62), and they anatomise these sections made by Cyclopes. Then, the Greek have cut quarries into the Earth, as to have flanks to anatomise, to select the stones they could read in the tectonic vertical sections. Then, in another round of cutting, they have forced out the stones with which to build their temples as a set of “rigid, bar-like components into a system that is unshakeable in itself” (ibidem), also unshakeable by its logic, more specifically, its chrono-logic, wherein the sequence of steps in the construction process of the temple have to be followed in a scrupulous way—to avoid failure—which means in an orderly way: in a chrono-logical order.\textsuperscript{232} Here, inevitably, the notion of time that cannot be shaken comes in the scope. The Greek tekton: the artificer, the maker, reaches out and understands what has to come first, and what has to come next, and he generates the moment when it happens, when the stacking of precisely carved stones of columns culminates in that magic moment when a space between two columns becomes bridged, when the unshakable chronology that starts with the birth of the vault is crowned by the keystone. The quest for this magic moment has become crucial in (my) architectural creation. It announces the coming of time as an extended present, a continuous flow of nowness. Out of the emergence of Thickness, the master builder now enters The State of Emergency, where time is his King and his allie.

\textsuperscript{230} See Section 2.3.5 / 4: Etude (2010-2012).
\textsuperscript{231} See Section 2.3.5 / 3: The meaning of life (2010).
\textsuperscript{232} In my view, the terminology of the Doric, Ionic and Corinthian order has as much to do with time and chronology than with a visual regularity of repetition that generates patterns recognised as a style, which in common language then is also named an order.
2.3.4 / 2-4 The First Chronological Drawing

In the previous paragraphs, I have suggested the designing architect to encompass the whole building in a drawing (Alberti 1485/1988). I have explained the Coming of Time, when and where the architect can occupy the intersection between the time of *to dream* and the place of *to make*.

Now I want to connect “to encompass the whole building in a drawing” with the notion of time.

Gravitation dictates the chronology of the drawing because it dictates the chronology of construction practice, and acts primarily in a vertical direction, with the sense of the vector going downwards to the centre of the Earth. This is the reason why, in my view, this drawing almost inevitably has to be the drawing-as-section. The plan, in this concept, is not fully absent, but to master the vertical chronology of gravitation is far from evident in the drawing-as-plan. The amassing of Substance in (my) architecture almost always is an exercise in verticality, hence the drawing-as-section is a more useful instrument to understand and handle this vertical chronology. Mostly, the past is below, the future above. And even if I would like to invert future and past, the drawing-as-section would still remain a more appropriate instrument than the plan.233

Already having pointed at the crucial role of the architectural drawing, I will now further focus on it, more specifically on the drawing-as-section, for which I return now to House VDV-C (1990-1992 / unbuilt).234 The kind of drawing I will describe here, as a concept, has become clear to me through my investigations on the design process of this house.

I had invented a tower, coming forth from the two main elements in my mental space: the Emergence of Thickness in the landscape-as-section (The Excavation), and the explorative climbing experience (My Grandmother’s House as the tower I had to climb in order to see all the other towers of my world), triggered by the presence of the Romanesque tower that had unmistakably become part of the local topography.

In a first attempt to re-unite the time of *to dream* and the place of *to make*, I have made a drawing as to rehearse the construction process of House VDV-C (1990-1992 / unbuilt). It is a vertical section on scale 1/10. I do not contend that it is new to draw sections. But I have made this drawing in such a way that the sequence of steps of building dictated the subsequent steps of drawing.

I have (re)discovered this way of drawing through this research, I want to make it explicit as a concept, I suggest to further develop it (through additional research) by applying it in architectural practice, and I have given it a name. I have decided to call this concept The Chronological Drawing.

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233 I am thinking here about the Cremer Museum in Enschede (SeARCH and Rem Koolhaas 2010-2011), where a new basement has been inserted under an existing massive brick warehouse, and where the upper floors have been jacked up. I am also thinking about the Caixa Forum (Herzog and de Meuron 2008), where the whole street level of the building has been cut away in order to insert the public square underneath it. In both cases, a new present and future have been inserted underneath and in between the layers of the past, and the concept of section is challenged and exploited to the full extent, hence the drawing-as-section is obvious and indispensable. I am still most fascinated by the tecnical sections made by SeARCH, on which the whole chronology has been drawn, annotated with words to complete the scenario, and by the photographs-as-sections (Henket 2011).

234 My urgency to occupy the intersection between *to dream* and *to make* must also have come forth from the immediacy with which I actually wanted to build. Firstly, I undoubtedly must have felt the forebodiing of the possible decision that House VDV-C (with the first chronological drawing) would remain unbuilt (which it finally did!). Secondly, at the moment of making of these drawings, there is no construction site yet, and I wanted to learn and to master the chronology of construction practice. Then, in both cases, my chronological drawings must also be seen as an act of fierce resistance against the obstacles that block the possibility of building.
The First Chronological Drawing, which I discuss here, for House VDV-C (1990-1992 / unbuilt), has been triggered by the necessity to design the construction process of the house. So it has not been developed and applied for the design of the house itself, that had been designed before, whereas for the Second Chronological Drawing for House T-A\textsuperscript{235}, and the Third Chronological Drawing for House B\textsuperscript{236}, the concept of chronological drawing encapsulates the design of the construction practice which is the design of the house itself.

The ‘history’ goes as follows: the design of the construction process of House VDV-C must be understood as my first conscious attempt to close the aforementioned gap between to dream and to make. I did this design when I was suffering from the turmoils any young architect is struggling with. A 10-Ton Cone Penetration Test (CPT) had demonstrated the weak bearing capacities of the soil. A 20 Ton-CPT confirmed the first results. Would the house not be slanting after some time, with its quite highly situated centre of gravity? Should I stick to my initial and liberating approach of a visionary vertical tower in the landscape, or should I withdraw? Should I give up because of my lack of experience in construction practice as a young architect? I felt the gap between to dream and to make. How could I possibly come closer to the intersection between the poetic image and construction practice, between the moment of conception and the place of building? How could I occupy the strategic intersection between time and place?

I decided that, from that moment on, my incessant effort would be to unite construction practice with the poetic image. I decided to go for the substantiation of the visionary. I decided not to give in. I wanted to resist the obstacles, and I wanted to overcome them, like the tower-house would overcome the ridge of the hill in order to see the Romanesque tower. As I wanted to know more about the geological conditions of that site in this landscape, I went to the Faculty of Geology of the Ghent University, where I talked with geologists and consulted geological maps. I had to scientifically consult the landscape-as-section, the tectonics, in order to serve my tektonikos. Hard scientific data at the service of a dream. No practicing architect can say he/she has never had sleepless nights about this, then gradually going through all the gathered data again and again, in order to exorcise his/her demons. In order to take control over the scenario, I started to make series of sketches, struggling with the construction site in mind, banking on everything I had learned as an apprentice, on everything I had rehearsed in my early works. Then, I have made this vertical section on scale 1/10 that has had a central place in the design of the construction process of the house, since it reconciles my poetic image of a tower-house in a sloping landscape with the necessity to listen to the chronology of the construction process as the inevitable condition to build it.

\textsuperscript{235} See Section 2.3.4 / 6-3: House T-A (2001-2002 / unbuilt).
\textsuperscript{236} See Section 2.4.4: House B (2005-2007).
House VDV-C (1990-1992 / unbuilt): The First Chronological Drawing: scale 1/10 annotated on reduction to A3. The horizontal lines are the timelines of the chronological drawing, and the lines are situated on the drawing on the exact level of the described construction action.
By drawing the subsequent steps of the building process in their chronological order in this technical section I thus instated my first version of this concept of
drawing that is driven by rigorous chronological reasoning. I have put all the exact measurements of the site levels, the landscape-as-section, in a drawing-as-
section, then starting from the bottom, which is: by looking at the results of the CPT’s, drawing the excavation and a first concept of the foundation system. Then, I began to draw my way upwards, in order to understand—as a young architect—and determine the chronology of the construction site, which is
constant asking the basic question: how is the mason actually going to make this? This is why I call this method the chronological drawing. I consider it as my indispensable ‘flight simulator’ of construction practice. Subsequently, as to further check my process of reasoning coming forth from the chronological drawing on scale 1/10, I have made a second version of part of it on scale 1/5, just to make sure I had understood every step, and the chronology of steps. I was in a process of learning.

What is the difference, then, with a ‘normal’ vertical section?
The chronological drawing apparently looks the same as a ‘normal’ (vertical) section. The difference between the two is to be found in the fact that the
chronological drawing is made by the consequent process of drawing chronologically according to the chronological steps of the actual construction practice, in which the process of drawing goes hand in hand with a consequent reasoning-while-drawing, in that the reason is the (chrono)logic of the (chrono)logic of building.

After having discovered this kind of drawing in my practice, and after having made a concept of it, I have further tested it through an updated version of this
drawing, informed by my investigations on the old one. I have applied the same drawing-as-section of the same house, in order to test and refine its potential. In this new drawing, I have begun to annotate and comment the subsequent chronological steps it takes to actually build it, clarifying the chronology by numbering it.

In order to improve the applications of the concept of Chronological Drawing as discovered and named by this Ph.D, further research is required. Further research on this concept would imply making new versions of it, of which I already have started one, as to further test its possibilities and to refine its procedures. On the chronological drawing, the draftsman can annotate, and even number, the subsequent steps of the logic of reasoning, that is the
inevitable logic of reasoning of building. The Chronological Drawing, then, can become for construction practice what the scenario is for film making, and what
protocol writing is for informatics.

I am aiming directly at the useful application possibilities of it in the context of architectural education, where it can initiate students in the connection between
the (chrono)logic of drawing and the (chrono)logic of building. And evidently, this concept of drawing is at the benefit of future architectural practice.

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238 Subsequently, the engineer would have to define the foundation concept, in the inversed order of reasoning, based on the load it has to bear, and on the characteristics of the ground.
239 The decision not to build this house, and the decisions not to build other houses I have designed, most probably has contributed to my resistance as an architect. This resistance could find an outlet through meticulous simulations of reality, which is the making of chronological drawings, that enabled me to be prepared for the construction practice as architectural design, for the houses I would build anyway, especially for the ones I consider as my matured practice: House DG-DR (1999-2004), Summerhouse (2001-2004), House D-R (2004-2007), The Boathouse 1 and The Boathouse 2 (2008-2012), House B (2005-2007).
240 For the restauration and replacement of the completely dilapidated structure of a 17th century boarding school, a project we do with our architecture studio y.e.AHI-architects (Jo Van Den Berghe architect and Bart Uvin architect).
241 Actual version of the concept of chronological drawing: the subsequent steps to be taken for the restauration and replacement of the dilapidated bearing structure of a 17th century boarding school (y.e.AH!-architects (Jo Van Den Berghe architect and Bart Uvin architect).
This may all sound evident, but still it is not. The logic of stacking Romanesque masses of Substance—brick and stone—does not forgive the slightest mistake. Gravitation, which is also the necessity of water sealing at each transition from one mass to another, is also included in this process of chronological reasoning, because from earlier works I had learned the necessity and the few good ways to keep the rain out with precisely positioned slabs of led, also precisely positioned in the rigorous reasoning of the chronology on the site. Slowly, I began to accept and understand that gravitation, with the rain in its slipstream, is my master, and that gravitation imposes the chronology in construction practice, hence in the chronological drawing. Here, I recall Louis Kahn, when he argues that “In Gothic times, architects built in solid stones (…) If we would train ourselves to draw as we build, from the bottom up, when we do, stopping our pencil to make a mark at the joints of pouring or erecting, ornament would grow out of our love for the expression of method (…) The desire to express how it is done would filter through the entire society of building, to architect, engineer, builder and draftsman” (Frampton 1980).

Before I continue on House VDV-C, I first want to compare the concept of The Chronological Drawing with the way engineers do their reasoning. Whereas I start my process of reasoning from the bottom, (chrono)logically working my way up to the top, engineers work the other way round, coming down from the top so as to understand how the conditions of the bearing elements must be, due to the progressive addition of weight. The architect defines what the roof is, so the engineer knows what the roof is in order to hold it up, and coming down from the top to the bottom of the house, he must define what the foundations are, in order to know how the roof can be held up. All this is related to the bearing capacities of the ground, the characteristic of the landscape-as-section. As we see, different chronologies are at work in the creation process of architecture: firstly, the architect works his way up (certainly in the case of House VDV-C) to define what the roof is, then the engineer works his way down again to define what the bearing elements will be, and subsequently the contractor works his way up again to erect the house. There is no other way, neither in the chronological upward reasoning of the architect, nor in the downward chronological reasoning of the engineer, than to acknowledge the upward chronology in the contractor’s reality on the construction site, hence my insistence in my development of the concept of the Chronological Drawing. This chronology is the duration and sequence of eternity’s every minute and second of gravitation, parading in front of the mind’s eye of the architect, whose understanding as a master builder has to empathically encompass the engineer’s and the contractor’s chronologies.

242 In that period, I was having this unpleasant experience of badly positioned slabs of led in House G-D (1988-1990), where I was called to the house every time rain was falling heavily, having to look at how rainwater was leaking through the wall above a series of four large windows, and having to answer the rhetoric question: “Now how are you going to solve this problem?” After all, this had been an excellent learning experience that had taught me that I could not just sit and wait for the contractor to do a good job, that it was up to me, as an architect and master builder, to remain in charge of the decisions that constituted the one and only reliable chronology of building, hence helping to trigger the concept of the Chronological Drawing.

243 Most certainly, House VDV-C has connections with some of the sketches Louis Kahn has made for the Dominican Motherhouse, designed between June 1966 and March 1969 near Media, Pennsylvania, and the tormented design process of House VDV-C as I come to describe it in some way connects with the way Kahn’s drawing process evolves: “Kahn’s drawings across four schemes (…) develop in a way that suggests a spiritual struggle of their own (…) “ (TheArchitect'sNewspaper 2011).

244 The concept of stacking volumes in House VDV-C, as well as the use of red brick material as an honest example of full legibility of construction practice, is also a tribute to James Stirling’s and James Gowan’s Engineering Building at Leicester University (1959-63), one of my all time favourites, which is a didactic demonstration of these principles. Not surprisingly, it is a building for the education of engineers! Only later, I discovered Frank O. Gehry’s Fish Dance Restaurant in Kobe, Japan (1986-90). The more recent Concert Hall in Bruges, by Robbrecht & Daem Architects (2002), incorporates much of the architectural gesture and the application of material of House VDV-C (1990-92 / unbuilt).
To conclude on House VDV-C, I will return to the subject I introduced this house with: the landscape-as-section. There, the section-as-excavation allows for the precision with which the architecture is inserted into the landscape. The experience of the house starts with hiding deeply into the excavated mound.246 There, on the street level, the access to the house goes through a subterranean tunnel that suggests both mystery and expectation, and makes the aprioristic condition of protection in the mound experiencable, even compelling. A short but intense walk moves into the Darkness, and the concept of vertical section becomes apparent, as the walker inevitably links it to the Thickness of the site he has noticed from the street. Then, quite suddenly, this journey turns into a vertical stairway that leads to the panoramic roof with abundant light.247 There, the expectation of the tunnel is confirmed with satisfaction by the view towards the Romanesque tower, and the initial mystery is unveiled.248 House VDV-C encompasses the two basic moments coming from my mental space: The Excavation and My Grandmother’s House, the Cave and the Tower.

245 The precision of drawing-as-section, carefully inserted in the landscape-as-section that becomes the section-as-excavation on the construction site is always informed by economic calculations based on knowledge about (the cost of) construction practice. Whereas I originally considered construction practice as an obstacle on the way to the substantiation of the poetic image, now I welcome it as a generator of it, and as a the catalyst of decisions in a design process. With the anatomisation, offered by making the chronological drawing—almost always a drawing-as-vertical section—the architect can better estimate and incorporate (the cost of) construction practice. Doctors know that, and they apply Röntgen images and MR-scans. Architects and engineers know that, and they must have their proper means to do their investigations and to formulate their diagnosis.

246 See Section 2.3.3 / 3: The Excavation.

247 See Section 2.3.3 / 2-2: the dormer window in My Grandmother’s House

248 The second Jacobs House, by Frank Lloyd Wright (Wright 1943), with its stone entrance tunnel that comes in from the North and pierces a bank, then finally unveils a sunny garden protected by its lowerend ground level and the enclosing shape of the house, as well as the subterranean entrance from the street for the appartement building on Försterstrasse, Zürich, designed by Christian Kerez (Kerez 1999-2003), and Peter Zumthor’s Thermal Bath (Zumthor 1990-1996). Here, Peter Zumthor has understood the emergence of Thickness to the full extent, by the powerfull penetrations into the stone masses of the mountain. This was his answer to the local community, who had asked him to design a new bath complex in the moutain, “as if it had always been there”.
The circulation concept in this house \(^{249}\) is a labyrinth in its own right. It gives back the landscape, that has become absent due to the fact that the house is situated 5 meters above the level of the site, which is a consequence of the transport business with a large truck garage that is situated underneath the living spaces, on the street level, and which already had consumed the allowed footprint of the building.

\(^{249}\) I advise to first read Section 2.3.2 / 2-10: House ST (1998-2001), where I provide the hard data of the house.
I have created a *promenade architecturale* (first introduced by Le Corbusier for his *House La Roche-Jeanneret*, Paris) (Le Corbusier 1923). Being in a sloping landscape—literally the sloping hills of my childhood—this promenade is a continuous ramp that winds around the dominant volume of the truck garage and finally reaches the living quarters on top of the building. This design is reminiscent of images of the construction site of pyramids in ancient Egypt, on which I had seen ramps to slide massive blocks of stone upwards. I also refer to Pieter Brueghel the Elder’s painting *The Tower of Babel*, especially the version in the Kunsthistorisches Museum, Vienna, Austria (Brueghel the Elder c. 1563.a). Apart from its endeavour, which has been the endeavour of House ST, the

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250 See Section 2.3.3 / 3-2: The Emergence of Thickness, and the Concept of Section. House ST is situated in my native village, the one I observed from the dormer window in the attic of My Grandmother’s House.

251 I prefer the version that is hanging in Vienna (Brueghel c. 1563.a), because its tower is more a construction site than the one on the smaller version in the Boijmans Van Beuningen Museum in Rotterdam (Brueghel the Elder c. 1563.b). The Vienna version is more a section, an anatomisation, whereas the Rotterdam version is more an elevation, where the explanatory power of the anatomy has been covered by the façade. I also refer to house VDV-C (1990-1992)(see Section 2.3.4 / 2), that is also reminiscent of Brueghel’s paintings.
examples of Roman engineering\textsuperscript{252} depicted on this painting are pure demonstrations of construction practice, of \textit{to make} that gradually becomes—as it literally works its way upwards—a poetic image, \textit{to dream}. Stone after stone, brick after brick, storey after storey, the stonemason first makes the tower that we subsequently can dream about.

\textsuperscript{252} Arches and vaults in stone for the bottom part, brick masonry for the upper part, and/or the core of the tower. Here, I refer to Section 2.3.5 / 3: The meaning of life (2010), and Section 2.3.5 / 4: Etude (2010-2012), and to Section 2.4.5: The Haystack Gallery (2011-2013). I also refer to Section 2.3.3 / 2-2: A Journey into Memory and Imagination, where I describe the brick vaults in My Grandmother’s House: in the grotto in the garden, and in the basement.
The experience of this explorative walk, the discovery of dimensions (Thickness), materials (Substance), spaces (Depth) and atmospheres (Darkness) occurs gradually, secrets unveil slowly. This exploration is experienced as a slow invasion into a labyrinth of blocks of closed Thickness-of-Substance, in whose Depth I penetrate as to find my forbidden Darkness of the intimate. Arrived there, having deciphered the labyrinth, the enigmatic, the unknown, I find peace of mind. I had to fight my way through it, and so I belong to those who want to make an effort, who want to resist the obstacles. I had to climb my way up to decipher my labyrinth, to my enlightenment on top of this house, where the living spaces are, and where looking at the surrounding landscape is looking at my world. In this sentence, I have paraphrased the fourth understanding (Labyrinthine Slowness)\textsuperscript{253} of a reconstructed house, which has been my grandmother’s house where the explorative walk had ended in the dormer window in the attic, from where I could see and decipher my landscape. It took me ten years, and the intense research process of this Ph.D, to find out what House ST was really about, and to make this explicit.

While making the drawings of this house, I knew that it would be difficult to build, with all the oblique planes of the ramps in it. It would especially be difficult to control the quantities of materials, which was also my financial responsibility as an architect. I had enough experience with construction practice by then to understand that someone would have to be in charge of the chronology of the construction process, relying on an overview, and that everybody would be looking in my direction. I knew I would need a lens through which I could see, and demonstrate, the whole building in one view, in one drawing. This has been the moment when I started to make the X-Ray-Drawing.

\textsuperscript{253} See Section 2.3.3 / 2-5: Understandings of a Reconstructed House.
2.3.4 / 3-2  The X-Ray-Drawing

In a conscious attempt to close the aforementioned gap between to dream and to make\textsuperscript{254}, I have made the X-Ray-Drawing in the creation process of House ST (1998-2001).

I would like to come back to Alberti, in my understanding of his stance “to encompass the whole building in a drawing”, when he describes, at the beginning of his De re aedificatoria (Alberti 1485/1988), his concept of lineamenti. It is a set of lines, “referred to the essential geometric idea that issued from the architect’s mind, took the form of a drawing, and guided the production of architecture (…) the early desire to encompass the whole building in a drawing”. Then, I would like to connect Alberti’s lineamenti with Vitruvius’s understandings of the nature of architectural drawings (Vitruvius 85-20 BC), which he describes as the plan (iconographia), the elevation (orthographia), and the concept of perspective (scenographia), the latter encompassing the front and sides of the building. In my argument of this Ph.D, and hence more and more in my current work, I am not that interested in the iconographia, and even less in the orthographia, unless the latter makes the mechanisms and the chronology of how it has been made in Substance by the master builder visible. I would like to use X-Rays in order to see the skeleton and the organs, in order to trace the hand of the maker from the past.

And what if I would use X-Rays in order to predict the hand of the maker from the future?

I have borrowed the fascinating concept of X-ray’s from Medical Science. The X-Ray-Drawing is an attempt to bring together the orthographia and the scenographia in one drawing, in order “to encompass the whole building in a drawing” (Alberti 1485/1988), which is wanting to get a grip on the totality of the building, especially its upcoming construction process. In the X-Ray-drawing of House ST (1998-2001), I have juxtaposed elevations, longitudinal sections and annotations in one drawing, my lens to see sharply into the Depth of it all as to precisely predict my grip on the totality of the construction process. The drawing has brought the construction process at the centre of the drawing table (at the moment I had to calculate the quantities) yet it transports the drawing table all at once into the middle of construction practice. It requires a constant going back and forth by the drawing architect, both optically between the sections and the elevation in one drawing, and mentally between the drawing table and the construction site, but he/she can practice and succeed, like I have done in this series of very rewarding intellectual exercises in the X-Ray-Drawing of House ST (1998-2001).

The X-Ray-Drawing has transported my act of drawing from a mere speculative and realistic representation as to please in the State of Grace, into an active and operative instrument at work on the Theatre of Operations, where the action of construction is ongoing (the Greek tektonikos). There, it is the presentation of the real in the State of Emergency. Subsequently, the First (aforementioned) Chronological Drawing\textsuperscript{255} can be combined with the X-Ray-Drawing, as to form an instrument of transportation across moments and places in the construction process for the designing architect, and as to allow the architect to better occupy the intersection between the time of to dream and the place of to make.

\textsuperscript{254} The gap here is to be understood in two ways: firstly as I mentioned it in Section 2.3.2 / 3: There still is a Gap!, which is: drawing as to bridge the gap in my better understanding of the work itself, and secondly—more fundamentally connected with the research theme—as I mentioned it in Section 2.3.4 / 2-4: The First Chronological Drawing, which is: drawing as to master the reasoning of the (chrono)logic evolution of construction practice, the connection between \textit{to dream} and \textit{to make} in the design process, which is also the research gap in this Ph.D.

\textsuperscript{255} See Section 2.3.4 / 2-4.
For future architectural practice, I suggest to further investigate this technique of X-Ray-Drawing as (part of) my continued research after this Ph.D. As a first step of this additional research, I have now made new X-Ray-Drawings for House DG-DR\textsuperscript{256}, in order to further test and refine this concept of drawing, and in order to learn its application in a CAD-environment (the original X-Ray-Drawing for House ST (1998-2001) had been an analog drawing in pencil on thin white paper). This part of my research has revealed an endless array of possibilities "to encompass the whole building in one drawing", as can be seen on the exhibited version of this drawing.\textsuperscript{257}

\textsuperscript{256} I will further describe this house in Section 2.3.4 / 5: House DG-DR (1999-2004).

\textsuperscript{257} From this version, I would like to point at the similarities I see in it with the way music composers write their scores, using different lines for different (groups of) instruments, but keeping all of them within one view and one framework which they call the metrum, their unit of time, their chronology. Music composers, and directors of (symphonic) orchestra's, are able to see through the whole picture that consists of all the parallel lines of the score, as "to encompass the whole composition in one drawing".
258 X-Ray-Drawing, scale 1/20. Sections and elevation, juxtaposed in one drawing, pecil, fluo ballpoint and fluo marker on thin white paper. Beech frame, anti mirror glass.
Construction site photograph.
2.3.4 / 4 CL2-Appartments (1997-2002)

2.3.4 / 4-1 Chronology on the Drawing Table

Having arrived at this strategic intersection between *to dream* and *to make*, roads seem to lead to the materialised chronology in time. Standing in the middle of this intersection, I take the opportunity to look around, and to see a road that also has enlightened my view on these aspects of chronology and materialisation in Substance.

The design context for the CL2-Appartments (1997-2002) was very specific, and required an appropriate approach. Chronologically, the steps of the design process which I will describe here came between House VDV-C (1990-92 / unbuilt) with the first chronological drawing, and House ST (1998-2001) with the X-Ray-Drawing.

As for the CL2-Appartments, I would like to shine a light on two aspects of the process. Firstly, on the difficult chronology of the structural intervention, and secondly, on the intense presence of Substance and the aspect of making in the design process of the interior design.

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260 See Section 2.3.4 / 2.
261 See Section 2.3.4 / 3.
I will start with the difficult chronology of the structural intervention. The CL2-Appartments have been carefully inserted in an 18th Century Classicist urban house. I already had transformed the street level of the house in an ophtalmology practice in 1995, and the design brief for the appartments on the first, second and third floors strictly included that the practice should remain open during the whole period of the works on the appartments.

The existing floor structures between the storeys of the house were made of wooden rafters, of which the sections and the spacing were too limited. Moreover, several mutilations, coming forth from unjudicious interventions over the years, had weakened the bearing capacity of the floors. In order to combine a structural improvement, with substantial acoustic improvements between the future dwellings, I soon decided to replace the wooden floors as much as possible by concrete slabs. We would have to remove the wooden structure, by which the bearing walls would come to stand alone and kink, and subsequently collapse. Given the strict design parameter that the practice on the street level would have to remain open all the time, given the dense urban context of this project, and above all, given the fact that an architect does not want his buildings to collapse, I was brooding on a solution. I understood that the rafters constituted the scaffolding that kept the walls in place and thus provided the rigidity of the building. I understood that I would have to instate a chronology in the subsequent steps—call it a scenario. Then I still had to solve the problem of how I would support the formwork for the concrete slabs, since I could not install supports in the practice downstairs, nor in the basement underneath, where the archives and the stock of the ophtalmology practice were situated.

I have organised the chronology as follows:

Step 1:
I have decided not to replace the wooden rafters between the ground floor level and the first floor, because the ceilings, the HVAC and the electrical equipment of the practice downstairs were all suspended on these rafters. Touching these rafters would mean having to close down the practice, and to thoroughly refurbish it, which was out of the question.

Step 2:
I still had to re-inforce the wooden rafters between the ground floor level and the first floor, because, as a floor structure, they were to weak. I could not work from underneath, so we openend up the wooden floor on top as to reach the rafters from above, in order to re-inforce them by screwing solid wooden planks on both flanks of each rafter, by which we could also bring the whole floor structure, that was seriously bending, on an even floor level. Subsequently, we added more rafters with bigger sections in between the existing rafters. Then, we have filled all the hollow spaces between the rafters with Rockwool insulation, and we have put fire resistant panels (Promatec) on top of all the rafters, as to ensure the required fire resistance of 60 minutes, and as to improve fire resistance as requested by the local Fire Department.

Step 2: By which the project would have to be (partially) financed.

264 Which also included a better fire resistance as requested by the local Fire Department.
265 By which the project would have to be (partially) financed.
266 CL2-Appartments: first floor plan.
the acoustic insulation between the first appartment and the practice. Subsequently, we have put OSB-panels on top of them, as to have a solid working floor (on which later we would put a beautiful wooden parquet floor in oak).

Step 3:
Then, we have inserted 5 parallel steel girders\textsuperscript{267}, parallel with the street and equally spread over a distance of about 14 meters, on which we would later put the supports for the formwork of the concrete slabs. We have put these steel girders quite high, almost under the wooden floor structure between the first and the second floor. By doing so, these steel girders would avoid the kinking of the bearing walls by temporarily replacing the wooden rafters that we wanted to remove. The three bearing walls stand perpendicular to the street, the wooden rafters lay parallel with the street.

Step 4:
Then, we have removed the wooden rafters between the first and the second floor, together with the wooden flooring of the second floor.

Step 5:
Then we have made cavities of 1 meter in the masonry, in order to permit the concrete slab to rest on the existing walls, alternatingly leaving 1 meter intact in order not to undermine the walls, and then we have mounted the formwork for the first concrete slab, between the first and the second floor. The formwork was carried by putting enough secondary temporary wooden rafters on the 5 steel girders we had put in place earlier (see step 3). Subsequently, we have put the reinforcing steel bars (no nets, we could not get in with them!) in place, and poured the concrete.

Step 6:
Then, we filled in the masonry where necessary due to the excavations we had made to lay the new concrete slabs into the massive brick bearing walls.

Step 7:
Twenty eight days after we had poured the concrete (see step 5), we could remove the supports and the formwork of the concrete slab between the first and the second floor. Then we also removed the 5 preliminary steel girders.

Step 8:
Then, we have inserted 5 parallel steel girders\textsuperscript{268} \textsuperscript{269}, equally spread over a distance of about 14 meters, on which we would later put the supports for the formwork of the concrete slabs. We have put these steel girders quite high, almost under the wooden floor structure between the second and the third floor. By doing so, these steel girders would avoid the kinking of the bearing walls by temporarily replacing the wooden rafters that we wanted to remove. The three bearing walls stand perpendicular to the street, the wooden rafters lay parallel with the street.

Step 9:
Then, we have removed the wooden rafters between the second and the third floor, together with the wooden flooring of the third floor.

\textsuperscript{267} By carefully sliding them through a window, there was no other way to bring them in.

\textsuperscript{268} By carefully sliding them through a window, there was no other way to bring them in.

\textsuperscript{269} We could recuperate the ones from step 3. We had controlled it, and there were no vertical inclinations in the bearing walls.
Step 10:
Then we have made cavities of 1 meter in the masonry, in order to permit the concrete slab to rest on the existing walls, alternatingly leaving 1 meter intact in order not to undermine the walls, and then we have mounted the formwork for the second concrete slab, between the second and the third floor. The formwork was carried by putting enough secondary temporary wooden rafters on the 5 steel girders we had put in place earlier (see step 8). Subsequently, we have put the reinforcing steel bars (no nets, we could not get in with them!) in place, and poured the concrete.

Step 11:
Then, we filled in the masonry where necessary due to the excavations we had made to lay the new concrete slabs into the massive brick bearing walls.

Step 12:
Twenty eight days after we had poured the concrete (see step 10), we could remove the supports and the formwork of the concrete slab between the second and the third floor. Then we also removed the 5 preliminary steel girders.

Step 13:
Then, we have inserted 5 parallel steel girders, equally spread over a distance of about 14 meters, on which we would later put the supports for the formwork of the concrete slabs. We have put these steel girders quite high, almost under the wooden floor structure between the third and the fourth floor. By doing so, these steel girders would avoid the kinking of the bearing walls by temporarily replacing the wooden rafters that we wanted to remove. The three bearing walls stand perpendicular to the street, the wooden rafters lay parallel with the street.

Step 14:
Then, we have removed the wooden rafters between the third and the fourth floor, together with the wooden flooring of the third floor.

Step 15:
Then we have made cavities of 1 meter in the masonry, in order to permit the concrete slab to rest on the existing walls, alternatingly leaving 1 meter intact in order not to undermine the walls, and then we have mounted the formwork for the third concrete slab, between the third and the fourth floor. The formwork was carried by putting enough secondary temporary wooden rafters on the 5 steel girders we had put in place earlier (see step 13). Subsequently, we have put the reinforcing steel bars (no nets, we could not get in with them!) in place, and poured the concrete.

Step 16:
Then, we filled in the masonry where necessary due to the excavations we had made to lay the new concrete slabs into the massive brick bearing walls.

Step 17:
Twenty eight days after we had poured the concrete (see step 15), we could remove the supports and the formwork of the concrete slab between the third and the fourth floor. Then we also removed the 5 preliminary steel girders.

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270 By carefully sliding them through a hole we had to make in the roof, there was no other way to bring them in. Then, we immediately had to close the hole in the roof again, in order to avoid the rain from seeping in, and to avoid damage underneath.

271 We could recuperate the ones from step 8. We had controlled it, and there were no vertical inclinations in the bearing walls.
Step 18:
Then, once the basic structure of the house was completely consolidated due to the previous steps, we could remove the roof. We did this in 4 parts, in order to reduce the risk of rain damage. We removed the harmed purlins and replaced them by new ones with a bigger section, and then we closed the roof again with zinc cladding.

Step 19:
After all the precedent steps, we were ready to intervene in the interior spaces of the house.

Due to the cautious preparation of this chronology in 19 steps, the ophtalmology practice on the street level has not been closed for a single day. The only damage was one lamp that had to be replaced. I had learned my lesson on chronology, and none of the previous steps could have been left out, nor could the chronology between them be altered. At the time of designing this intervention, I did not think about the concept of the Chronological Drawing, or the X-Ray-Drawing. I had it all written in the specifications, and discussed my way through it with the contractor before we started the work. It’s only now, through these doctoral investigations, that I am thinking about the possibilities the Chronological Drawing would have offered in organising and communicating the only possible chronology, and in reducing the risks through unambiguous drawings at the service of the people on the site, for they read drawings, they almost never read the written specifications. 272

2.3.4 4-2 Substance on the Drawing Table

After the difficult chronology of the structural intervention, I will explain on the intense presence of Substance and the aspect of making in the design process of the interior design in the CL2-Appartments. I want to introduce this aspect here because Substance and the aspect of making has a central place in my mental space, in my work, hence in my research, and my research has revealed that the CL2-Appartments were the first occasion on which I became fully aware of this.

The client granted me with plenty of time to design the interior spaces. She did not put pressure on me. Also, the structural interventions had been done successfully, so the biggest risks were behind us. All this had brought us in a common cultural alliance. There have been plenty of conversations through which the common ground between the client and the architect has become clear. The client wanted to have the spatial quality, the floorings and the built-in furniture to be of a high standard, made by good craftsmen, with noble materials. We were seeking for a full correspondence between the style and class of the original 18th century Classicist urban house, and my distinguished contemporary interventions. What we inserted—this was also a landscape—had to be done with an utmost precision, trying to implant the new interventions in the transhistorical ground, the continuity of the architecture. The budget would be precisely calculated before the works started, and if some aspect would appear to be more expensive than expected, the client would take more time before to give the project a start. This is the dreamt situation for an architect to work in, and it triggers the best version of his/her abilities.

272 Very recently, and as a consequence of this research, I have made a ‘chronological sketch’ for a comparable intervention in a current project. I have drawn, and annotated, the subsequent steps as to master the chronology of this venturous intervention in a 17th century boarding school, a project we do with our studio y.e.AH!-architects (architect Jo Van Den Berghe and architect Bart Uvin).
As for the spatiality of the house, we decided to bring in two appartments, each having two floors. This was uncommon. Normal clients would have forced at least one more appartment into this volume, but my client preferred not to do so, and to give priority to the spatial quality of the house, and by doing so, demonstrating and celebrating a long term durable cultural vision.

With all this information in mind, I started my work. Firstly, I did some parsimonious interventions in the spatiality of the house—nothing spectacular at first sight: to move the position of an entrance door a little to the left, the position of another door a little to the right, distorting the axis and introducing spatial dynamics hypodermatically, seemingly not disturbing the Classicist sovereignty. I installed three interior stairways, of which two between the two levels within each appartment, of which one stair has been made to pierce a wall halfway its way up in order to pretend to be coincidentally passing by in the adjacent library. In the appartment in the attic, I put glass in both the flanks of the dormer window, as to see more of the urban fabric—the same little town I had observed from a similar dormer window in My Grandmother’s House a few blocks, and a few decades away. I did a limited series of Gordon Matta Clark-like incisions, and each of them has been kept very dosed, for the sake of serenity. After all these spatial interventions had been done, the whole interior of the house has been carefully plastered, the surfaces sharply folded at their corners in order to clearly see the transitions from light to shadow, however, with a visible facture in their surfaces procured by some small grains that were mixed with the plaster—only a very limited amount of them—in order to visualise the movements of the hand of the master-craftsman who had done the plasterwork, “handcrafted arts that manifested a unity of space, time, facture and place” (van Schaik 2008).

To explain this, I explicitly refer to the Substance, the craftmanship, and the Darkness I rediscovered in My Grandmother’s House. There, I have learned the production of culture through the mastery of Substance. Here, I would like to turn to John Ruskin’s Seven Lamps of Architecture.

John Ruskin (1819-1900), in his Seven Lamps of Architecture (Ruskin 1849) teaches us about the ‘lamps’ that are capable of enlightening the Darkness into which we gaze while being amidst architectural creation, which may be the Darkness I gazed into in My Grandmother’s House. The book can be seen as a codification of 19th Century thinking behind the Gothic Revival, publicly debated by A.W.N. Pugin (1812-52), in the cultural climate of the Arts and Crafts Movement propagated by William Morris (1834-96). Ruskin suggested “an honest architecture, with no veneers, finishes, hidden support nor machined mouldings and that beauty must be derived from nature and crafted by man” (Curl 2006). Ruskin celebrates the craftsman, as he celebrates the Substance the craftsman works with. And so do I.

For the sake of my argument, and for their beauty, I permit myself to repeat the Seven Lamps here. Also, while reading them, I suggest the reader to recall my descriptions of My Grandmother’s House, and The Excavation, and to look attentively at the works of architecture presented in this Ph.D.

1. Sacrifice: dedication of man’s craft to God, as visible proofs of man’s love and obedience;
2. Truth: handcrafted and honest display of materials and structure;
3. Power: buildings should be thought of in terms of their massing and reach towards the sublimity of nature by the action of the human mind upon them and the organisation of physical effort in constructing them;
4. Beauty: aspiration towards God expressed in ornamentation drawn from nature, His creation;

273 I remember Gordon Matta Clark’s (a colleague architect!) Office Baroque, a work I visited in 1977 in Antwerp, that was sadly demolished afterwards. In his acts of cutting, Gordon Matta Clark undoubtedly must have inspired me to make my Chronological Drawings, and my X-Ray-Drawings.
274 See Section 2.3.3 / 2: My Grandmother’s House.
275 The photography studio and the furniture workshops of my grandfather, my grandmother’s métier, the music annotations on paper with parallel lines my grandfather made—drew!—for the brass band he founded, the painting of the feathered peacock above the entrance door to the kitchen, the cooking of all the rabbits I ate, prepared in red wine.
5. Life: buildings should be made by human hands, so that the joy of masons and stonecarvers is associated with the expressive freedom given them;
6. Memory: buildings should respect the culture from which they have developed;
7. Obedience: no originality for its own sake, but conformity to the finest among existing English values, in particular expressed through the English Early Decorated Gothic as the safest choice of style.

I implicitly encapsulated most of Ruskin’s Lamps in my work, and I found it in the works of architects I admire and who contribute to my argument, and through this research, I re-discovered them, and I will more consciously apply them in my work to come, and propagate them to my students with more emphasis. I think that I have applied these principles to a great extent in the design I have made for the CL2-Appartments. This resonates with the atmosphere in which the CL2-Appartments could come into being, and I am most grateful to the client for providing this prodigious atmosphere, corresponding with “the requirement of leisured poise as the best state for appreciating beauty”, as Ruskin describes it in The Lamp of Beauty (Ruskin 1849), because this has been the unpressed state of mind in which I have been allowed to make this work.

The Arts and Crafts influence on my work, and in my argument of this Ph.D, comes forth from seeing the mason in The Excavation276, and from My Grandmother’s House277, and specifically my grandfather’s furniture workshop, and from my architectural education at Sint-Lucas School of Architecture, and in my three year period as an apprentice in the design studio of Architect Juliaan Lampens (1926) and his staff.

I will first explain my apprenticeship in the studio of Lampens to you, and then I will focus on Sint-Lucas School of Architecture.

In the design studio of Juliaan Lampens, I could witness the beginning of the recognition his work deserves. During this period, I mainly worked on the technical elaboration (which is the full transition between to dream, and all the studies, decisions and investigations that generated the drawings that were needed to make the designs in real matter) of two projects that in the meantime have gained a mythical status in the architectural scene in Belgium and beyond: the design of the new school of Sint-Lucas in Ghent, and the design of the Boerenkrijg Museum in Berlare-Overmere. These projects have become mythical, partly because of their characteristics as architectural designs, partly because they have not been built after all, and partly because of the personality of Lampens as a professor at Sint-Lucas (of generations of architects in Belgium), as an architect, and as a person who avoids public exposure and therefore remains mysterious. In these characteristics, and although Lampens himself relates his work openly to Mies and Le Corbusier (and explains his synthesis of both), I tend to relate both Lampens and his work as much to the Norwegian architect Sverre Fehn (1924-2009), and to the late work of Sweden’s Sigurd Lewerentz (1885-1975). One may contend that Fehn and Lewerentz figure as contemporaries or brothers of Lampens, whereas Mies and Le Corbusier act more like fathers.

As for the staff in the Lampens design studio between 1984 and 1987, I also was in the fortunate circumstance to work under the supervision of architect Patrick Saelens, who introduced me into methods and procedures of technical craftsmanship and the inclusion of industrially produced components as a subset of craftsmanship that had not to be avoided in architectural design and construction practice. And architect Ferdinand Schlich has shown me ways to acknowledge the status of the architectural drawing. He really drilled me into the rigor and skills of a draftsman—and he did it the hard way!—learning me about the importance of a meticulous translation of an embryological idea to be found in Lampens’s sketches as one pole of the process, into a reliable registration and communication tool towards construction practice as the other pole of the process, with the architect-as-draftsman as the always thinking liaison in-between those poles, stretching from one end of the process to the other end, and being able to commute back and forth and back between them, as many times as necessary as to come up with the most suited expression in Subsistance of the once dreamt embryo or idea. Schlich also demonstrated to me the importance of and ways how to construct the concept of communities of practice, which from then on I have built up little by little.

276 See Section 2.3.3 / 3.
277 See Section 2.3.3 / 2.
Both Saelens and Schlich\textsuperscript{278} appeared to be the necessary links in the completion of the chain that started with the embryonal sketches of Lampens—\textit{to dream}—and that had to be continue until a cohesive and substantial answer to the question arose: how \textit{to make} this? And how will we communicate with the craftsman on the construction site what we mean and want to make in a way that can make him respond in terms that can be understood by both partners in this dialogue?

And here I would like to shift my focus, and look more closely at Sint-Lucas School of Architecture. The school has been founded in Ghent, Belgium, in 1862, in the era of and according to the \textit{New Gothic} ideas of Viollet-le-Duc (1814-79) on the Continent, and closely related to the Arts-and-Crafts-movement in Great-Britain at that time, although the school has richly evolved in more than one direction ever since.

At its founding hours, the school wanted to provide an industrialising society with meaning and education in and through the crafts, by connecting itself with the ideals of Medieval craftsmanship that had been substantiated through Gothic architecture. This concept is comparable with \textit{Les Compagnons du Devoir}\textsuperscript{279} in France, who, in the continuous idiomatic light of Gothicism, estimated (and still estimate) to learn the skills-in-the-Substance it takes to substantiate the poetic image of the idea.

Belonging to the large community of alumni of Sint-Lucas, I cannot but be affected by these basic stances, that—though aspects and accents shifted vividly over time—it takes but a small effort to recognize the presence of these principles in the work of the alumni, principles by which the actual pedagogic approaches of \textit{denk!-studio (think!-studio)} and \textit{doe!-studio (do!-studio)} at Sint-Lucas nowadays are strongly affected. \textit{Think} and \textit{Do} combined as a pedagogic concept and as a paradigm in \textit{making} architecture, by which the intellectual intertwines with the manual, is still at stake in that earthly founding layer that constituted subsequent generations of architects, including myself.

I contend that this background has deeply influenced my work yet explains the strong presence of Substance and the craftsman in it, hence its presence in my Ph.D.

\textsuperscript{278} Both Saelens and Schlich have been professors and collegues at Sint-Lucas School of Architecture.

\textsuperscript{279} \textit{Les Compagnons du Tour de France} are a French organization of craftsmen and artisans dating from the Middle Ages, but still active today. Their traditional, technical education techniques includes taking a tour, the \textit{Tour de France} around France and being the apprentice of competent masters. For a young man or young woman today, the \textit{compagnonnage} is an original way to learn a trade while developing character by experiencing community life and traveling. The community lives in a \textit{Compagnon house}, there are more than 80 in France. The houses vary in size from a small house for 5 people to a big house with more than 100 people living together. Until recently, the \textit{compagnons} were all male. Today, \textit{compagnons} can be found in 49 countries across 5 continents practising many different trades. A similar tradition exists for German \textit{Wandergesellen, or journeymen, to set out on the Wanderjahre” (Wikipedia, last visited on 14 July 2012). This concept remembers me of Frank Lloyd Wright’s habit to travel back and forth between Taliesin Wisconsin and Taliesin West in Arizona, and to his apprentices who actually lived on their construction sites as ‘clerks-of-works (Sergeant 1984). It also reminds of Antoni Gaudí, who practically lived on the construction site of the \textit{Sagrada Familia} in Barcelona (Gaudí 1882-ongoing). \textit{Tour de France} simply refers to the fact that they are working in different places in France; every six months to a year, they are required to change work locations. During those classes you perform your skills by making different projects as well as having lessons. Many \textit{maquettes} are created by \textit{charpentiers} and other woodworkers. A \textit{maquette} is a wooden model that they have conceived and created, first through drawings. They cut and assemble the wood to make the model. They will make a many of these throughout their time as \textit{Aspirants}. Each piece is expected to show that they have understood and mastered the most difficult aspects of the trade so far. Sundays are spent exploring the area they are stationed at or they may work on a masterpiece/project” (Wikipedia, last visited on 14 July 2012).
I will now return to the CL2-Appartments. I have explained the use of plaster for the walls and ceilings, with the trace of the hand of the craftsman. I decided to make almost all the other elements in wood. I was thinking about my grandfather’s furniture workshop, and I remembered all the things he had learned me. The unique design situation of the CL2-Appartments would have to be ‘me’. I wanted to sniff the smell of woodcurls.

In order not to spoil it, I have soon decided to make drawings of everything that would have to be made: the thresholds, the stairs, the railings and balustrades, the doorframes, the plinths, the locks, all the built-in furniture, the lighting elements, the curtains, the bookshelves, the exact precision of the finishing of the plasterworks, the lines of sight between interior spaces, the kitchen furniture and the dining table, frames for beds, doorpanels, the kitchen cabinet, the curtain rail, the little door to the ventilation shaft in the former chimney, the letterbox, the doorhandles, the entrance door, the access stair to the roof terrace, the lamp on top of the store room, … In the margins of these drawings, I made annotations that illustrate my thinking process in little words and thumbnail sketches.

I wanted to come in close contact with the Substance, so I have put it directly on my drawing table: a piece of oak (coming from my grandfather’s furniture workshop), a sample of Corian-bone, and a thin sheet of brass, a sample of white silk, a set of brass screws. I had bought me a roll of one hundred meters of my preferred paper, lightweight, but not transparent, white, but not too white, with a subtle facture, one side mat, the other side a little glossy. Although I was not drawing with a wooden pencil—I prefer a refillable mechanical pencil with leds, because I can make the point sharper—I still was having a set of wooden pencils in my proximity. I could sharpen them every now and then in order to have the smell of wood by which I could immerse myself in the Substance of the furniture I was engaged with. I worked my way through a set of almost forty drawings in pencil, mostly sections, in a memorable draftsman’s trance that lasted seven weeks. It was a most enjoyable experience, from time to time alternated by sniffing the piece of oak, sharpening my pencils, touching the Corian-bone that looked like ivory, knocking on the thin brass sheet to hear the sound, presenting white silk at the window in order to check how light came through on sunny days, and on cloudy ones. “As rational metaphysics teaches that man becomes all things by understanding them, imaginative metaphysics shows that man becomes all things by not understanding them (…) for when he does not understand he (…) becomes them by transforming himself into them” (Vico 1725).

The absence of time pressure heightened my creative flow (and lowered my bank account).

“Sir Henry Wotton, who made the first English translation of Vitruvius’s writings in 1624, translated Vitruvius’s “Firmitas, Utilitas, Venustas” into: “Firmnesse, Comodotie, Delight”, wherein part of the delight is for the architect in doing it. The making of it is for the delight of the maker”. 280

I could invest all that I had learned into these drawings: my grandfather’s good advice, my architectural education, my apprenticeship, my experience of more than ten years of practice, my preference for real Substance, my remembrance of the smell of woodcurls on the working bench, my acknowledgment of the skills of the craftsman, my competence as a very skilled draftsman.281

281 Here, I refer to Section 2.3.4 / 2-3: Borrowing from Tektonikos, and what I wrote there about the status of the architectural drawing: “An architectural drawing, consciously made from the viewpoint of construction practice, is able to explain what the architect-as-draftsman’s intentions are. It can come in close contact with what the craftsman-as-draftsman, for instance a carpenter, wants to communicate about in connection with what the architect-as-master-builder really means. This has become clear to me through a series of communication sessions in the workshop of the carpenter for a number of works (see Section 2.3.4 / 4: CL2-Appartments, and Section 2.3.4 / 5: House DG-DR, and Section 2.3.4 / 6-2: House D-R, and Section 2.4.6: WoSho), not in the design studio of the architect! Architectural practice as tektonikos. Making drawings with the carpenter, in his workshop, have appeared to be so rewarding”. The drawings
I understood the sections of the wood I was drawing, I tested their dimensions on full scale, I consulted furniture makers a few times, I listened to Dimitri Shostakovitch, I related the sound of a violin with the touch and the smell of the wood I was drawing, I was not in a hurry, I did not answer the phone. I was dwelling in the thinking hand of the carpenter, the precise gestures of the plasterer—almost quarter circles with the radius of an arm—traces of human beings that last for ages. I tried to invade into the Substance, to reside in the wood. In order to better understand it, I was attempting to become it.

made for the CL2-Appartments have been a confirmation of my foremost reason to become an architect: I was good at drawing, and I liked to draw. As an architect, I can do what I am good at, and what I like to do.

Substance on the Drawing Table: part of the installation of my GRC_EU presentation, Ghent, 19 November 2011.
I could invest all that I had learned into these drawings: my grandfather’s good advice, my architectural education, my apprenticeship, my experience of more than ten years of practice, my preference for real Substance, my remembrance of the smell of woodcurls on the working bench, my acknowledgment of the skills of the craftsman, my competence as a very skilled draftsman.
The connection of this urban house with the landscape seems distant yet it is not. The landscape-as-section has been completely internalised in this house-as-section. Through the making of a concept-of-section, this house-as-section has been made, hence it has generated the internalised landscape-as-section. By the absence of landscape, and by the necessity of it, ‘landscape’ has been generated by the section of the house.
House DG-DR (1999-2004): internalised landscape through the concept of section. Longitudinal section
Sunlight coming in from the south.
2.3.4 / 5-1 The Acute Moment of Emergency

This house has been a prognosis of what would come after it in the practice, due to my gradual development of a robust set of technical details immediately drawn from the construction practice of this house yet with a very strong architectural expression, hence I was building my *repertoire* of technical details that I would further apply and refine in subsequent projects. An architect, like any reflecting practitioner, can consult his *repertoire*: “The practitioner has built up a *repertoire* of examples, images, understandings, and actions (…) A practitioner’s repertoire includes the whole of his experience insofar as it is accessible to him for understanding in action. When a practitioner makes sense of a situation he perceives to be unique, he sees it as something already present in his repertoire. To see this site as that one is not to subsume the first under a familiar category or rule. It is, rather, to see the unfamiliar, unique situation as both similar and different from the familiar one, without at first being able to say similar or different with respect to what” (Schön 1983).

This was my emerging self confidence deeply grounded in my growing experience of repetitions and improvements of sound detailing on the construction site. In that respect, this was the first project in which I could bring construction practice and the poetic image this close in each others proximity.

For this house, the contractor has presented me to the client, who was looking for an architect, and construction practice would prevail throughout the project. Very soon, the contractor and me would take the venturous decision to make a house without inviting any mason on the construction site, by the application of (mainly) prefabricated concrete components. In that period, there was an urgent need for masons (who were then claiming salaries way too high). Also, we reckoned that a rigid casco made of prefabricated concrete components could be quickly built in order to secure the two dilapidated houses on the left and right side of our site. I wanted to leave the concrete panels unfinished, showing all the traces and stains of their production and the construction practice by which they had been mounted. For the same reason, all the steel components, and their connections with (chemically anchored) bolts and nuts, would be left in the sight, as well as all the wiring of the electricity. I wanted this house to be a didactic demonstration of pragmatic construction practice, assuming that this, in the end, would generate a poetic image. Elaborating on Peter Zumthor and Sean Godsell, Leon van Schaik argues that “We are also invited to inspect the making of the buildings—every attachment appears to be shown, and we have the feeling that given the right tools and the time, we could take the building apart, and then reassemble it” (van Schaik 2008). This correctly describes my intentions in the construction of House DG-DR, that subsequently would be further developed in House D-R (2004-2007)(see Section 2.3.4 / 6-2), and House B (2005-2007)(see Section 2.4.4), and that would further shape (my) future architectural practice coming forth from it. In *Anchoring*, Steven Holl argues that “Materials interlocking with the perceiver’s senses provide the detail that moves us beyond acute sight to tactility. (…) An architecture of matter and tactility aims for a “poetics of revealing” (Martin Heidegger), which requires an inspiration of joinery. Detail, this poetics of revealing, interplays scaled dissonance with large scale consonance. (…) Whether reflecting on the unity of concept and sensation or the intertwining of idea and phenomena, the hope is to unite intellect and feeling, precision with soul” (Holl 1989).

I would now like to turn to one of the formal weekly construction site meetings I usually have with my contractors (apart from the daily, or twice daily, site visits I have to do to appropriately conduct a site like this): a site meeting with the client, the contractor, the engineer, and me. The second part of the house, facing the garden, has only one storey, with a flat roof, of which the structure was conceived of wooden rafters with an I-section (DOKA I 20)(for a better moment of inertia, and a better moment of resistance, as to limit the sagging of the rafters). The two parallel concrete walls were already mounted, waiting for the wooden rafters to be put in place. We were on schedule.

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287 Marc De Naeyer (Bouwwerken Jozef De Naeyer en Zoon bvba).
288 An unusual decision for Belgian construction practice, certainly in the construction of a house.
289 Here, my preference for the Thickness of Substance becomes apparent.
On 22 October 2002 (at 10.30 pm), a day before the weekly site meeting (23 October 2002), the client called me to say that she did not want wooden rafters. “I want concrete, like the rest of the house!” (De Rocker 2002). At first, I stubbornly resisted, warning that we must not stay behind on our time schedule. “Whatever you say Jo, I want concrete!”, Karen insisted.

On 23 October 2002 (at 10.30 am) I discussed this shift with the client, the contractor, and the engineer on the (ongoing) construction site. All the parties at first were reluctant to change the initial idea, fearing that this change might cause problems that only would pop up later. While this discussion was ongoing, I began to see the opportunity here: what if I could turn this sudden change, asked by the client, into a better version of the house? What if this shift would give me the opportunity to turn this place into something sculptural, because this is what makes concrete different from other building materials …

From this presumption, I started to convince myself, in a moment, and then both the contractor, and the engineer.

I asked the contractor: “What do you need to meet the client’s wishes?”
“Just need some more time”, he said.

Then I asked the engineer: “What are the structural elements you need to make this in concrete? Remember: we want to keep the large skylight opening in the ceiling, like I had designed, and … I want to hang a concrete shaft as a fireplace on the concrete slab of the ceiling, like I had not designed!”
“Well … … …”, he said, “in that case, I need both these concrete walls to be opened up again, at their tops, but only halfway their length, because it takes a concrete beam halfway the new slab to hold the whole thing up!”

Then I suggested the engineer to calculate the exact place and the dimensions of the concrete beam for which we would have to open up the concrete walls, as to connect and sufficiently overlap the iron, so that the contractor could open up the freshly poured concrete walls locally by making precise incisions with a grinding disc, and then pick away the concrete within the field of the incisions.

The client suggested not to loose too much time with all this (!), so I speeded home.

On 23 October 2002, just after the site meeting, there wasn’t even enough time to draw it all out, so I had to sketch what I meant, and I faxed it to the engineer in the evening, urging him to quickly calculate it.

On 23 October 2002 (at 11.33 pm), the engineer has sent me a fax on which he had marked what he needed to keep the whole thing together. I directly called him to approve the dimensions he proposed, and I insisted that the central concrete beam should be as low as possible in order not to obstruct the flow of rainwater on the flat roof on top.

On 24 October 2002 (at 2.03 pm), the engineer has faxed me the results of his calculations (dimensions, position and section of the iron, etc…).

290 Every practicing architect will recognise this problem: making changes on plans and concepts mostly cause trouble later in the building process.
291 In a swift whim, I recalled my apprenticeship, in the studio of Juliaan Lampens, who has a reputation of building in in situ poured concrete. This practice had obsessed me during my apprenticeship, and I had spent months on it, and now I would have the opportunity to do something like that myself. I recalled Lampens’s sculptural House Vandenhauta-Kiebooms (Lampens 1967), where a hanging concrete shaft marked the place where cooking happened. I estimate the work of Lampens very high, and he deserves his place among other masters like Sverre Fehn, Sigurd Lewerentz, Rudolph Schindler. Although he has had a major influence on the way I practice, this is the only time I decided to come this close to Lampens’s work with my work, because I have always been avoiding to copy him. Very soon in my independent practice I have decided to go my own way—the hard way perhaps—but to move away, out of the long shadow of the master.
On 25 October 2002, I had to send a slightly modified version to the contractor, and to the engineer, due to a change in the production process of the prefabricated concrete elements.

On 3 November 2002 (at 4.19 pm), the engineer has faxed me his results of the whole thing, which he had finalised during the short holiday of All Saints Day.

I had practised the co-presence of to dream and to make in this Acute Moment of Emergency: Construction Site as Architectural Design. I wanted more of that.

23 October 2002: the architect.
23 October 2002, 11.33 PM. The engineer.
24 October 2002, 2.03 PM. The engineer.

2.3.4 / 5-2    Finding a Section (as a Design Method), to design a Section-as-Design

The longitudinal section of the house, made after its completion, demonstrates how this urgent intervention at the request of the client, that I come to describe, has appeared to be the necessary shackle as to complete the spatial sequence of the house—which is an internalised landscape-as-section[^300]—that starts with a high vertical window bay at the street side of the house (the negotiating space between the public realm and the intimacy of domestic life[^301], and that ends with the horizontal lowness of the fireplace.

I refer to my shift in my design[^302]. My first design was a concept of plan, and this has been the reason why I have rejected it, as I have found out in the course of the Second Interrogation of the Practice, not directly, but by discovering that the first sketch that has generated the second design—the one I would build—appeared to be a section, not a plan! A number of thumbnail plans subsequently have been derived from the sketched section. Knowing now that the Concept of Section, with the eye level of the tall standing man in it, is ‘mine’[^303][^304], I understand my resistance when the client insisted on continuing with the first design. I re-discovered this sketch during the Second Interrogation of the Practice. Apparently, I could only complete this Concept of Section—the spatial sequence of the house, the internalised landscape-as-section—during the Acute Moment of Emergency on the construction site itself, which has generated ‘the keystone in the arch’.

The front of the house is also the South side of it, the only side on this site where I could capture the light of the sun, but it is also the street side with very intense traffic and noise. So I created a greenhouse-like vertical space of three storeys high that buffers the noise, accumulates the heat during springtime and fall, and permits the sunlight to penetrate deeply into the house. Then, a double-height space gives passage to the (sun)light due to the first floor that is made of glass. Subsequently, in the heart of the house, a labyrinthine set of stairs whirls upwards in a narrow vertical shaft, and then, the ceiling comes down step

[^300]: In so many cases, when the landscape appears to be distant, architects can demonstrate their ability to create a landscape-as-section themselves.
[^301]: See Section 2.3.2 / 2-1: Social Housing Ghent (1988-1989), where I briefly touched the concept of social Space.
[^302]: See Section 2.3.2 / 2-12: a shift in my design, due to the review I have made of the practice as a preparation for the Supernova Exhibition in Brussels, in the year 2000.
[^303]: See Section 2.3.3 / 3-2: The Emergence of Thickness, and the Concept of Section.
[^304]: See Section 2.3.4 / 2-2: The Eye Level in the Perspective, and the Coming of Time.
by step as to end very low where the concrete volume of the fireplace hangs only 100 cm above the floor level—there the height of the ceiling sinks beneath the eye level of the tall standing man in the central perspective he sees when he enters the house. The house, the completely internalised landscape-as-section, that started as a tower of light, here becomes a dark cave in the North that brings rest through the lowered proportions beneath the eye level of the tall standing man (me!).
House DG-DR (1999-2004): the height of the ceiling sinks beneath the eye level of the tall standing man in the central perspective he sees when he enters the house.
2.3.4 / 5-3  Furniture

As I mentioned in the First Interrogation of the Practice, I have developed a set of details by making a set of 43 full scale drawings, which I nurse in my archive. Again: a draftsman's trance. In these drawings, I mainly have developed details of window sections, more specifically how they connected with the concrete (and steel) mainframe of the house. I have wanted to make the nature of these sections as visible as possible in the final result, and I have designed these details such that the concrete mainframe, and the steel elements also would remain as visible as possible. Drawing, making, and mounting the window frames with the precision of a piece of furniture brings the work of the contractor and the carpenter effortlessly together and fulfills my aim to didactically demonstrate (their) Substance, (their) Thickness, (their) Sections, (their) Craftsmanship, and (their) construction practice.

The kitchen furniture, that has a central position in the house as the principal meeting place for the family, has gone through the same rigorous procedure. And now it is time to look at the pictures of the work, and of the people who made it.

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306 See Section 2.3.2 / 2-12.
2.3.4 / 5-4 Further Research on the X-Ray-Drawing

As I already mentioned in my descriptions of House ST\textsuperscript{307}, I want to further investigate the concept of X-Ray-Drawing. The plan of House DG-DR, during my research, appeared to be very suited for further investigations on the concept of the X-Ray-Drawing, so I decided to do so. As mentioned, this concept needs further refining and research. Here, I have tried to produce a ‘see-through’ set of layers, like we use(d) to do with tracing paper. Only now, with CAD-methods, we are capable of quickly moving between the different layers, going into the Depth of the plan which is the depth of the space, which was much more difficult with tracing paper. Also, I would like to investigate how and to what extent annotation methods used by music composers, who also have to combine a myriad of layers in one annotation method, can inform the field of architecture in the context of the further development of the X-Ray-Drawing. For this reason, I am planning a continuation of this research in collaboration with a music composer\textsuperscript{308} as an advanced transdisciplinary research in the slipstream of this Ph.D.

\textsuperscript{307} See Section 2.3.4 / 3.

\textsuperscript{308} Jeroen D’hoe Ph.D (Juilliard School of Music, New York, US). We already have collaborated on the transdisciplinary artistic research project \textit{New Feet for 5 Years a Minute}, in which we investigate and compare the limitations of unidirectional time sequence (music) with the unidirectional gravitation (architecture). All the fieldwork has been done, and results will be written and published in the spring of 2013 (Van Den Berghe and D’hoe 2008-2013). My affinity with gravitation and chronology is the common denominator of this Ph.D and New Feet.

\textsuperscript{309} Following pages: House DG-DR (1999-2004): further research on the Concept of X-Ray-Drawing (August 2012), ground floor plan as built, horizontal junctions plan, vertical junctions section.
2.3.4 / 6 Construction Practice as Architectural Design

Before I move into the Ph.D Designs\textsuperscript{310}, I will describe four projects that I consider as belonging to my matured practice, incorporating all the emerging concepts\textsuperscript{311} I have come to describe. Bringing these elements to the surface through this research has enabled me to understand them, and to see how they have contributed to the maturing process of the following works: Summerhouse (2001-2004), House D-R (2004-2007), House T-A (2001-2002) / unbuilt) and House B-M (2003-2006 / unbuilt). House DG-DR (1999-2004) also belongs to this ‘class’ of projects, but I preferred to describe it separately as the hinge project that has triggered the four other ones.

2.3.4 / 6-1 Summerhouse (2001-2004)  

2.3.4 / 6-2 House D-R (2004-2007)  

2.3.4 / 6-3 House T-A (2001-2002 / unbuilt)  
Designing in Substance, and the Second Chronological Drawing  

2.3.4 / 6-4 House B-M (2003-2006 / unbuilt)  

\textsuperscript{310} See Section 2.3.5: Ph.D Designs: these are the designs that have been made in the core of this Ph.D, as active research steps.

\textsuperscript{311} Mental space, the Emergence of Thickness, and the Concept of Section, Depth as the First Dimension, The Chronological Drawing, The Eye Level in the Perspective and the Coming of Time, … .
2.3.4 / 7 There is another Gap!

Having done this Second Interrogation of the Practice, and having presented these concepts at subsequent seminars and GRC’s\(^{312}\), I was becoming confident of the set of concepts I had found, yet I wanted to further test their consistency and their internal relations.

The data collecting of this Second Interrogation of the Practice, and the immediate processing of these data, was the phase of ‘axial coding’\(^{313}\) in the research, in which “categories are related to their sub-categories, and relationships tested against data. Also, further development of categories takes place and one continues to look for indications of them” (Corbin & Strauss 1990).

I could begin to relate phenomena of which I could see the importance through repetition in the samples of my work, and which were (becoming) concepts. With conceptually similar cases, categories could have been formed, in that conceptually similar cases could have formed a category, and conceptually different cases could have formed another category. But it has not been the purpose of this research to find or form categories out of it, and/or to eventually derive statistics from these categories. More likely, it has been my aim to demonstrate possible applications, useful in architectural practice, like I will do in the upcoming projects, of the concepts I had discovered through the investigations on my work in the context of its communities of practice.

The investigations on my mental space have unveiled two eidetic moments that constitute my spatial intelligence (van Schaik 2008): My Grandmother’s House, and The Excavation.

My Grandmother’s House has unveiled a set of four basic design themes, that I also could find, and finally understand, scattered in the work made by other architects and cultural actors who contribute to my argument.

**These four basic design themes are:**
- Thickness
- Substance
- Depth
- Darkness

The Excavation has revealed two elements, which I would like to call the aprioristic conditions, without which my mental space cannot exist, and without which the investigated work could not have been made or understood. As such, I take them as a given.\(^{314}\)
- The Emergence of Thickness (and The Concept of Section)
- Depth as the First Dimension

The Emergence of Thickness clearly is the basic layer, the landscape, the carrier of my Mental Space.\(^{315}\) Depth as the First Dimension is the nature itself of the Emergence of Thickness.

\(^{312}\) See Section 5: Research Stages and Validation Procedures.

\(^{313}\) in Grounded Theory Research.

\(^{314}\) My further research has revealed that I can refer every site to them. I can take these aprioristic conditions as a given.

\(^{315}\) See Section 2.3.3 / 4: Conclusions on My Grandmother’s House and The Excavation: the Cave and the Tower.
The Emergence of Thickness is what has to be anatomised, the Concept of Section is there to anatomise with, and Depth is what I anatomise for. The Emergence of Thickness (and the Concept of Section), and Depth as the First Dimension are the aprioristic conditions that have to be fulfilled in order to perform the basic design themes of Thickness, Substance, Depth, Darkness,

With the intermediary research output of the investigation on my mental space, I have embarked on the Second Interrogation of the Practice. The criteria had become more precise as to do a better oriented selection of the work (data, input) in its communities of practice (context), and as to focus in a more directed way on the practice. In this process, further development of my conceptual labels has taken place, and I have continued to look for indications of them in the investigated work (axial coding). I have permanently processed these data through memo writing, writing, presenting, and discussing. Doing so, I have found a series of concepts that are applicable as to perform my basic design themes in their aprioristic conditions, as found through the investigations on my mental space.

These concepts I have found in this stage of my research are:

1. The Eye Level in the Perspective / the Labyrinthine;
2. Borrowing from Tektonikos;
3. The Chronological Drawing / Chronology on the Drawing Table;
4. Designing in Substance / Substance on the Drawing Table;
5. The X-Ray-Drawing;

These concepts are co-present, intertwining, overlapping. Possibly, their number will change over time, as (my) future architectural practice and research can be further refined as to produce new information. There always has to be room for improvement. 316

Then, I have compared this emerging set of concepts coming forth from the Second Interrogation of the Practice with the set of conceptual labels that had come out of the First Interrogation of the Practice. 317 Both sets appear to be consistent with each other, but the concepts coming forth from the Second Interrogation of the Practice are more precise, more ready for application in architectural design.

Having found these concepts scattered over a number of works from the past practice, there still was the question whether and how the interplay of these concepts in the aprioristic conditions would work while designing in the present. I did not wait until the Second Interrogation of the Practice was finished, as I went into the design-mode, parallel and simultaneously with the Second Interrogation of the Practice: the Ph.D Designs.

316 In some regions in Eastern Europe, it is a deep rooted tradition to have an extra place at the dinner table at Christmas Eve, because a stranger might knock at the door, begging to let him in. As Adam Jakimowicz explained to me, during a tutorial session at Sint-Lucas School of Architecture in Ghent, in the spring of 2012, every scheme must leave place for the stranger, who can knock at your door unexpectedly. There has to be an additional place at your dinner table, the hospitality to welcome the stranger with. And so I want it to be in my set of concepts.

317 See Section 2.3.2 / 3: There still is a Gap!
2.3.5 The Ph.D Designs

2.3.5 / 1 Introduction to the Ph.D Designs

Bringing the Ph.D Designs into the discussion here does not mean they came into being this late in the research. I have written The Meaning of Life in March 2010 (Van Den Berghe 2010.a), in early 2010 I have started the design process of Etude, and I started the design of New Stairs in late April 2010.

The reason why I bring them in the discussion here is because the Ph.D Designs occupy the bridge between my past and (my estimated) future architectural practice. The Ph.D Designs—research by design—have contributed to the discovery of the set of concepts that has come out of the Second Interrogation of the Practice and to making them explicit, yet they announce—as designs—the upcoming acute designs, described in Section 2.4: The State of Emergency, as the vanguard of (my) future architectural practice. For this reason, I have positioned Section 2.3.5: The Ph.D Designs between Section 2.3.4: The Second Interrogation of Practice, and the upcoming acute designs described in Section 2.4: The State of Emergency.

Also, finding the emerging aprioristic conditions (coming forth from my mental space) and the concepts scattered over different projects of the practice during The Second Interrogation of the Practice, and seeing them more and more integrating in one design, especially in Etude, in the way I expected them to integrate in (my) future architectural practice, has been another reason to bring the Ph.D Desings in the discussion here, in the proximity of the future architectural practice they announce.

Having assisted in the forthcoming of the aforementioned concepts and understandings, and triggering the upcoming acute projects that point at the future direction of (my) architectural practice, the Ph.D Designs have been the second turntable of this Ph.D.318

Of course I would like to build the Ph.D Designs that will appear in my upcoming descriptions, but then I would have to take in all the design parameters it takes in order to build them. But I have designed this research step as a design cycle of speculative designs, as to create the optimal design conditions in which I could further investigate the conceptual labels that had come out of The First Interrogation of the Practice, and help them evolve into the concepts that I would bring to the surface through the Second Interrogation of the Practice. In that respect, the Ph.D Designs have been assisting, informing, and standing alongside The Second Interrogation of the Practice.

At the moment I started this design cycle, I had not made this set of concepts explicit yet. This would only happen later, through further research, among which: this design cycle. While making the Ph.D Designs, I presumed—pre-sensed—that the concepts that I was bringing to the surface through the Second Interrogation of the Practice were at the service of: to make Thickness of Substance as to generate to dream the Depth of Darkness. Yet making the Ph.D Designs, that have acted as a set of amplifying mirrors I held in front of my work during the Second Interrogation of the Practice, has contributed in making these concepts explicit.

Creating the optimal design and research conditions for the Ph.D Designs then would be: to omit the design parameters that do not contribute to, or even contaminate, the (amplified) design aspect under scrutiny, which cannot be done ‘just like that’ in ‘regular practice.319 To design to make Thickness of

318 Introducing the concept of Mental Space in this research has been the first turntable of this Ph.D.
Substance in order to generate *to dream* Depth of Darkness by the application of my emerging concepts\textsuperscript{320} here can optimally be done without, for instance, the interference of building regulations, too limited budgets, clients that not always can keep up with innovating research and ideas of the architect, etc … Thus I needed projects to do these amplifications with, to apply them in, and since these projects were not at hand ‘just like that’, I have created my own ‘flight simulators’—the Ph.D Designs—that I could further use to inform new ‘real ones’—The Boathouse 1 and The Boathouse 2\textsuperscript{321}, and WoSho.\textsuperscript{322}

So, each of the upcoming Ph.D Designs specifically focuses on one or more of the conceptual labels brought up by The First Interrogation of the Practice on their way to become the concepts brought forward by The Second Interrogation of the Practice, by the amplification of the specific conceptual label or (emerging) concept under scrutiny. The Ph.D Designs incorporate the aforementioned conceptual labels and/or concepts to a certain extent: New Stairs incorporates only a number of them, The Meaning of Life mainly incorporates conceptual labels from the First Interrogation of the Practice, and Etude, which spans the longest period of time in the research, has enabled me to incorporate all the concepts from the Second Interrogation of the Practice in an integrated way.

The Ph.D Designs have been active research steps, parallel to the other research steps that I have described so far. Together, these steps constitute the interplay between *design actions* and *observations* as the two research methods in this Ph.D.\textsuperscript{323}

\textsuperscript{319} And it doesn’t have to be the case in regular practice either.
\textsuperscript{320} See Section 2.3.4 / 7: There is another Gap!
\textsuperscript{321} See Section 2.4.3: The Boathouse 1 and The Boathouse 2.
\textsuperscript{322} See Section 2.4.6: WoSho.
\textsuperscript{323} See Section 2.3.2 / 1: King Lear and Cordelia.
New Stairs is a design for two stairs that will probably be built in 2013. Here, I will focus on one of them, the so called ‘small one’. I will present the second one in the exhibition only. New Stairs is also a part of the transdisciplinary artistic research project New Feet for 5 Years a Minute, that I have done in cooperation with music composer Jeroen D’hoe Ph.D (Juilliard School of Music, New York), in which we investigate, and compare, the limitations of unidirectionality of time (music) with the limitations of unidirectionality of gravitation (architecture). My affinity with gravitation and chronology is the

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324 New Stairs is part of a project we will build with our studio y.e.AH!-architects (architect Jo Van Den Berghe and architect Bart Uvin).

325 The second one also has a tempting narrative though. It arrives at the second floor, where the inattentive walker presumes the end of the story, until he/she discovers a hidden little stair right in the centre of the composition that takes him/her to another floor that unveils a majestic space under the roof, where still another—even smaller—little stair takes him/her to a forbidden attic. To the TV antenna of My Grandmother’s House?

326 I appear to have an obsession with gravitation. It plays a prominent role in my Ph.D, hence—probably—my strategy to investigate its opposite in this other research project New Feet. To come to a pervasive understanding of a phenomenon, it sometimes can be useful to try to understand its opposite.

327 All the fieldwork has been done, and the research results will be written and published in the spring of 2013 (Van Den Berghe and D’hoe 2008-2013).

328 See Section 2.3.4 / 2-4: The First Chronological Drawing, and the forthcoming versions of the Chronological Drawing, and Section 2.3.4 / 4-1: Chronology on the Drawing Table.
common denominator of this Ph.D and New Feet. New Stairs has entered the New Feet project through my investigations on my explorative walks in My Grandmother’s House, where I had to find my way up through a labyrinthine and resistant sequence of spaces and stairs, ending in the enlightening moment in the dormer window in the attic. Drawing these explorative ‘zig-zag’ walks on the plan of My Grandmother’s House, and more specifically, projecting these zig-zag lines into the unmeasurable Depth in my remembrance of the space of that house, has been the trigger for the design of New Stairs.

Because New Stairs is more closely related to the set of concepts of The Second Interrogation of the Practice than to the set of conceptual labels of The First Interrogation of the Practice, I will describe it here in relation to the set of concepts of The Second Interrogation of the Practice.

In the design process of New Stairs, the design parameter of gravitation has first been omitted, the design parameter of budget has been put on hold, and the design parameter of context has been reduced to the minimum of its essential contours, as to create the optimal conditions, the metaphorical ‘vacuum’, in which a number of the concepts that were emerging from the Second Interrogation of the Practice could be further investigated through their application in a design process. Subsequently, the omitted design parameters (gravitation, budget and context) have gradually been reintroduced in the process, by which it could successfully be brought back in the real construction context.

For New Stairs, I have applied, and amplified, the following emerging concepts from the Second Interrogation of the Practice:

- the concept of the chronological drawing: which for the design of New Stairs went remarkably well, slow though, as the complex configuration of the stairs gradually has worked its way upwards (in a continuous 4-week design rush), which was the indispensable chronology that had to be applied in order to keep the design process within the limits of the understandable;
- the labyrinthine: I wanted to sharply focus on this concept, because I wanted to make a densified, amplified version of the labyrinthine journey in My Grandmother’s House, concentrated on approximately 4 by 4 meters;
- the Eye Level in the Perspective: I wanted to amplify the concept of the eye level in the perspective by turning it from an unchangeable level in the landscape into an ever changing concept in motion. While making this design, I recalled Alfred Hitchcock’s film Vertigo (Hitchcock 1958), more specifically: my knowledge of the fact that the famous frightening scene in the vertical stairwell had been filmed in a mock up of...
that stairwell that had been put horizontally in the film studio, and of the fact that the camera moved backwards very quickly and simultaneously zoomed in forwards very quickly, which had generated the amplification of the eye level by making it move in the central perspective, playing a strange game with the vanishing point, but above all: turning the plan into a vertical section! This amplification of the aware presence of the eye level was exactly what I wanted to obtain with New Stairs, because this would add to the estimated labyrinthine aspect of it;

− the X-Ray-Drawing: I desperately had to make use of the X-Ray-Drawing, and I successfully did by putting all the layers of the plan into one image in order to keep up with the growing complexity of the design, which allowed me to constantly look into the Depth of the central perspective.

The design process has been an additional piece of research on the concept of X-Ray-Drawing. Oscillating between my investigations on My Grandmother’s House and the design process of New Stairs has facilitated my better understanding of the labyrinthine slowness of the explorative walks in My Grandmother’s House, which in its turn has boosted the creation process of New Stairs. Hence, it has facilitated my access to these aspects in my body of work under investigation during The Second Interrogation of the Practice.

The interplay between observations and design actions has been productive. I have described this process of interplay in my paper The Imaginative Process of Thinking (Van Den Berghe 2010.b).

In the creation process of New Stairs, Substance (on the Drawing Table) was not present in the all pervasive way it is in my other work, hence in this research. Then, I had two other design-research cases in which I could encompass this, which I will introduce now.

335 Drawing these explorative ‘zig-zag’ walks on the plan of My Grandmother’s House.
New Stairs (2010): scale model (3D print), scale 1/100

2.3.5 / 3-1 Introduction to the Meaning of Life

At first, The Meaning of Life and Etude (see below) were no separate designs. The Meaning of Life originally was a variant drawing in a series of what I did not yet call ‘Etude’, and has then evolved into the separate narrative-with-drawing, published in the spring of 2010. Subsequently, The Meaning of Life has very much influenced the design process of Etude that still further develops today, whereas The Meaning of Life has not been further developed since its publication. This is the reason why The Meaning of Life is more closely related to the set of conceptual labels of The First Interrogation of the Practice than to the set of concepts of The Second Interrogation of the Practice, whereas this is the opposite for Etude (see below). This is also the reason why I will describe The Meaning of Life here in relation to the set of conceptual labels of The First Interrogation of the Practice:

- architectural drawings, mostly vertical sections: the narrative of The Meaning of Life has been triggered by an architectural drawing—a section, a drawn narrative—through the landscape. The drawing has come first (7 January 2010), the written narrative has come forth from it (March 2010);

339 See Section 4.1.5: Publications.
the eye level of a standing man:  the drawing has been annotated by short descriptions of four stages in life (Birth, Youth, Wisdom, Death), and each of the four stages is closely—bodily—related to the position of the human body, hence the eye level of a standing man (me! you?), in the landscape;

building materials (substance): there is an abundant presence of building materials (substance) in the narrative; clay, brick, masonry.

drawing materials (pencils, paper): the specific choice of the paper has been essential here. I have discovered this kind of paper in the week I have made this drawing, and ever since I have used it to make field notes, memo’s and drawings in my research, and drawings and sketches in my practice, especially for the Boathouse; not explicitly present in this case, but the exhibition concept of the Ph.D comes forth directly from this drawing, hence the scale model that will be the central part of the exhibition. It is also connected with the scale model I produced for the Urban Tendency Exhibition in London in 2008; through the descriptions of brick production and masonry.

collaboration with craftsmen: The (amplified) application of these conceptual labels in The Meaning of Life has been further developed in Etude, which has strongly assisted in their further development into the set of concepts. The Meaning of Life is fundamental in this series of Ph.D Designs. To underpin this, I quote from Section 2.3.3 / 3-2: “The Concept of Section: from this cutting in the landscape-as-section, it is only a small step to the production of bricks, made out of the Substance I had seen in the emerging Thickness, and once the bricks had been produced and the architect in me had matured, the remembrance of the earthy smell in that excavation of my childhood, and the whereabouts of bricks, inspired me to make an architecture to become part of the landscape that had produced it”. This is the process I describe in The Meaning of Life (Van Den Berghe 2010.a), and that I will further demonstrate in the speculative design Etude.  

In The Meaning of Life, I have produced a ‘narrative as architectural design’. Adam Jakimowicz explained me, during a tutorial session at Sint-Lucas School of Architecture in Brussels, four modes, applicable in this kind of research:

the visual creative mode: sketches, drawings, scale models, photographs, film, …
the visual descriptive mode: scheme’s, diagrams, tables, …
the verbal descriptive mode: papers, this exegesis (for instance: the overarching essay of the Ph.D); narratives, like the ones I included in SmallBook (4): A Journey into Memory and Imagination, and The Meaning of Life (the current section).

In order to cover my research theme, I have made a considered combination of these four modes, as to bring them into the discussions at the appropriate moment.

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340 See Section 2.3.3 / 3-2: The Emergence of Thickness, and the Concept of Section, and Section 2.3.4 / 2-2: The Eye Level in the Perspective, and the Coming of Time.
341 See Section 2.3.5 / 4: Etude.
342 See Section 2.3.3 / 2-2: A Journey into Memory and Imagination.
343 See Section 2.3.3 / 2-3: ?
By ‘writing a design’ for The Meaning of Life I demonstrate how this architecture is Substance, fully corresponding with the Thickness of the landscape-as-section it is standing in, which is also the Substance and the Thickness it comes forth from: the Excavation.\textsuperscript{344}

All the described elements in this narrative are real: the landscape, the house of the architect, the village pub, the production of bricks, … It is the natural and real setting, the landscape-as-section I live and work in. WoSho, the house on the right of the drawing (our house), that is included with the upcoming narrative, is the existing house which I will further elaborate on in WoSho.\textsuperscript{345}

The attentive reader will notice that a number of notions in this narrative, like poetics, poiesis, … still were not clarified in the way they are now, due to my second critique on my initial research theme.\textsuperscript{346} However, this does not affect the basic message of this written design, and I have found no reason in this to omit it here. I have decided to print it here as it has been published in the spring of 2010. I have included this written design in the Smallbook (4), and I am inviting you to read it.

\textsuperscript{344} See Section 2.3.3 / 3: The Excavation.
\textsuperscript{345} See Section 2.4.6: WoSho (1986-2013).
\textsuperscript{346} See Section 2.2.2: A Critique on my Initial Research Theme.

\textsuperscript{347} The Meaning of Life (2010): Topography of a narrative, with the four stages from the drawing-as-section. 1.The Excavation. 2.WoSho. 3.The Haystack Gallery. 4 The Cave (possibly Etude).

\textsuperscript{348} The Meaning of Life (2010): landscape-as-section through an existing topography (see map on the left), which is my own back yard as described in The Meaning of Life (Van Den Berghe 2010.a).
2.3.5 / 3-2  The Meaning of Life

See SmallBook (4): The Book of Narratives
"When we allow ourselves to seek out and dwell on spaces that cause wonderment, we find that there is a continuum of spatial experience, between the intimate and the immense, with stops that can be celebrated all along the scale" (van Schaik 2008, p. 85).

Etude is an unfinished work, but this does not affect the importance of it in this research.\textsuperscript{349}

Etude started in an existing landscape-as-section, but after some design time, it has further evolved into an imaginary landscape setting. This may seem paradoxical to my claim about the Substance of the landscape, yet it is not. I have used the imaginary as a tool to better understand and explain ‘the real’, like writers use fiction as a tool, in order to better explain ‘fact’, the human condition. This tool works like a set of mirrors, that enable me to also look around the corner. What I see in the mirror is not real in the mirror, but often it is the only way to see what is real in front of it, or just behind the corner.

Jo Van Den Berghe = (substance + construction practice + narrative), and I use substance on the construction site as to build the narrative, and in this Ph.D I use the narrative as a tool whenever it better serves my argument.\textsuperscript{350} Moreover, Etude is more than a mere representation of something else. It is a

\textsuperscript{349} Unfinished works often are haunting: Michelangelo’s unfinished Captives (Michelangelo 1520-1523), or Le Corbusier’s unfinished Hospital of Venice (Le Corbusier 1965).

\textsuperscript{350} This is the reason why I have given the narrative an explicit place in the Ph.D, in SmallBook (4): The Book of Narratives.
substantial piece of architecture in its own right. It is a reality in itself. It is ‘a drawing’, not ‘a drawing of’, like contemporary painters make ‘a painting’, not ‘a painting of’. By making Etude, I could find and say things about Substance and construction practice that otherwise would have remained hidden.

I have started the design of Etude in early January 2010. Out of the earliest versions of Etude, I have written The Meaning of Life in the same period. Etude is the design I further developed according to the design principles I wrote in The Meaning of Life. Designing Etude has been ongoing until the final days of this Ph.D.

I have called this design Etude, like music composers call their compositions Etude when they mean: an elaborated piece of musician’s music for the sake of the music itself, and for nothing else.

Etude, like The Meaning of Life, incorporates the Concept of Section as the basic characteristic in my Mental Space. Placed in this basic layer, Etude, unlike The Meaning of Life, is more closely related to the set of concepts of The Second Interrogation of the Practice than to the set of conceptual labels of The First Interrogation of the Practice. The design process of Etude has evolved alongside the whole Second Interrogation of the Practice.

Hence, together with regular peer reviews, discussions and validations of the research, and reading, Etude has been a firm element of The Second Interrogation of the Practice for the understanding, and the explicit formulation of the set of concepts that I have found.

Belonging to the aforementioned set of amplifying ‘mirrors’, Etude has been the main mirror in which I could see the essence of the work: asking design questions and designing the answers in the creation process of Etude mirrored in asking the same questions to the work designed before in the practice, where I could see what the answers to these questions, as designed in regular practice, had been. The repetitive comparisons of these sets of questions-and-answers have allowed me to see similarities and differences out of which I could derive different concepts that I subsequently have made explicit as ‘my set of concepts in my work’.

So I will describe Etude here in relation to the set of emerging concepts of The Second Interrogation of the Practice. Also, as already mentioned in Section 2.3.5 / 1: Introduction to the Ph.D Designs, these emerging concepts began to unveil their intense co-relations. For this reason, in the upcoming descriptions of Etude, concepts will be presented in groups, as integrated. I have not exhaustively described all the possible combinations of concepts, yet I have made a record of those combinations that appear the most important ones with respect to the applications I have in mind for (my) future architectural practice.

First group of integrated concepts: the Eye Level in the Perspective / Designing in Substance / Borrowing from Tektonikos:

Etude, as a speculative design, is inserted in an existing landscape-as-section, which is the real site on which I had wanted to build House B-M (2003-2006 / unbuilt). This site is situated beneath the level of the street by the Depth of approximately ‘one man’ (me). I have chosen this site for three reasons:

− firstly, because House B-M had remained unbuilt. Although I come forth from a sloping landscape, I had never had the opportunity to build a house beneath the street level—in the ‘one man’ Depth. Having the conceptual labels that had come out of the First Interrogation of the Practice at hand in the period I started on Etude, I reckoned that Etude would be my (first) opportunity to ‘build’ at this specific Eye Level in the Perspective.

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351 See Section 2.3.5 / 3.
352 See Section 5: Validation Procedures.
353 See Section 2.3.4 / 6-4.
354 See Section 2.3.3 / 3-2: The Emergence of Thickness, and the Concept of Section.
355 Through this research, I now understand why this felt like a gap back then.
secondly, because I knew this site very well. I had taken all the measures of the site levels myself, so I understood, even embodied the Depth of the local landscape-as-section, which had the appropriate measure and scale for the way I wanted to make this variant of my insertion of (my) architecture in The Excavation in, which means:

- to insert the house in the section-as-excavation precisely in order to immerse it in the Thickness of the landscape, beneath the Eye Level in the Perspective, as seen from the street (apart from a number of skylights).

- to insert the house precisely in the section-as-excavation in order to have its main floor level at the level of the landscape at the back of the house, so that the dug in (the mound) interior space would be at the Eye Level in the Perspective of the landscape to which it belongs (the overview);

- to insert the house in the section-as-excavation precisely in order to generate enough clay to produce the bricks for the house in open brick works on the site;

thirdly, I immediately had a bodily experience when I first encountered this site, inviting to make an architecture that is a concept of section in the first place, literally and physically: cutting into the ground. I first made sketches of sections, long before I knew what the plans were going to be. I had discovered this section in the landscape, and seeing it, measuring it, making it was simultaneously seeing, measuring and making the architecture I was craving for, simultaneously using the excavated matter—clay—to build it. As described in The Meaning of Life: an architecture without theft. All these thoughts were encapsulated—simultaneously—in one moment in one place, in the momentum of co-presence of to make and to dream.

Here, I would like to refer to Section 2.3.4 / 2-3: Borrowing from Tektonikos, where I have referred to Etude when I mentioned the Parthenon, built with the stones it is standing on, to suck an architecture out of its geology. Understanding Etude by first making sections has generated my understanding of Tektonikos. Here, as I described for the Parthenon and Tektonikos, the Concept of Section is the indispensable anatomisation of the landscape-as-section, the basic layer of my Mental Space, in the way I have described it in Section 2.3.3 / 4: Conclusions on My Grandmother’s House and The Excavation: the Cave and the Tower. In the section is Substance, and Etude is ‘built’ with this Substance, the clay it is standing in, clay cut out of the Thickness, the local crust of the Earth. This anatomisation happens first from a specific point in my body—the eye level—like I had seen as a boy, in the excavation of my neighbour, the excavation with a ‘one man’ Depth.

Second group of integrated concepts: the Chronological Drawing / Tektonikos / Designing in Substance / Chronology on the Drawing Table:
Looking at the drawings of Etude, I would advise to first look at the section, which has been made before the plan. The section encapsulates the whole chronology of building: The landscape-as-section with the Depth of one man, the Excavation of Substance for the in-situ production of bricks, foundations, Substance (brick), the Darkness of the brick vaults, the brick shafts with the skylights, the overplus of the excavated Substance for the production of bricks put on top of the vaults as to cover the whole building and make it immerse in the Thickness of the landscape-as-section.

Third group of integrated concepts: the X-Ray-Drawing / Designing in Substance / the Labyrinthine:
Once this spatial concept of section has been instated in the mind of the viewer, it is time to look at the plan. The moment I began to work with the plan, I have extended the site from the existing one, as explained for the section, to an imaginary one, because I needed more possibilities for the investigations on the design components I will now describe. The design mode I had entered had made me unstoppable.

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356 The street side is the south side.
357 Historically, there have been many of these open brickworks in the region where I live, and where this site is situated.
358 As I already have mentioned in Section 2.3.4 / 2-3: Borrowing from Tektonikos.
As said, as for the plan and the use of the spaces, I had no clue in the moment of discovery of the aforementioned section. Then, the plan and the use of the spaces gradually emerged out of the certainty that the section would have to remain unchanged, and that the plan would have to be the permanent servant of the section. When the psychic nature of my space dictated me to position a vault too low, I decided that you would have to bend, or to stay out! I imagined the Depth of the spaces more, more easily, better, and deeper, in the juxtaposed sections that formed the X-Ray-Drawing than on the plan itself. In that stage of the design process, the juxtaposed sections through brick walls better evoked the labyrinthine character of the edifice than the plan would have done.

Fourth group of integrated concepts: the Labyrinthine / Designing in Substance / The Eye Level in the Perspective: Notwithstanding the potential of the X-Ray-Drawing, at a certain moment I reckoned the plan could add another dimension. So I began to draw the plan according to the section. In the plan, a long stretched space with an inclining brick floor has two parallel tracks to roll a bed on wheels—a sleepwagon—slowly overnight, driven by an engine of time, from the high side to the low side of the floor, where the sleeper in the morning wakes up by the cold water of the sea at his feet. The sea is the natural and frightening alarm clock of the sleeper, and regulating the speed of the time mechanism is making the night long or short. Then I have put a brick vault over it, and brick shafts with skylights bring the light of the sun deep into the room.

In a corner of the adjacent bathing space a pivoting brick wall gives access to the wine vault. I had seen the square plan of Hitchcock’s tower in Vertigo (Hitchcock 1958) put at its side as to become a square section through a central perspective in motion. From the moment I entered the wine vault, the speed of time suffered from a sudden backfall, and the section of Hitchcock’s tower was becoming a series of sections with central perspectives of an endless series of brick corridors, that slowly, only reluctantly admitted their parallel existence in a plan. There, in the wine vault, a set of identical corridors waits for the sleepwalker to see how the floor and the wall and the ceiling and the wall and the floor are interchangeable; all made of brick. On the right, series of shelves store bottles of wine—thousands—unpresumably enclosed behind brick doors. In the end, the corridor turns into a second identical corridor with identical bricks. In the end, the corridor turns into a third, identical corridor with identical bricks. The dead end of the fourth corridor is a secret pivoting brick wall that brings the wanderer back in the first corridor. In the end, the corridor turns into a second identical corridor with identical bricks. In the end, the corridor turns into a third, identical corridor with identical bricks. In the end, the corridor turns into the fourth, identical corridor with identical bricks. The dead end of the fourth corridor is a secret pivoting brick wall that brings the wanderer back in the first corridor. In the end, the corridor turns into a second identical corridor with identical bricks. In the end, the corridor turns into a third, identical corridor with identical bricks. In the end, the corridor turns into the fourth, identical corridor with identical bricks. The dead end of the fourth corridor is a secret pivoting brick wall that brings the wanderer back in the first corridor …

I will never propagate the abolition of the plan in favour of the section. Only, my pleading for the section is based on my conviction that it instates Depth as the first dimension more evidently, hence produces a more spatiotemporal architecture.

The longitudinal and cross sections of this long space are inspired by the brick sections of old dry docks. This design is also reminiscent of slipways.

A mechanically timed device, with gearing wheels and so.

I refer to the corridor scene in Stanley Kubrick’s 2001: A Space Odyssey (Kubrick 1968).

I refer to two films here: L’Année Dernière à Marienbad (Resnais 1961), and to The Shining (Kubrick 1980). In the former, the camera travels through endless corridors in an almost abandoned hotel, in the latter, a small boy rides on his bike through an endless series of corridors of an abandoned hotel.
This subterranean labyrinth can go on like that for centuries. Moreover, the ignorant wanderer does not know that one of the doors of the wine shelves is a hidden access to the most secret room, the holy of holies, where only the best wines are savoured. There, the brick floor has been curved into a subtle inverse brick dome, turning this space into an upside-down experience. One brick light shaft brings the light of the sun into a glass of dark red wine.

Fifth group of integrated concepts: Designing in Substance / the Labyrinth / the X-Ray-Drawing:
Then, I have extended Etude with other edifices, like Medieval painters bring in other personages into their painted narratives that explain the human condition. Three solid masses of brick have voids that seem to be cut out of them, and as a group they sit on the brick bank of the omnipresent sea: a house as an oven to prepare food, a brick house to make fire that produces smoke on the request of William Turner, and a house to kill a bull in as to slaughter the bull, with the water of the sea going underneath it so that the blood of the sin can be washed away.
On the left of the composition, a house is standing alone. In the basement, a large window pane opens a view into the world beneath the water level of the sea. Let it bleed.
“Life is a narrow passage, between an endless sea and an endless sea” (Van Den Berghe 2011).

I have made these drawings ‘with a brick pencil’. I always liked to play with Lego, all too soon running out of bricks. In these drawings, in this excavation, I produced my bricks myself out of the Substance of Vectorworks, putting them in place by making series of serial duplications, my ostinato, rotations of brick spaces on computer screens, quotations of rotations in verbal narratives during subsequent GRC_EU presentations. Endlessly building circular brick vaults, arches, brick stairs, holes in brick volumes, making X-Ray-Drawings-as-sections subsequently investigated as if they were plans, and plans turning into vertical sections again. Concentric circles of brick, and every circle goes deeper into the Depth of space and forms steps of stairs of brick, brick banks at the water line, made by hundreds of masons. Immured brick courtyards with brick walls, reminiscent of Mies van der Rohe’s unbuilt Countryhouse Project (Mies van der Rohe 1923) become a brick labyrinth that finally leads to the footprint of the brick tower, and the foot of the brick tower stands partly in the water of the omnipresent sea.

Going into the design mode, and making Etude, has substantially contributed to this research. Etude has been important to understand the past: it has changed my understanding of my precedent work during The Second Interrogation of the Practice, of the work of architects who contribute to my argument, and of the (integrating) set of concepts coming forth from The Second Interrogation of the Practice. Etude is important to understand (my) future architectural practice. It is a prefiguration of it. It has deeply influenced upcoming work: the Boathouse 1 and the Boathouse 2, the Haystack Gallery, WoSho. Etude has brought me in The State of Emergency. And there I will describe these upcoming works.

As context of Etude, I would like to refer to the following works: Hans Poelzig, Schauspielhaus (Poelzig 1919), Paolo Portoghesi, Church of the Holy Family (Portoghesi 1969-1973), Giovanni Battista Piranesi’s Carceri (Piranesi 1745, 1750, 1761), Jensen-Klint’s Grundtvig’s Church (1913-1940), and Roma Interrotta, the unsurpassed series of drawings (Piero Sartogo, Constantino Dardi, Antoine Grumbach, James Stirling, Paulo Portoghesi, Romaldo Giurgola, Venturi and Rauch, Colin Rowe, Michael Graves, Rob Krier, Aldo Rossi, Leon Krier 1978). “Rome is an interrupted city because it has stopped being imagined and begun to be poorly planned. In Rome the issue is more about time than about space.” (Giulio Carlo Argan 1978).
366 Etude (2010-2012): first sketches with the basic design principles (see also: “an architecture without theft”, The Meaning of Life (2010).
367 Etude (2010-2012): comparative study of the site section of Etude with the site sections of projects from my practice, looking for the main characteristic(s) of my practice.
368 Drydock.
369 Slipway.
Etude (2010-2012): overview and topography with altitude lines. “The Birth of a Vault” points at the origins of the design process of Etude (see first sketches above). From left to right:

- footprint of the brick tower (see also House VDV-C)
- House to look beneath the water level of the sea (Let it Bleed)
- Central Group of Three: slaughterhouse, smokehouse, foodhouse
- longitudinal space with the inclining floor to sleep
- on top: footprint of the brick tower (again)
- secret wine vault with the labyrinthine brick corridors
- all around in black: the omnipresent sea. Life is a short and narrow passage between an endless sea and an endless sea.
Etude (2010-2012): secret access to the hidden wine vault.
Etude (2010-2012): the labyrinthine corridors in the hidden wine vault, and the holy of holies in the middle (where the best wines are savoured).
Etude (20010-2012): the central group of three houses: Slaughterhouse, brick interstice, Smokehouse, Foodhouse and connection with the sleep-slipway.
Etude (2010-2012): study of brick patterns for Slaughterhouse, immured lowered courtyards, Smokehouse. The endless sea penetrates under the basement floor of Slaughterhouse to wash away the blood.
378 Etude (2010-2012): further study of brick patterns, and references to other architects.

Etude (2010-2012): Foodhouse, Smokehouse, Slaughterhouse, and House with window to look beneath the surface of the sea (Let it Bleed).

The labyrinthine stairwell between Smokehouse and
2.4 The State of Emergency

2.4.1 Introduction on The State of Emergency

Looking back at the precedent research, I see that I have started my research with the contention that a creation process in architecture is a unidirectional process that starts with the poetic image (π)\(^{382}\), that subsequently is substantiated on the construction site. This is the State of Grace:

\[ \pi \rightarrow \circ \]

Then, on this initial contention I have formulated a critique that says that a creation process in architecture all too automatically is considered as a unidirectional process that starts with the poetic image, that subsequently is substantiated on the construction site. Subsequently, I have put this critique on hold, in order to first do my investigations, in order to find out whether my critique was legitimate.

Through the First Interrogation of the Practice\(^{383}\), through my investigations on my mental space\(^{384}\), and through the Second Interrogation of the Practice\(^{385}\), I have found evidence in the process of creation, which includes the substantiation, that my critique was legitimate. The creation process is not unidirectional, but much more negotiated, two-directional, and that, in my work, and in the work of my communities of practice, the poetic image (π) is often triggered by construction practice (©). The dream is often triggered by the Substance.

\[ \pi \leftrightarrow \circ \]

These investigations have generated (2 eidetic moments in my mental space)\(^{386}\) + (4 basic design themes coming forth from my mental space)\(^{387}\) + (2 aprioristic conditions)\(^{388}\) + (a set of 5 intertwining concepts)\(^{389}\) The 5 intertwining concepts are to be applied in the aprioristic conditions in order to perform the 4 basic design themes. These concepts have been isolated, amplified, grouped, tested, and confirmed through a cycle of speculative designs: the Ph.D Designs.\(^{390}\) In the Ph.D Designs, the concepts have proven to perform ‘to make the Thickness of Substance in order to generate to dream the Depth of Darkness’.

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\(^{382}\) The concept of the poetic image has been brought forward by Vitruvius, who called it the architectural idea, and forthcoming from this, Alberto Pérez-Gómez has further elaborated on it, “… the poetic image, called after Vitruvius the architectural idea (the images that are proposed by the architect, issuing from his of her mind’s eye” (Pérez-Gómez 2006.a).

\(^{383}\) See Section 2.3.2: The First Interrogation of the Practice.

\(^{384}\) See Section 2.3.3: The Concept of Mental Space.

\(^{385}\) See Section 2.3.4: The Second Interogation of the Practice.

\(^{386}\) My Grandmother’s House, and The Excavation.

\(^{387}\) Thickness (of) Substance (to make) Depth (of) Darkness.

\(^{388}\) The Emergence of Thickness (and the Concept of Section), and Depth as the First Dimension.

\(^{389}\) (The Eye Level in the Perspective / the Labyrinthine) + (Borrowing from Tektonikos) + (The Chronological Drawing / Chronology on the Drawing Table) + (Designing in Substance / Substance on the Drawing Table) + (The X-Ray-Drawing).

\(^{390}\) See Section 2.3.5: The Ph.D Desings.
All these precedent steps have caused the Shift away from my initial State of Grace and have brought my design mode in an ultimate state of awareness. I call this ultimate state of awareness The State of Emergency.

In The State of Emergency, the designing architect moves out from the past, the State of Grace, as to come into the present, the now, based on his/her understanding of how ‘to make’ in the Thickness of Substance generates ‘to dream’ the Depth of Darkness’. In this nowness, the designing architect (me, possibly you) then takes the aforementioned aprioristic conditions as a given, in which he/she makes the aforementioned concepts, that he/she profoundly understands, co-exist as to arrive on a specific place on a specific moment, merging the place of ‘to make’ (©) with the moment of ‘to dream’ (n) into an energetic momentum, the acute creation-in-the-making, when the designing architect can place himself/herself at, and occupy, his/her sector of the strategic intersection of time and space.

This whole shift from The State of Grace into The State of Emergency has happened, encapsulated in one moment, on that morning on the construction site of house DG-DR, when the client all of a sudden demanded to replace a roof with wooden rafters by an alternative in concrete. I call this ‘the Acute Moment of Emergency’, by which I could create probably the most powerful space I have made so far. This Acute Moment of Emergency encapsulates this whole research, and it has triggered what I imagine as (my) future architectural practice.

The sudden co-presence of ‘to make’ and ‘to dream’ in this urgent situation on the construction site of House DG-DR back then has made me implicitly aware of the ability of the architect to facilitate this co-presence of ‘to make’ and ‘to dream’, of his/her ability as a master builder in the present, in this nowness, to occupy the intersection of the place of making and the moment of creation.

Through this research, this implicit awareness back then has become explicit knowledge now.

I could have neglected this Acute Moment of Emergency, but I immediately presumed an immense opportunity in that moment, a wake up call for all the parties involved, urging for the acute present: neither to hide behind a safe bureaucratic set of plans and decisions made in advance in the past, nor to hide behind the safe impossibility of something that seems too far in the future—both this kind of past and this kind of future are a detestable State of Grace—but to step into the urgency of the now, and to dwell there in the State of Emergency, on the construction site, which is the real Theatre of Operations: the Construction Site as Architectural Design.

This stage of the research has been the stage of selective coding. “Selective coding is the process by which all categories are unified around a ‘core’ category, and categories that need further explication are filled-in with further detail. This type of coding is likely to occur in the later phases of the study. (...) The core category represents the central phenomenon of the study. (...) The other categories will always stand in relationship to the core category as conditions, action/interreactional strategies, or consequences” (Corbin and Strauss 1990).

As said before, I prefer ‘concepts’ instead of categories. It has not been the purpose of this research to find or form categories out of it, and/or to eventually derive statistics from these categories. More likely, it has been my aim to demonstrate possible applications, useful in architectural practice, like I will do in the upcoming projects, of the concepts I had discovered through the investigations on my work in the context of its communities of practice.

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391 See Section 2.3.4 / 5-1: The Incident and the Moment of Emergency.
392 in Grounded Theory Research.
393 See Section 2.3.4 / 7: There is another Gap!
The core concept of this research clearly is the section, because: The section is the spine of the 5 concepts:

1. The Eye Level in the Perspective / the labyrinthine: the eye level in the perspective presupposes the observation in the vertical section; the anatomisation of the thickness of the crust of the Earth, in which the master builder cuts, as can be found in (my descriptions of) the Parthenon, can only happen through making an incision, a section;

2. Borrowing from Tektonikos: The anatomisation of the thickness of the crust of the Earth, in which the master builder cuts, as can be found in (my descriptions of) the Parthenon, can only happen through making an incision, a section;

3. The Chronological Drawing/Chronology on the Drawing Table: as explained, this concept of chronological drawings almost by definition has to be a (vertical) section;

4. Designing in Substance / Substance on the Drawing Table: is closely connected with the chronological drawing, and as to design in substance, one has to have good knowledge of the nature of the substance he/she is working with, which requires ‘to cut it open as to look’, which is: making sections;

5. The X-Ray-Drawing: the original case, discovered in the design of the construction process of House ST (1999 2001), was a section. The further research on it in New Stairs (2010), and the recent investigations on it in House DG-DR (drawings made in the summer of 2012) are plans. Here, I presume possibilities to see and apply a plan more as a section, because the X-Ray-Drawing more easily permits to look into the Depth of the plan, more than a ‘usual plan’ does.

The Concept of Section is also centrally present in the 2 aprioristic conditions by definition: The Emergence of Thickness and The Concept of Section, and Depth as the First Dimension. The Emergence of Thickness is what has to be anatomised, the Concept of Section is there to anatomise with, and Depth is what I anatomise for, in order to find or make it.

Depth, then, is the connection (interface) between the 2 aprioristic conditions and the 4 basic design themes.
The Concept of Section, then, is the connection (interface) between the 2 aprioristic conditions and the 4 basic design themes.
The Concept of Section, thus, is indispensable as to perform ‘to make the Thickness of Substance in order to generate to dream the Depth of Darkness’.

In The State of Emergency, I now start with the explicit application of the core Concept of Section, with the set of other concepts around it, in real (future) architectural practice, that ‘by definition’ happens in the aforementioned aprioristic conditions, in order

to perform (to make) Thickness of Substance) in order to generate (to dream Depth of Darkness), or

to perform (to make) in order to generate (to dream), or

to perform construction practice in order to generate the poetic image

The designing architect applies this Concept of Section, a knife, to anatomise the design situation in order to understand it, and to understand it in order to perform it properly.

I will now demonstrate a number of projects in which the Concept of Section occupies a central place in the creation process, with the other concepts at the service of them.
The projects I will describe in the current section have been made in the State of Emergency. Coming at the end of the discussions of this Ph.D, they have been as much an application and a test of the findings as they have been a generator of them:

- **The Boathouse 1 and The Boathouse 2 (2008-2012)** is an ongoing project of the practice that has been alongside this research all the time, in which I continuously have tested and applied the Concept of Section in order to perform ‘to make’ Thickness of Substance to generate to dream the Depth of Darkness.

- **House B (2005-2007)** belongs to the selection of the First and Second Interrogation of the Practice. It has not been made in the State of Emergency, but the haunting images of its construction site, that looked like ‘all section’ in which I could read the whole performance of ‘to make’ Thickness of Substance in order to generate to dream the Depth of Darkness’, have seeped into me. The Third Chronological Drawing, by which this project has been ‘made’, has also ‘made’ these haunting images. Together these drawings and images have contributed to my understanding of the State of Emergency, and have triggered the design of The Haystack Gallery (2011-2013).

- For the Haystack Gallery, as a speculative design, I have grasped an image in a drawing that predicts (my) future architectural practice, by which I mean that the creation process has been driven by the Concept of Section as to generate an architecture of which the section also is the final result of the built elevation in which I can read the whole performance of ‘to make’ Thickness of Substance to generate to dream the Depth of Darkness’. 

- **Finally, WoSho (1986-2013)** is a future project—my new workshop, hence WoSho—that encompasses the whole period of my architectural practice, in which I collect all my experience, and my new knowledge coming forth from this research, and by which I want to penetrate into the future direction of (my) architectural practice. Here, the Concept of Section is the section-as-design: literally is cutting in a wall, tearing this cut open, and having ‘the wound’ as the only element of intervention in an existing architectural situation.

### 2.4.2 The Theatre of Operations

The Theatre of Operations is not another new concept that comes out of this research.
I have chosen these words as the title of this Ph.D, and it deserves some explanation.
First of all, I refer to the previous paragraphs, in which I often describe operations on the construction site.
Furthermore, the Theatre of Operations is jargon, used in warfare, and in surgery. In both cases, it is the place and the moment of life and death. I am not sure whether I want to place the discipline of architecture on stage as a matter of life and death. However. Through my investigations, I appear to dwell in the State of Emergency, another notion connected with warfare, and surgery.
I prefer to put it in these ‘catchy’ words of acuteness and urgency, because it is something no less than that, and because, if I would not do so in the framework of a Ph.D, it could all too easily lose its momentum and acuteness once it has gone through the channels of dissemination, when it arrives on the construction site, the place it is intended to serve, which is … the Theatre of Operations.

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394 All but one: House B (2005-2007) (see Section 2.4.4) has been made in my regular practice before the research, but in my upcoming descriptions of it you will find how it is closely related to The State of Emergency.
395 See Section 2.4.5: The Haystack Gallery.
2.4.3 / 1 Chronicles of Design-Research in a Project

The boathouse has started in 2008 as The Boathouse 1: a set of four dwellings and a boathouse—a hangar for boats—in a nature reserve near Utrecht, The Netherlands. It is a project for the same client as the Summerhouse (2001-2004), situated on the same site, be it on a mound, not on a palisade, which means in the same landscape-as-section. Having elaborated on this landscape-as-section in my descriptions of the Summerhouse, I will not repeat this aspect here.

The four dwellings subsequently have been omitted from the project, and in the summer of 2009 the Boathouse 1 has evolved into the Boathouse 2.397

396 See Section 2.3.4 / 6-1: Summerhouse.
397 This project has been done, and is still ongoing, by our office y.e.AHI-architects (architect Jo Van Den Berghe and architect Bart Uvin), in cooperation with architect Lenie Dhooghe, who has been an apprentice in the office since the summer of 2009.
The Boathouse 1 and The Boathouse 2 (2008-2012) is an ongoing project from architectural practice that has been alongside this research all the time, in which I continuously have tested and applied the core Concept of Section so as to perform ‘to make Thickness of Substance in order to generate to dream the Depth of Darkness’. All the versions (see below) have started from to make, immediately applying the substance with which to make it in the creation process, taking the construction site as architectural design.

I will demonstrate how I have done this in the subsequent stages and versions of the design.

The transitions from one stage of the design into another stage of it have been triggered by two elements:

- firstly, because my client continuously wanted to change the design, based on his legitimate stance that we had to go for the best. Exhaustively and consciously investigating different construction techniques and materials was one part of the effort to get there, at least having thoroughly compared and evaluated all the possibilities. Patience, perseverance, and stubbornness were other aspects of this quest;
- secondly, because of this research: the subsequent stages of this project all have been an excellent opportunity for me to adopt them in this research.

With every stage, I could introduce another variant case on which I could further test the whole performance of ‘to make Thickness of Substance in order to generate to dream the Depth of Darkness’. Not being opposed to another version has helped me to fluently step from stage to stage, because I thought that my client was right to go to the bottom as to find the best option, and because I could test a broader array of cases for my research.

The subsequent stages of this project have been:

06/2008-08/2008 The Boathouse 1: this version of the boathouse has been a direct application of scaffolding material and cross-applications of materials coming forth from other disciplines (from fishing industry, furniture industry, aviation, ... ). The dwellings and the boathouse together form a group of clustered buildings;
12/2008 The Boathouse 1: clay version for the dwellings;
03/2009 The Boathouse 1: brick version for the dwellings, with a roof of brass. This brick version has triggered The Boathouse 2;
05/2009-07/2009 The Boathouse 1: intermediary version in glass and EPDM;
07/2009 The Boathouse 1: first brick and glass version;
08/2009-09/2009 The Boathouse 2: second brick version (full brick version);
10/2009 The Boathouse 2: concrete and brick version;
10/2009 The Boathouse 2: concrete and grass version;
11/2009 The Boathouse 2: concrete and concrete version;
03/2010-06/2010 The Boathouse 2: aluminum version and red copper version;
07/2010-08/2010 The Boathouse 2: sailcloth version;
08/2010-12/2010 The Boathouse 2: wood version. (FULL SCALE MOCK UP);

The brick versions of this project have triggered the creation process of Etude (2010-2012)\(^{398}\), that started in early 2010, but already slumbering half a year earlier in the summer of 2009 during the brick period of the Boathouse 2, and waiting to boost. When the Boathouse 2 had shifted into other versions with

\(^{398}\) See Section 2.3.5 / 4: Etude.
other materials, a number of the construction techniques and technical applications in brick that had been developed in the course of the creation process of the brick versions have been further developed in Etude.

In this landscape-as-section, the section-as-excavation was practically impossible because of the high level of the water table, and the low level of the site beneath the level of the North Sea. By the absence of the emerging Thickness of the landscape, a man-made horizon has been instated\textsuperscript{399}, from where one gazes into the black Depth of distorted labyrinthine perspectives, formed by impermeable volumes of Substance with closed and coarse skins, altogether formulating the basic stances of this research.

Permanently informed by this research, the long and extensive design-research process finally resulted in ‘to make Thickness of Substance to generate to dream Depth of Darkness’. The completely mat black EPDM version absorbs every ray of light as to instate Darkness as the first of the four basic design themes that have been brought to the surface through this research.

As the research and the project were ongoing, I have experienced a growing effectiveness in the direct applications of the research findings in the design process of The Boathouse. This is demonstrable in two ways:
− firstly, without this growing effectiveness, it would simply have been impossible to produce such an array of different versions with so many different construction techniques so quickly. Especially the constant and direct application of the core Concept of Section, and the other sub-concepts grouped around it, could rapidly lead to design results;
− secondly, the more I could see the hierarchy and nature of the concepts I found in the research, the closer I came to the final version. Gradually coming closer to the final version has facilitated my understanding of the hierarchies and relationships the 4 design themes, the 2 aprioristic conditions and the set of 5 concepts.

\textsuperscript{399} See Section 2.3.4 / 6-1: Summerhouse.
\textsuperscript{400} The Boathouse 1 (2009): internal courtyard with glass roof, brass cladding and thatched roof (2 versions).
\textsuperscript{401} The Boathouse 1 (2009): plan.
The Boathouse 1 (2009): fragments of the plan (that would later inspire The Boathouse 2).
The Boathouse 1 (2009): construction method in coloured brick and steel. A very limited but subtle elaboration on the landscape-as-section, because of the very high level of the water table.
The Boathouse 2 (2008-2012): brick version. The plan is a further elaboration of the Boathouse 1. Labyrinthine sequence of brick-immured spaces, and two hidden rooms behind pivoting brick doors.
The Boathouse 2 (2008-2012): previous page and top left: brick fragments of the labyrinthine plan. Top right: fragment of the scale model, scale 1/200, tracing paper. Bottom of page: general plan with harbour dock, scale model tracing paper scale 1/200 (top view and harbour view), and scale model white paper scale 1/100.

The Boathouse 2 (2008-2012): full scale mock-up of all the steel junctions.

The Boathouse 2 (2008-2012): full scale mock-up of the epdm skin of the project’s final version, reminiscent of Thomas Edison’s cinematographic studio the Black Mariah (Edison 1893).
The almost completed Boathouse 2 (early September 2012).
In this section, I will give priority to an extensive set of drawings, and images, of the subsequent stages of this project, that demonstrate how I have performed ‘to makeThickness of Substance in order to generate to dream Depth of Darkness’ through the continuous application of the core Concept of Section, with the other intertwing concepts (Chronological Drawings, X-Ray-Drawings, Chronology on the Drawing Table, Substance on the Drawing Table and the Labyrinthine) grouped around it, in the aprioristic conditions of The Emergence of Thickness (and the Concept of Section), and Depth as the First Dimension.

See SmallBook (6): Images of Chronicles of Design-Research in a Project

The list of dates is helpful to situate the drawings in SmallBook (6). Most of the drawings have a date.


12/2008 THE BOATHOUSE 1: CLAY VERSION FOR THE DWELLINGS;

03/2009 THE BOATHOUSE 1: BRICK VERSION FOR THE DWELLINGS, WITH A ROOF OF BRASS. THIS BRICK VERSION HAS TRIGGERED THE BOATHOUSE 2;

05/2009-07/2009 THE BOATHOUSE 1: INTERMEDIARY VERSION IN GLASS AND EPDM;

07/2009 THE BOATHOUSE 1: FIRST BRICK AND GLASS VERSION;

08/2009-09/2009 THE BOATHOUSE 2: SECOND BRICK VERSION (FULL BRICK VERSION);

10/2009 THE BOATHOUSE 2: CONCRETE AND BRICK VERSION;

10/2009 THE BOATHOUSE 2: CONCRETE AND GRASS VERSION;


03/2010-06/2010 THE BOATHOUSE 2: ALUMINUM VERSION AND RED COPPER VERSION;

07/2010-08/2010 THE BOATHOUSE 2: SAILCLOTH VERSION;

08/2010-12/2010 THE BOATHOUSE 2: WOOD VERSION. (FULL SCALE MOCK UP);

2.4.4 The Third Chronological Drawing: House B (2005-2007)

House B (2005-2007) belongs to the selection of the First and Second Interrogation of the Practice. It has not been made in the State of Emergency, but the haunting images of its construction site, that looked like ‘all section’ in which I could read the whole performance of ‘to make Thickness of Substance in order to generate to dream the Depth of Darkness’, have seeped into me.

The Third Chronological Drawing, by which this project has been ‘made’, has also ‘made’ these haunting images. Together these drawings and images have contributed to my understanding of the State of Emergency, and have triggered the design of The Haystack Gallery (2011-2013).

413 The Chronological drawing, as made for this project, and the subsequent haunting images of the construction site, are very similar to each other. This clearly demonstrates the effectiveness of the concept of Chronological Drawing.

414 See Section 2.4.5: The Haystack Gallery.
Amidst the draftsman's trance for the CL2-Appartments, I made annotations in the margins of them, which appear to be as important as the drawings themselves, as I have found through this research. This must be the reason why I have never cut off the edges of these drawings. These annotations—mostly little thumbnail sketches—illustrate my thinking, and my actual understanding of this drawing and thinking enables me to formulate the following lines:

to dream is to draw by hand

to draw is to think by hand

to think is to make by hand

so:
to dream is to make (by hand) (where to dream and to make are co-present).

The architectural drawing is capable of bringing the creating architect at the intersection where the moment of to dream and the place of to make are co-present, as to transform into the dynamic momentum of architectural creation.

This research has revealed that these sketched annotations had been triggers for these drawings. Then, I connected these sketches with my concept of Chronological Drawing, and I decided to bring this kind of sketching from the edge of the drawing (where they had been in the case of the CL2-Appartments) to the centre of the drawing. The first time I have done this consciously was amidst the creation process of House B (2005-2007). Doing so, my most recent version of the Concept of Chronological Drawing was born. I had just done House DG-DR (1999-2004), I was still building House D-R (2004-2007). In both these projects, I had come to understand the co-presence of construction practice and the poetic image, banking on my experience as a building architect, and on my growing ability to direct my process of creation from and towards contemporary construction practice. By then, I had become a master builder, which enabled me to apply the Chronological Drawing so directly.

For House B (2005-07), I wanted the resulting architecture to be a honest display of construction method and materiality, and in order to optimise this ambition, I introduced construction practice from the very beginning in the design process through this new type of Chronological Drawing: the Third

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415 See Section 2.3.4 / 4-2: Substance on the Drawing Table.
416 See Section 2.3.4 / 2-3: Borrowing from Tektonikos.
417 See Section 2.3.4 / 5: House DG-DR.
418 See Section 2.3.4 / 6-2.
419 Like I had done for House DG-DR (1999-2004), for House D-R (2004-07), and like I was doing for my own house WoSho (Workshop)(1986-2012).
420 Elaborating on Peter Zumthor and Sean Godsell, Leon van Schaik argues that “We are also invited to inspect the making of the buildings—every attachment appears to be shown, and we have the feeling that given the right tools and the time, we could take the building apart, and then reassemble it” (van Schaik 2008, p. 151). This correctly describes my intentions in the construction of House B, that had started with House DG-DR (see Section 2.3.4 / 5), and that would further shape (my) future architectural practice coming forth from it.
421 ‘Chronological Sketching’ in this case, coming forth from the mentative process of sketching in the margins of the drawings I had made for the CL2-Appartments. This chronological sketching has the directness and the speed it takes to grasp the momentum, in which the time of to dream and the place of to make are co-present. To dream is (...) is (...) is to make (by hand).
Chronological Drawing. Not coincidentally, for these projects I come to quote, I have collaborated with the same contractor\textsuperscript{422} and the same carpenters.\textsuperscript{423} I believe that, once an architect has found the right people to cooperate with, which means both professionally and personally, the mutual understandings go deeper, based on a common set of experiences, which results in better work.\textsuperscript{424}

The intense collaborations in all these works have been a great learning experience for me, because both the contractor, as the carpenters, constantly and insistently interrogated me with the compelling question: “How are we going to make this?” In the meantime waggishly looking at me. Of course, when I was getting stuck halfway my explanation, they came to assist me, bringing in suggestions that were tested and evaluated against the architecture on the spot.\textsuperscript{425}

The core Concepts of Section, found through this research, have also been crucial in the creation process of this house, through the application of the Concept of Chronological Drawing, of which I can very well recall its making. Like Louis Kahn had ordered me, I had trained myself—and now I paraphrase him—to draw as we build, from the bottom up, stopping my pencil to make a mark at the joints, where ornament could grow out of my love for the expression of the construction method, because my desire to express how it is done by now was pumping through my every vein, and I want(ed) it to filter through the entire society of building, the architect, the engineer, the builder, the draftsman.\textsuperscript{426} I was going through an unstoppable stream of consciousness, that late night on 20 January 2007, and this creative flow that was chronologically working its way up from the excavation\textsuperscript{427} and the foundation slab through the column to the steel beam that receives the wooden rafters of the roof, was the flow that was working its way up in my own body that understood the column it was

\textsuperscript{422} Marc De Naeyer, who did House VD-DN (1997-1999), House DG-DR (1999-2004), House D-R (2004-07), WoSho (1986-2013), and other projects not mentioned in this Ph.D.


\textsuperscript{424} Rumor has it that Carlo Scarpa could only build his magnificent but complex work through his personal relationship with the people who actually had to make it on the construction site. We know about Ben Wiltsecheck and Harold Turner, much appreciated by Frank Lloyd Wright as his master builders (Sergeant 1984).

\textsuperscript{425} Not coincidentally, Marc De Nayer had started his education as an architect, until he was called to the construction company of his father (and grandfather, and grand-grandfather) who had become ill. Luc Beerens, the carpenter, all of a sudden could exclaim: “Listen! Do you hear that? Rachmaninov! Music composers! That’s a bunch of smart guys! They can write music scores—understanding all those instruments in a glance!” (X-Ray-Drawings, and Chronological Drawings, are related to music scores made by music composers. It is also about chronology, and about mastering several things at the same time) during the regular working sessions we had in his workshop, drawing full scale window sections together, with a ballpoint, on a plank.

\textsuperscript{426} “In Gothic times, architects built in solid stones (…) If we would train ourselves to draw as we build, from the bottom up, when we do, stopping our pencil to make a mark at the joints of pouring or erecting, ornament would grow out of our love for the expression of method (…) The desire to express how it is done would filter through the entire society of building, to architect, engineer, builder and draftsman” (Frampton 1980).

\textsuperscript{427} The site was a flat plot at the edge of town (my grandmother’s town). At the back of the site a wooded hill emerged, and at the time of doing this project, this was haunting me. Only now, through this research, I understand this dense version of my personal landscape, residing centrally in my mental space: the combination of the metropolitan lowland and the Emergence of Thickness of my local hills. This makes this project densified version of my practice.
drawing instantly, which was my sudden understanding of the ancient Greek caryatid, and what she must have felt (and still feels!), and of the concept-of-column that, above all, is the concept of a man standing tall (me!), like the man I had seen in the excavation of my childhood.

As for the Concept of Depth, I understand it here as the bodily experience of the process of creation, that here was not something that happened outside of my body, but as something that was going through my whole being. I now understand the urgency in my appreciation of this (set of) technical sketches: the urgency is in the timing, having to be quick as to grasp the sudden understanding of that bodily experience, at the unique moment when it passes through your skeleton like it passes through the body of the column you are chronologically drawing. This urgency, then, can be further pushed to the limit by the designing architect who knows this, by putting himself/herself sovereignly at that moment at that place, when and where the architect expects and experiences the bearing load that comes by, and once there, this urgency becomes The State of Emergency.

I refer to Sverre Fehn’s sketch, A Child’s Meeting with its First Column, from 1993. As Fehn contends, “the child holds himself up with the help of its mother’s leg, the first column in its life” (Fjeld 2009). As Juhani Pallasmaa argues, “The authenticity of architectural experience is grounded in the tectonic language of building and the comprehensibility of the act of construction to the senses. We behold, touch, listen and measure the world with our entire bodily existence and the experiential world is organized and articulated around the center of the body. Our domicile is the refuge of our body, memory and identity. 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. “I am the space, where I am,” as the poet Noel Arnaud established (...) As the work interacts with the body of the observer the experience mirrors these bodily sensations of the maker. Consequently, architecture is communication from the body of the architect directly to the body of the inhabitant (...) The structures of the building are unconsciously imitated and comprehended through the skeletal system unknowingly, as we perform the task of the column and the vault with our body. The brick wants to become a vault as Louis Kahn has said, but this metamorphosis takes place through the mimesis of our own body” (Pallasmaa 2006). While drawing this column, I have sketched variations on it, inspired by classic Greek columns. I had done so, not in order to just imitate a Greek column, but to better understand the concept of column. I wanted to become the column, I had worked myself a way into the Substantial Depth of it. Giambattista Vico, in his Scienza Nuova, argues that “As rational metaphysics teaches that man becomes all things by understanding them, imaginative metaphysics shows that man becomes all things by not understanding them (...) for when he does not understand he (...) becomes them by transforming himself into them” (Vico 1725).

The making of this chronological drawing, which is also the reasoning that goes with it, includes my understanding the column by becoming it, by transforming myself into it. In the making of this chronological drawing, I banked on my skills in sketching, the Greek skediazō, which also means: intending, and the speed of sketching allows for an immediate transit of intention from-mind-to-hand-to-paper-to-construction-site.

Incorporating actual construction practice implies knowledge of the building techniques. Instead of making a design first, and subsequently demanding the contractor to build it as it has been drawn, I first have checked the dimensions of the formwork panels system. These panels (Doka) are 250 cm high. So I immediately decided that this would be the height of the concrete walls, that start on top of the overall foundation slab. With an additional load of 21 cm on top of that slab—11 cm of polyurethane insulation, and 10 cm for the concrete floor with the floor heating—this leaves a visible concrete wall of 229 cm: the standing man with his measurer on the construction site of my childhood. On top of the concrete wall, a 6 cm wooden rafter receives the wooden rafters of the roof structure. Thus the height from the floor level to the bottom of the rafters is 235 cm.

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428  Is this word the ethymological origin of the English word to carry? The Greek Caryatids are women. Isn’t it the woman who carries the child for nine months, like she ultimately carries the roof of the house under every circumstance? Isn’t architecture the failing replacement of the mother’s womb?

429  See Section 2.3.3 / 3-2: The Emergence of Thickness, and the Concept of Section, and Section 2.3.4 / 2-2: The Eye Level in the Perspective, and the Coming of Time.
As for the three columns in the house, which represent three trees that have walked in from the adjacent forest, with the roof structure as their crown, I refer to Section 2.2.3 / 2-2: A Journey into Memory and Imagination.

Images of the construction site after hours, and pictures I took there, keep haunting me. Through these investigations I have come to understand that these images show the built result as it has been intended by the architect, who sees an intention (to dream) and a substantiation (to make) re-united. The division between time and space, between the moment of conception and the place of incarnation, has been lifted. In these haunting images, I have seen a glimpse of (my) future architectural practice.

I had to further investigate why I was haunted by the images I carry with me from the construction site of House B. I did not have a comparable construction site at hand, so I decided to design one: the Haystack Gallery.

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House B (2005-2007): studies of the columns: shafts, capitals, proportions, human scale. The tall standing man, definitely me in this case: 180 cm. My sudden understanding of the ancient Greek caryatid, and what she must have felt (and still feels!), and of the concept-of-column that, above all, is the concept of a man standing tall (me!), like the man in the excavation of my childhood.

Vertical steel plate, kept rigid by bolted L-section that carries the wooden rafters of the roof: gusset plates, bolts, rondels and nuts: triglyphs and metopes.


The Third Chronological Drawing, on which the whole concept of building this house suddenly triglyphs and metopes.

House B (2005-2007): images of the construction site keep haunting me, and would co-trigger The Haystack Gallery (2011-2012), see Section 2.4.5.
2.4.5  The Haystack Gallery (2011-2013)

For the Haystack Gallery, as a speculative design, I have grasped an image of a whole building in one drawing that predicts (my) future architectural practice, by which I mean that the creation process has been driven by the core Concept of Section, which has generated an architecture of which the visual result is the readable construction process (if built), which is: the Emergence of Thickness, anatomised (made visible) by the Concept of Section, as to demonstrate Depth.

Then, the visual aspect of the elevation coincides with the visual aspect of its section: the elevation = the section. In this section-as-elevation I can read the whole performance of ‘to make Thickness of Substance in order to generate to dream the Depth of Darkness’.

The Haystack Gallery is a shelter for sheep and hay, meant to be built in my garden, when I will have the time for it. It is one of the stages\(^ {438}\) of the drawing of The Meaning of Life—the third stage—I would like to build.\(^ {439}\) Starting with the core Concept of Section, it has been dug out in the landscape-as-section, economically making use of the inclination of the site. Like in House B-M, The Meaning of Life, and in Etude, I have chosen the exact location in the landscape-as-section in order to immerse my architecture completely into the one man Depth of the section-as-excavation, as seen from one side of the

\(^{438}\) See Section 2.3.5 / 3: The Meaning of Life.

\(^{439}\) I would also like to build the second stage of The Meaning of Life, which will be my future workshop. See Section 2.4.6: WoSho (1986-2013).
edifice, and as to have its main floor level on the level of the site seen from the other side of the edifice. Being part of The Meaning of Life, I want to make use of the excavated clay to produce the bricks in open brick works on the site, which is nearby the existing excavation out of which the bricks for our house have been produced on the site.\footnote{As I have described in the short story of The Meaning of Life (see Section 2.3.5 / 3-2).}

Subsequently, the Haystack Gallery has to be built with these bricks.\footnote{This is an aspect of making that I would like to learn: the production of my own bricks!}

Then, in the excavation-as-construction site, three thick brick walls retain the mass of ground around them—the emergence of Thickness—and immure a space to dwell in, with your back against the wall (the mound), and your eyes staring into the landscape (the overview). In the deepest part of the space, the birth of a majestic vault is situated at the floor level, too low for us to be there at the magic moment of its birth, whence a large semi-circular brick barrel vault spans the winterspace of the edifice, demonstrating a gracious arch in the anteroom. The winterspace vault disappears into the perspectival Depth of the Emergence of Thickness made possible by the Concept of Section, and no one knows how deep it goes. Deep in winter, my sheep can withdraw in the safe Darkness of this Depth as to give birth to their lamb. The level of the floor under the vault is two steps below the level of the floor in the anteroom. With the top of the arch about one man high (me, or you), when measured from the floor under the vault, it comes at the eye level, when measured from the floor in the anteroom, which allows a tall standing man (definitely: me!), standing in the anteroom, to be right \textit{there} at the magic moment of the insertion of the keystone.

The summerspace of the edifice, the anteroom, is protected by a series of small brick vaults with secondary steel girders, like the ones that crown my wife’s fashion workshop—a former stable. I have suspended these secondary steel beams (precisely cut at their edges) of the small vaults of the anteroom by steel rods that are suspended by the bottom flange of the primary steel beam\footnote{I need at least a HEB.600 steel section.}, precisely cut at its edges\footnote{I love the sections of steel beams.}, that rest upon two of the three brick walls that retain the emerging thickness of the landscape-as-section. The secondary brick vaults of the anteroom have to be put in place precisely by the mason, and together with the secondary steel beams, they demonstrate the Concept of Section as elevation of the edifice. Cutting the steel beams precisely at their edges adds to the presence of section.

On top of the central arch, a long stretched wall cuts a firm brick line through the topography, 120 cm high, as to form a windshield that retains the north for a sitting man.

On top of the majestic vault, and the small vaults above the anteroom, there is a layer of earth (what is left over from the top layer of the excavation of clay to produce the bricks with), aromatic herbs, and long grass.
2.4.6  WoSho

The WoSho project (WorkShop) is part of the greater ‘life-long’ project, by which I am treating the entire house, originally built in 1898, in which we live and work. I refer to Section 2.3.2 / 2-18: WoSho (1986-2013), of which I advise the reader to read it first.

In the current section, I will focus on the two workshops in this house: firstly on my wife’s fashion workshop, that has been refurbished in 2004-2007, and then on my future architecture workshop, which I would like to build in 2013.

The way the house and its context have been inserted in the landscape is demonstrated on the drawing of The Meaning of Life: this is the actual landscape-as-section in which the house sits. The story described in The Meaning of Life is the real story of the brick genesis of our house.

2.4.6 / 1  WoSho / Fashion (2004-2007)

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See Section 2.3.5 / 3: The Meaning of Life.
Two former stables, built by my wife’s grand-grandfather, had been transformed into fashion workshops during the early 1950’s, by my wife’s grandfather, for the production of Brussels lace. Subsequently, Ingrid’s father, and Ingrid’s mother, have done mass production of clothing there from the golden 1960’s until the end of the 1980’s. In the early 1990’s, my wife has come into the business, and the mass production has smartly shifted into small series of high quality designer clothing. These workshops needed a thorough refurbishment as to bring them to an up to date standard, and as to keep up culturally with the speeding fashion business that stretched from our small workshop to the Paris and New York catwalks.

I have clad the walls of the two former stables with rough black oiled cedarwood planks, in which hatches have been ‘invisibly’ integrated.445 Behind these hatches, there are doors and windows. Opening those hatches is performing the Concept of Section, which permits me to demonstrate the Thickness of the walls, closing them in the evening permits me to perform ‘to make Thickness of Substance in order to generate to dream Depth of Darkness’. It has become a daily ritual, closing the day with Darkness. Behind the planks, I have put thermal insulation.

In order to instate a physical experience of the Depth of the landscape-as-section, I have made a decisive section-as-excavation, that is a dark swimming pond with black water, in which the reflection of an old walnut tree adds to the Depth of the site.

I have paid a lot of attention the the architectural details: the huge sliding door opens the courtyard onto the old orchard or closes it to become an intimate courtyard again, the zinc shed446 that protects this door and physically connects the two workshops, the ‘invisible’ connections of the cladding and the hatches for which I had to look for elongated hinges, the sharp griffin that spits rainwater into a concrete barrel, the worn out piece of plywood—a preliminary definitive solution447—that makes the rainwater fall into the black pond, the two different roof overhangs, the zinc roof rims, another three big sliding doors in the project, …

The black bricks on the floor of the courtyard, the closed black volumes of the workshops at each side of it, and the black pond, work as a camera obscura and open a view on the old orchard and the sloping landscape. The courtyard is a tribute to Alvar Aalto’s Summerhouse (Aalto 1953).


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445 This treatment of substance is reminiscent of Aalvar Aalto’s secondary buildings, sheds actually, adjacent to his Summerhouse (Aalto 1953), to Peter Zumthor’s Shelters for the Roman Archaeological Site (Zumthor 1985-1986) and his former House and Atelier (Zumthor 1985-1986), and Kengo Kuma’s Nasu History Museum (Kuma 1999-2000), his Soba Restaurant (Kuma 2002-2003), and Satoshi Okada’s House on the Mountain Fuji (Okada, Tomiyama and Aida 2000).

446 This shed is reminiscent of Alvar Aalto’s green copper shed that connects separate wings of his House of Culture (Aalto 1955-1958).

447 Quickly improvised by my father and me. Jazz.==/=//=/=/==//=/=89/*/*


449 See Section 2.3.2 / 2-11: Summerhouse, and Section 2.3.4 / 6-1: Summerhouse (2001-2004).

450 See Section 2.4.3: The Boathouse 1 and The Boathouse 2 (2008-2012).


Still, looking at my work, I appear to make architecture as closed volumes of Substance, with often coarse, layered skins, to be peeled off one by one in order to unravel the enigmatic—only partly—yet through the difficult deciphering of the labyrinthine—the built-in resistance in my work.
WoSho Fashion (2004-2007): coarse, rough, Substance, construction practice, the precision of a piece of furniture, the craftsman, the draftsman’s trance in detail.
WoSho (2004-2007): Study of the sliding door of the courtyard, the zinc roof overhang of ‘the small fashion workshop’ (de kleine atelier) on the left, and the zinc downspout.

I have designed the right roof overhang (deliberately different from the left one, not wanting to do things twice) of ‘the big fashion workshop’ (de grote atelier) in the making, without drawing it in advance (see photographs). This drawing for the left roof overhang has been made overnight, between the making of the right one, knowing that my carpenter wanted to make the left one the morning after …
Finally, WoSho / Architecture (1986-2013) is an upcoming project—my new workshop, hence WoSho—that encompasses all my experience as an architect, and my new knowledge coming forth from this research, and by which I want to penetrate into the future direction of (my) architectural practice. Here, the Concept of Section is the section-as-design: literally it is cutting in a wall, tearing this cut open, and having the wound as the only element of my intervention in an existing architectural situation.

In this project, my core concepts are the design, the design-as-Concept-of-Section that demonstrates the Thickness of the brick wall, and all the other categories I have found through this research are at the service of it, but will only be applied when needed at this Theatre of Operations.

In an existing brick wall, I omit a number of bricks ‘at random’, tagging the happenings of gravitation, like a demolisher would do. I do not know how many yet, since this will depend on how the wall behaves when I open it. This will be construction site as architectural design.

All I will need are stanchions, and a hydraulic jack at hand, and as the wall is being teared apart, I will bring these stanchions, and the jack, into the section at the right moment and the right place. Then, depending on my judgement, I will decide on the moment I consider the section in the wall as big enough to look into the adjacent open landscape, from the eye level in the perspective of the tall standing man—definitely me here in this case! (who else, I’m the man!) This will be the moment when the construction works are finished, apart from a glass pane that I subsequently will add at the outside of the wall.
This description, and the few drawings that I include here, will be all that I bring to the construction site and the craftsmen, who will have to assist me on the Theatre of Operations: construction site as architectural design. Apart from the floor heating, and a few light bulbs, this will be my new workshop.
WoSho / Architecture (1986-2013): on the left: (part of) the fashion workshop, on the right: the main building with the Thickness of the wall that I will tear open. The tree is an essential part of the design, part the aprioristic condition.

WoSho / Architecture (1986-2013): the Concept of Section, first drawing of the concept.

WoSho is a part of The Meaning of Life. It is the house on the right of the drawing. The house has been generated by the excavation (left), and it has generated The Meaning of Life.
WoSho / Architecture (1986-2013): In this project, my core concepts are the design, the design-as-Concept-of-Section that demonstrates the Thickness of the brick wall, and all the other categories I have found through this research are at the service of it, but will only be applied when needed at this Theatre of Operations.

In an existing brick wall, I omit a number of bricks ‘at random’, tagging the happenings of gravitation, like a demolisher would do. I do not know how many yet, since this will depend on how the wall behaves when I open it.
tafel: 2 balthu+ glazen blad.
hoofdtafel = snijtafel + schaal + bestelkip, mmm
bouwplaat+richtbaarmiddelzaken

Raamhaard en buitenezig
of hoog met pentlac?
WoSho / Architecture (1986-2013): I don't feel like preparing more documents than the ones demonstrated here. Instead, I just want to do it, and see what happens on the Theatre of Operations.
Section 3  Conclusions

THE STATE OF GRACE:
When I embarked on this research, it was my firm belief that an architectural design started with to dream a poetic image, that subsequently had to become to make in substance. The genius brain of the architect should impose its will on the ignorant matter of the world. I was confident that my research simply would be to map this unidirectional process from to dream to to make, and that would be it. I was residing in the State of Grace.

THE CRITIQUE AND THE SHIFT:
But by going deeper in my investigations I have become aware of the false nature of my State of Grace. I have formulated a critique on it. My initial convictions began to shift. My critique was about the assumed uni-directionality of the process from to dream to to make. I decided that my research should be a test to find out whether my critique was legitimate.

466 See Section 2.2.2: A Critique on my Initial Research Theme.
467 See Section 2.3. The Shift.
To perform this test, I have done this Ph.D by project, and my research has started from, and goes back to architectural practice. The research has been done through design actions, and observations of design actions, continuously complemented by reading, writing, presenting, and discussing with peers and academics.

I have gone undercover, being witness and accomplice, and now I come back to inform you about what I have seen and done on the crime scene.

Some of the projects described have been like a crime scene investigation (the projects of my practice). Other projects have been rather a crime scene reconstruction (My Grandmother’s House, The Excavation). In still other projects I have committed ‘new crimes’: the Ph.D Designs (in which I could amplify design aspects under scrutiny), and the new designs in the State of Emergency (in which I could test my findings through a first series of applications).

I had to feel the kick again, just to be able to tell you how it works.

Through investigations on my work, and on the work of other architects, through making new designs in the core of this Ph.D., through reading, writing, presenting, through self-validations and peer reviewed presentations and discussions, I have worked my way through this research, and done my wondrous discoveries.

My contribution to the field is a manifold, but all elements of it hide under my basic argument: a creation process in architecture all too automatically is accepted as a unidirectional process that starts with the poetic image (π), that subsequently is substantiated on the construction site. I have called this acceptance The State of Grace.

π → ©

THE FIRST INTERROGATION OF THE PRACTICE:

Through the First Interrogation of the Practice, I have investigated a selection of my work (data, input) in its communities of practice (context). I have made fieldnotes (annotated thumbnail drawings), and processed these data (open coding). Doing so, I could begin to give conceptual labels to phenomena of which I could see the importance through repetition in the samples of my work, which are:

- architectural drawings, mostly vertical sections;
- the eye level of a standing man;
- building materials (substance);
- drawing materials (pencils, paper);
- scale modeling;
- collaboration with craftsmen;

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468 See Section 2.3.2: The First Interrogation of the Practice, and Section 2.3.4: The Second Interrogation of the Practice.
469 See Section 2.3.3: The Concept of Mental Space.
470 See Section 2.3.5: The Ph.D Designs.
471 See Section 2.4: The State of Emergency.
THERE STILL IS A GAP!
But I that there still was ‘something else’ in there, underneath my habitual ways of seeing, calling for discovery. I did not understand what these conceptual labels were there for, or what they did, and how they did it.
This has been the moment when the concept of Mental Space (Van Schaik 2008) has entered and triggered the shift in my research.
This moment has been the FIRST TURNTABLE of the Ph.D.

THE CONCEPT OF MENTAL SPACE:
The investigations on my mental space have unveiled two eidetic moments that constitute my spatial intelligence (van Schaik 2008): My Grandmother’s House, and The Excavation.

My Grandmother’s House has unveiled a set of four basic design themes, that I also could find, and finally understand, scattered in my works, and in the works made by other architects and cultural actors who contribute to my argument.

These four basic design themes are:
− Thickness
− Substance
− Depth
− Darkness
A number of sub-themes connect these major four themes, and further load them with detail and anecdotes: the aspect of co-presence of these themes, the enlightening aspect of Darkness, and the labyrinthine slowness.

The Excavation has revealed two elements, which I would like to call the aprioristic conditions, without which my mental space cannot exist, and without which the investigated work could not have been made or understood. As such, I take them as a given.472
− The Emergence of Thickness (and The Concept of Section)
− Depth as the First Dimension
The Emergence of Thickness clearly is the basic layer, the landscape, the carrier of my Mental Space.473 Depth as the First Dimension is the nature itself of the Emergence of Thickness.
The Emergence of Thickness is what has to be anatomised, the Concept of Section is there to anatomise with, and Depth is what I anatomise for.
The Emergence of Thickness (and the Concept of Section), and Depth as the First Dimension are the aprioristic conditions that have to be fulfilled in order to perform the basic design themes of Thickness, Substance, Depth, Darkness.

THE SECOND INTERROGATION OF THE PRACTICE:

472 My further research has revealed that I can refer every site to them. I can take these aprioristic conditions as a given.
473 See Section 2.3.3 / 4: Conclusions on My Grandmother’s House and The Excavation: the Cave and the Tower.
With the intermediary research output of the investigation on my mental space, I have embarked on the Second Interrogation of the Practice. The criteria had become more precise as to do a better oriented selection of the work (data, input) in its communities of practice (context), and as to focus in a more directed way on the practice. In this process, further development of my conceptual labels has taken place, and I have continued to look for indications of them in the investigated work (axial coding). I have permanently processed these data through memo writing, writing, presenting, and discussing.

Doing so, I have found a series of concepts that are applicable as to perform my basic design themes in their aprioristic conditions, as found through the investigations on my mental space.

These concepts I have found in this stage of my research are:

1. The Eye Level in the Perspective / the Labyrinthine;
2. Borrowing from Tektonikos;
3. The Chronological Drawing / Chronology on the Drawing Table;
4. Designing in Substance / Substance on the Drawing Table;
5. The X-Ray-Drawing;

These concepts are co-present, intertwining, overlapping. Possibly, their number will change over time, as (my) future architectural practice and research can be further refined as to produce new information. There always has to be room for improvement.

Together, and applied in the aforementioned aprioristic conditions, the concepts are the tools, necessary to perform the basic design themes of Thickness, Substance, Depth, Darkness, which is:

- to perform (to make Thickness of Substance) in order to generate (to dream Depth of Darkness), or
- to perform (to make) in order to generate (to dream), or
- to perform © in order to generate Π
- to perform construction practice in order to generate the poetic image

THERE IS ANOTHER GAP!
Having found these concepts scattered over a number of works from the past practice, there still was the question whether and how the interplay of these concepts in the aprioristic conditions would work while designing in the present. I did not wait until the Second Interrogation of the Practice was finished, as I went into the design-mode, parallel and simultaneously with the Second Interrogation of the Practice: the Ph.D Designs.

THE PH.D DESIGNS:
The Ph.D Designs not only served to test the emerging concepts of the Second Interrogation of the Practice, but these ‘designed’ design processes also assisted in their forthcomings.
Through the Ph.D Designs, that went parallel to the Second Interrogation of the Practice, I could bring the conceptual labels, emerging from the First Interrogation of the Practice, in the centre of my lens, from where I could amplify them, because the Ph.D Designs enabled me to adapt the design parameters specifically to the phenomena under scrutiny (and to omit the ones that were irrelevant in the specific design context of these tests). Doing so, and operating under the aprioristic conditions, the set of concepts that was emerging from The Second Interrogation of the Practice, appeared to perform very well in the ‘designed’ design processes of the Ph.D Designs (as has been proven by their design results which I have demonstrated in the Ph.D), and their good performance was clarifying, confirming and consolidating.

All this was beginning to feed my presumption that, if the (amplified) application of this set of concepts in the aprioristic conditions appeared to perform (to make Thickness of Substance) in order to generate (to dream Depth of Darkness), or to perform construction practice in order to perform the poetic image that they might also do so in ‘undesigned’ design processes, by which I mean: in my future architectural practice, banking on my belief that, by doing so, I could improve the latter and lift it to a next level.

Going into the design-mode for the Ph.D Designs has been THE SECOND TURNTABLE of this Ph.D, and it has helped me to cross the last threshold into the State of Emergency.

THE STATE OF EMERGENCY:
Now, I had gone through the shift, and I had entered the State of Emergency.
In this stage of the process, all the concepts began to group around a core concept, and concepts “that need further explication are filled-in with descriptive detail” (Corbin and Strauss 1990), mostly found by designing.

As demonstrated through the previous research steps, the core concept of this research clearly is the Concept of Section.

The Concept of Section is also centrally present in the 2 aprioristic conditions by definition: The Emergence of Thickness and The Concept of Section, and Depth as the First Dimension. The Emergence of Thickness is what has to be anatomised, the Concept of Section is there to anatomise with, and Depth is what I anatomise for, in order to find or make it.

Depth, then, is the connection (interface) between the 2 aprioristic conditions and the 4 basic design themes.
The Concept of Section, then, is the connection (interface) between the 2 aprioristic conditions and the 4 basic design themes.
The Concept of Section, thus, is indispensable as to perform ‘to make the Thickness of Substance in order to generate to dream the Depth of Darkness’.

In The State of Emergency, I have started with the explicit application of the core Concept of Section, with the set of other concepts around it, in real (future) architectural practice, that ‘by definition’ happens in the aforementioned aprioristic conditions, in order to perform (to make Thickness of Substance) in order to generate (to dream Depth of Darkness), or to perform (to make) in order to generate (to dream), or...
In The Boathouse 1 and The Boathouse 2, a design process that has continuously tagged the research process, a continuous and consequent application of the core concept of section, with the set of other concepts around it, has lead to perform (to make Thickness of Substance) in order to generate (to dream Depth of Darkness).

In a project from the past practice, House B (2005-2007), I had found haunting images of the construction site that, back then already, felt like prophetic for my future architectural practice, because these images were all section. Not coincidentally, these images have triggered the design process of The Haystack Gallery (2011-2013), in which I have made a design as section, and a section as elevation.

Finally, in WoSho / Architecture (1986-2013), I have encompassed the whole practice and the whole research in the most dense application of the concept of section, bringing Design-as-Section directly to the Theatre of Operations: Construction Site as Architectural design.

Through all these research steps, my research has revealed that my critique on the assumed unidirectionality from to dream to to make, what I have called the State of Grace, is legitimate, that the process of creation, which includes the substantiation, is much more negotiated, two-directional, and that, in my work, and in the work of architects and cultural actors who contribute to my argument, the poetic image is often triggered by construction practice (©). The dream is triggered by the Substance.

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474 See Section 2.4.3: The Boathouse 1 and The Boathouse 2 (2008-2012).
476 See Section 2.4.5: The Haystack Gallery (2011-2013).
As for the future directions for (my) architectural practice, this research is meant to be at the service of architectural practice, which is a twofold.

On the one hand, the findings of this research can directly be applied in architectural education. More specifically, it is my intention to apply the core Concept of Section through the concept of Chronological Drawing and the Concept of X-Ray-Drawing intensely in the upcoming workshops with (my) students, the future generations of architects. On a meta level, this means that I will (re)instantiate the status of the architectural drawing in my contribution to architectural education, and in this (re)instantiate, the drawing-as-section should have a central place. Note that this includes the scale-model-as-section, as I see making scale models as one way of drawing three-dimensionally in substance, hence the importance of the scale-model-as-section in the exhibition concept of this Ph.D.

On the other hand, the findings of this research are directly applicable in architectural practice, more specifically construction practice. In the different kinds of actual architectural practice Leon van Schaik explained to me, in a personal conversation on 26 April 2012 in Ghent, I could situate the kind of practice I want to serve with this Ph.D: neither do I want to instate an architectural practice that wants to change the world by every next project478, nor a practice that tends to be ‘popular’.479 The subjects and concepts under scrutiny here tend to serve a practice of realism, described by van Schaik480 as “shining torches in a dark world and say: what can I do for you?”, adding that my preferred mode of operating was not situated in full scale field work, nor in abstract mathematical or digital research, but in the attitude of the bricoleur who works his way through the design (and research) process with traditional tools: sketches, drawings, scale models, conversations, relying more on ‘strong idea’ (which includes risk during the process481) than on strong delivery or strong service. And this is the kind of practice, and the kind of architectural education that leads to it, that I want to serve through the investigations of this Ph.D.

In order to improve the applications of the concepts as generated or discovered or named by this Ph.D, further research is required. As for the Chronological Drawing, I pragmatically have applied it in the design processes from the practice I have investigated and demonstrated in this Ph.D, I have brought it from a rather implicit pragmatic application to the level of an explicit concept, I have given it a name. It is my intention to do further research on this concept, by making new versions of it, which has already taken a start, as to test its possibilities and to refine its procedures for the benefit of architectural education and future architectural practice.

As for the X-Ray-Drawing, I have pragmatically applied it in the design process of House ST482, and New Stairs.483 In the former’s design process, I have pragmatically applied it, thinking I was making just a drawing to serve a specific project but not seeing the conceptual potential of it, whereas in the latter’s design process, I was already beginning to see the conceptual nature of it. It is my intention to investigate this concept further, in connection with the possibilities offered by CAD-systems, possibly developing a real application tool for it. As for the latter, I have already done tests on the plans and sections of house DG-DR with simple Vectorworks tools, which are very promising. The systematic nature of the concept of that house allows for a systematic application of the Concept of X-Ray-Drawing. In this test, I have also experienced that the application of the Concept of X-Ray-Drawing, an act of making, might generate a specific poetics in a design, which is another demonstration of how to make can generate to dream, and which certainly deserves further research.

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478 We talked about Mies at that moment.
479 Leon van Schaik used the word ‘populism’ at that moment.
480 Still in the same conversation that lasted less than an hour, a very clarifying hour though ...
481 See Section 2.3.4 / 5-1: The Acute Moment of Emergency.
483 See Section 2.3.5 / 2: New Stairs (2010).
To do this additional research on multilayered contexts and the inevitable chronology, transdisciplinary research with a music composer is in preparation, also banking on fruitful research we have done together.\textsuperscript{484}

As Leon van Schaik argues: “To some extent we can blame our profession for what has happened. Every true profession nurtures an area of human knowledge and takes care (to the best of its ability) of that knowledge for society. Think of Medicine and Law. When architecture was professionalised in the 1840’s it sought out as its ‘body of knowledge’ the notion of being Master Builders. (…) Our architectural forebears went to the heart of the making of architecture—its technologies of carving, moulding, draping or assembling—when they staked their claim to be caretakers of a body of knowledge for society” (van Schaik 2008).

Evidently, I do not want to isolate this body of knowledge of making from our poetic ability of the creation of space, and this is my reason to position the second arrow in my basic scheme. The process is negotiated. It goes both ways.

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The creation process of the work is not analytical, though it may be analysable. The intense stream of consciousness in the full flow of creation is one of synthesis, not of analysis or division in categories.

The stream from substantiation (incarnation) to the architect’s soul is hardly controllable, indeterminate, full of conflict. Note that, in my contention, the soul of the architect is utterly affected by the flesh, and that it stands as close to the body as it stands to reason, starting from my belief that the human brain is primarily a part of the body. The real art-of-the-architect is in the way he/she masters this stream, makes it happen by being in command of it, based on his/her understanding of it. But as much it is about the way he/she lets it be, as well in the ‘on’ as in the ‘off’ mode.

It is about greeting it when it happens.

\textsuperscript{484} I refer to the transdisciplinary research project \textit{New Feet for 5 Years a Minute}, that I have done in cooperation with music composer Jeroen D’hoe Ph.D (Juilliard School of Music, New York), in which we investigate, and compare, the limitations of unidirectionality of time (music) with the limitations of unidirectionality of gravitation (architecture). This project, basically, is also about chronology in the process of making.
“What are you doing?” (A)

“I’m counting the stars.” (B)

“You really know all their names?” (A)

“Yes I do.” (B)

“How many have you counted?” (A)

“A hundred!” (B)

“There is more than a hundred!” (A)

“I know.” (B)

“Why did you stop?” (A)

“A hundred is enough. Once you’ve counted a hundred, all the other hundreds are the same.” (B)

(A) is Cissie Colpitts (grandmother), (B) is Cissie Colpitts (granddaughter).
Dialogue between a grandmother and her granddaughter, both named Cissie Colpitts (opening scene of Drowning by Numbers)(Greenaway 1988).