phenomenology of
cladding tectonic

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In architecture, the tectonic provides an expression of construction and structure, i.e., a formal expression of the acting forces within a build structure and the way in which these forces are passed to the earthwork, to the foundation. The perceived expressive potential of a building and its elements, being subjected to gravitation, creates a tension between actual forces in play and their possible symbolic representation. Karl Bötticher’s theoretical subdivision of the tectonic into the core-form and the art-form – metaphorically applied as core and shell in Werner Oechslin’s book “Stilhülse und Kern” – provides a description of this reciprocity. For Karl Bötticher, core-form stands for the inner or core, the mechanically or statically necessary, whereas art-form stands for the visible, the outer or shell. The latter has, according to Bötticher, the specific task to explain the structural essence of the former. An architecture based on the concept of the tectonic, constitutes an action that transmutes the being of individual elements, and their conjunction into a single expression, resulting in an aesthetic experience of structure. In general, though, building users will not be able to provide a satisfying answer when they are asked how the elements of which a building consists can be subdivided into “core” and “shell”. As a result, the distinction between core-form and art-form seems to be functioning as code language within architectural theory, since it can only be sufficiently understood when having the right theoretical background.

An example of the relationship between core form and art form, which is closely related to architectural theorist Gottfried Semper being inspired by Hellenistic architecture, would be the transformation of a Doric column by applying entasis, a convex curve, to its surface (Fig. 01 and Fig. 02). The heaviness – importance – of the architrave is visually strengthened, not only by using strong columns, but more effectively by giving these columns the appearance that they slightly deform due to the vertical pressure they have to absorb. In this way the symbolic form of the columns expresses their bearing function to an extreme. Such symbolism was used by Gottfried Semper in his buildings, using his Bekleidungstheorie (theory of cladding), to convey this code language to the people and consequently making architecture readable again.
To explain the relation of Gottfried Semper’s “theory of cladding” and Bötticher’s “tectonic”, which are both important themes within architectural theory, I would like to introduce the term “cladding tectonic”. It explains the metaphorical use of the core-form and art-form as respectively core and shell, inner and outer. Fig. 03 shows three essentially different ways of dealing with the core-form: uncladding (showing the skeletal structure so that core-form and art-form merge into one), accentuating (showing extremities to emphasize the tectonic being of visible elements), or concealing (covering with a cladding that either does, or does not represent the structural function it covers).

How does such theoretical code language relate to the way in which users perceive a building when encountering it, when being surrounded with its cladded structure; are they able to perceive the theoretical separation between core-form and art-form in a phenomenological way? Instead of merely focussing on such knowledge of the tectonic, would we be able to provide arguments for the importance of an embodiment through sensory perception, through suggestions of movement and synesthetic characters? What about the honest use of material and structure which is put central within theories on the tectonic, is this still relevant? Or should this aim for honesty rather be put aside to make room for the creation of atmospheres and intentional acts? These questions emanate from the awareness that the scientific model as a simplified abstract view of reality directed us away from those things that seem to be more important, resulting in an increased distinction between architectural theory and the way one experiences architecture bodily. This distinction is described in this essay as the way in which theorists like Bötticher, Semper, and even Frampton provide architectural code language and the question whether such code language can actually be perceived by users of buildings. Implicitly, the question arises whether building designs merely serve the field of architecture as a theoretical profession or the people who actually encounter such buildings through perception. From this we can state that the questioning of the relation between theoretical code language and actual perception by the users concerns both architectural theory and building users, and additionally the architect who in the best case involves both in his designing. If we can get hold of this relation, architecture can be made readable and perceptible again through the users bodily interaction with it, adding meaning to the way in which we are present in the built environment that surrounds us.

Along with the thorough research into “the constantly evolving interplay of three converging vectors, the topos, the typos, and the tectonic”, as stated by Kenneth Frampton, the posed questions give rise to the theme of this essay: a phenomenology of the cladding tectonic. In his book “Studies in tectonic culture”, Frampton criticizes, and even polemizes the poetics of construction in nineteenth and twentieth century architecture in a rational way. Here too, there seems to be a focus on knowledge of the tectonic and code language, including Bötticher’s and Semper’s theoretical approaches of the tectonic, whereas the phenomenological aspect of the cladding tectonic is disregarded largely. As we have seen with Bötticher and Semper, this leads us to the question whether such a rational approach is able to provide a complete representation of the cladding tectonic, which is a question about the importance of all elements of human experience.

At the same time, a reaction on Semper’s ambition to make buildings readable again is provided, by questioning whether or not this ‘readable’ aspect within the theories of Semper, Bötticher, and Frampton is satisfactory. Instead of the application of symbols as they can be found in the ‘classical’ tectonic – to emphasize that forces are passed to the earthwork, the foundation, where a meaningful separation is made between appearance and actual forces – in a phenomenological approach, the play of forces would become bodily perceptible. In accordance with this ascertainment, the phenomenologist view of Maurice Merleau-Ponty should be mentioned, in which he suggests that “the value of people’s experience of the world, gained through their immediate bodily engagement with it, remains greater than the value of understanding gleaned through abstract mathematical, scientific or technological systems”. This leads us to the question whether Semper’s ambition can be amplified by searching for ways to turn the readable aspect into an aspect which is bodily experienced.

Frampton included one of the few phenomenological approaches of the subject matter in the section called “corporeal metaphor” which is part of the chapter “introduction: reflections on the scope of the tectonic”. Here, he addresses the capacity of the being to experience architecture bodily, and refers to a remark made by Scott Gartner on embodied experience in contemporary architectural theory. Gartner states that “the philosophical alienation of the body from the mind has resulted in the absence of embodied experience form almost all contemporary theories of meaning in architecture. […] Within this framework of thought, the body and its experience do not participate in the construction and realization of architectural meaning”. It remains unclear at this stage, unfortunately, whether Frampton criticizes Gartner or embraces his approach.

At the end of the section “corporeal metaphor”, Frampton provides a short description of how one moves from entry to council chamber – form earthwork to framework - of Alvar Aalto’s Säynätsalo Town Hall (Fig. 04 and Fig. 05), along the way encountering a sequence of contrasting tactile experiences. “From the stereotomic mass and relative darkness of the entry stair, where the feeling of enclosure is augmented by the tactility of the brick treads,
one enters into the bright light of the council chamber, the timber-lined roof of which is carried on fanlike, wooden trusses that splay upward to support concealed rafters above a boarded ceiling. The sense of arrival occasioned by this tectonic display is reinforced by various non-retinal sensations, from the smell of the polished wood to the floor flexing under one’s weight together with the general destabilization of the body as one enters onto a highly polished surface. Even though this description is rather limited, it shows a phenomenological awareness of how the tectonic expression and tactility of present materials determine the perception of rooms as a result of their direct relation to the user’s body. However, the mere absence of further phenomenological analyses of the cladding tectonic throughout the book, queries the importance of embodied perception in his theory, and in architectural discourse in general. Therefore, the embodied experience of cladding tectonic will form the central theme of this essay, stating the research question as follows: “How to deal with the apparent neglect – as in Frampton’s rational approach of the subject matter – of the way in which the cladding tectonic presents itself to the human body, i.e., in what way can the cladding tectonic provide embodied knowledge to direct the analytic ways of knowing the world?”

In order to provide an answer to the research question, the following chapter will show the importance of the phenomenology of cladding tectonic, transcending that of rational knowledge. It will refute the currently dominating theoretical approach of architecture and consequently show that the phenomenological approach can give back to architecture that it is not an accumulation of separately nameable characteristics, but rather provides situations to which one shares experiences through a bodily and leibliche resonance. This will be explained by means of Merleau-Ponty’s philosophical approach of the world. In addition, chapters 3, 4, and 5 will individually consider the theories on this subject matter of Remy Zaugg, Gernot Böhme, and Hermann Schmitz - chapter 3 will consider the way we perceive objects and the world by considering Remy Zaugg’s theory which he explicates in his book “Die List der Unschuld: das Wahrnehmen einer Skulptur”; chapter 4 will consider in what way atmospheres can be related to our perception of cladding tectonic by considering Gernot Böhme’s phenomenological thinking; chapter 5 will consider what role Leiblichkeit plays in relation to cladding tectonic by considering Hermann Schmitz’ phenomenology. Then, in chapter 6, their theories will be implemented and exemplified with an analyses of two case study projects - the philosophical table “Thinking Tectonic Drapery” and the industrial “Brikkenbouw”. Finally, by way of conclusion, the most important points of the above chapters will be summarized and reflected upon.
2. a phenomenological approach

The questions that were formulated in the introduction clearly focus on the border between knowledge and perception. Before starting our search for an answer to these questions, a sufficient understanding needs to be obtained of how we perceive the world in which we live. Therefore, in this chapter, the perceptive side of the border will be elucidated by extracting statements from Maurice Merleau-Ponty’s phenomenology, who strongly based his work upon accounts of perception. He states that «the world is the always presupposed foundation of all rationality, all value and all existence». This shows that phenomenology approaches the world and things in an unprejudiced manner, without reference to knowledge. Instead of focusing on that which is known or taught, the so-called “phenomenological reduction” completely focusses on that which is experienced.

Merleau-Ponty based his phenomenology heavily on the work of Edmund Husserl, who can be called the principal founder of phenomenology. Both philosophers criticize the philosophical thinking of Descartes, who claimed that rational or scientific knowledge transcends knowledge that results from sensory perception. Merleau-Ponty opposes Descartes’ dualism - the strict separation of thought and perception - by saying that «the perceived world is the always presupposed foundation of all rationality, all value and all existence». Since we are referring to the border between knowledge and perception, what should be added at this point, is that «rather than rejecting scientific and analytic ways of knowing the world, Merleau-Ponty simply wanted to argue that such knowledge is always derivative in relation to the more practical exigencies of the body’s exposure to the world».

Corresponding to Husserl, Merleau-Ponty claims that «our body enables us to approach the world; through our body we act in the world we are living». With his view of “being-to-the-world”, Merleau-Ponty pleads for an emphasis on existence instead of consciousness, stating that «before things are ascribed a theoretical meaning through the intentionality of the conscious, they already are given meaning resulting from the way we relate ourselves to these things». In other words, things mean something to us due to our bodily relation with them. This return to the things and the world, preceding theoretical knowledge and science, is what Merleau-Ponty calls “embodied knowledge”. It describes how we perceive the world through the body when interacting with this world. According to Merleau-Ponty, this interacting requires both the world (object) and the body (subject) to exist, which is called “intentionality”. Interesting is the way in which Edmund Husserl distinguishes not only the intentionality of a “perceived” object, but also that of a thought object and a recalled object, which are to him different intentional acts. Important is the realization that, according to the phenomenological reduction of the natural attitude – i.e., the return to the things and the world, «this [intentional act] is not a reference to the real object but to the meaning of that which appears to me».

The intentionality of the thinking body arranges the physical space and interprets the architectural qualities that surround it. One could say that the phenomenological way of encountering reality provides a direct description of the phenomena we experience. A phenomenon would be best described as a directly observable occurrence that is perceived by an individual, though present to all human beings. Basically, phenomena form the true connection between a sensing body and things within its surrounding space; they enable us to perceive the world we are living in. Concerning this perception of the world, it is important to look into the ways in which phenomena touch our bodily experience. «The perception of phenomena starts on a subconscious level and, as a result, it mainly remains inaccessible to our consciousness». This actually means that perception partly precedes our reflecting consciousness; it is a pre-reflective activity. When referring to the conscious part, sensory perception can be subdivided into the five senses – sight, hearing, taste, smell, touch – of which sight dominates in architectural theory, classifying architecture as a visual art. Opposed to this focus on mere visual perception, architectural theory and design would need to give more attention to the intertwining of our senses, as part of our being-in-the-world; «to perceive is to grasp the unified structure of the thing, its unique way of being which speaks to all my senses at once». In addition to the sensory perception belonging to the human body, philosopher Hermann Schmitz distinguishes the perception through the Leib, naming this way of perceiving “Leibliches Spüren”, which will be focussed on in chapter 5.
3. **Remy Zaugg on perception**

The way of perceiving the world in which we are bodily present will be further explained in this chapter, referring to Remy Zaugg’s book “Die List der Unschuld: das Wahrnehmen einer Skulptur”. Its intellectual content is used as a strategy in the work of the architectural office Herzog and de Meuron13, of which an early designed building will be phenomenologically considered in this chapter. This building can be seen as an acknowledged example of how the cladding tectonic and phenomenology of architecture can become intertwined. In this book, Zaugg extensively approaches a sculpture by Donald Judd, named “Untitled (six cold rolled steel boxes)”. Zaugg’s approach of this work of art shows similar questions of the way in which the work of art is perceived and interpreted by the visitors of the museum. Since I did not visit this very building, yet, I will focus on two pictures of the façade (Fig. 08 and Fig. 09) to consider its actual phenomenological working, restricting myself to that which can be perceived in these pictures. A strong difference becomes immediately apparent. Fig. 08 shows the seeming heaviness of the building due to the pitch black openings between the panels, which I now call openings but are from a distance not necessarily perceived as such. Opposed to the wood drying to which Herzog & de Meuron refer, for which the passing through of air can be seen as a knowable necessary condition, this impenetrable blackness is not perceived at all as being open for air to pass through. Of course, this is caused by the fully closed box to which the façade is connected. On the other hand, Fig. 09 represents the corner detail of the façade which opens up because of the way the fiber cement panels are mutually positioned. Whereas the in-between spaces remain rather dark, the corner detail forms a stronger approach of making observable that air is flowing through the structure and rain is dripping from the panels, unable to enter the structure. Both aspects can be stated to be experienced and therefore precede knowledge. Considering the Ricola Storage Building by Herzog & de Meuron, Brodrück claims that »this understanding of how a context affects perception plays a part in the positioning of the Ricola warehouse in Laufen [...] H&dM comments: “The decision to build the warehouse there gave us the possibility to make the wall a more consciously perceived landscape in itself. Our architecture tries to strengthen what exists, to pull it into the realm of the perceptible. Here, it is the essential constitution of the building and bedrock walls which is significant. Similarities as well as differences are to be understood without coding”«14 In addition to the strengthened perception of context, considering phenomenology, it is not the play of forces which forms the main theme of this building though rather its reference to the numerous saw mills of the area. These mills pile up wood in such a way that air can pass through. As a consequence, the wood is able to dry while remaining protected from weather influences.

Herzog & de Meuron applied this principle in their design of the Ricola Storage Building, to make visible the necessity of air to pass through the wooden structure of the façade holding the stored fiber cement panels. Although they are known to add meaning to their architecture through its expression, it is interesting to ask whether Herzog & de Meuron achieved this in a phenomenological way in this building or that it is rather based on knowing. Since I did not visit this very building, yet, I will focus on two pictures of the façade, considering phenomenology, it is not the play of forces which forms the main theme of this building though rather its reference to the numerous saw mills of the area. These mills pile up wood in such a way that air can pass through. As a consequence, the wood is able to dry while remaining protected from weather influences.
natural attitude in phenomenology pleads that this intentional act is not a reference to the real object but to the meaning of that which appears to me. Brodrück further states that «only the intention of the spectator can raise a difference between the actual boxes, and the image these boxes evokes».17

The compressed description of Zaugg's approach of the sculpture by Judd and the way this approach can be related to the perceptive aspect of architecture, showed us that phenomenology can be used as a means to read the meaning that is added to architecture, in this case the Ricola Storage Building. To put it differently, it was shown that the meaning that was added by Herzog and de Meuron can be understood immediately through mere perception when being close to the building, when being willing to open up with those perceptive qualities. This receptivity is what Hermann Schmitz calls "aesthetic attention".

Fig. 06. "Six rolled steel boxes" hallway Kunstmuseum Basel

Fig. 07. transition space hallway Kunstmuseum Basel

Fig. 08. facade, distant view Ricola Storage Building

Fig. 09. facade, corner detail Ricola Storage Building

4. Gernot Böhme on atmospheres

In order to take a subsequent step towards the interlinking of the cladding tectonic and phenomenology, this chapter will consider in what way cladding atmospheres can be related to our perception of built spaces, by explaining philosophical theories of Gernot Böhme. His thinking on architecture considers the interlinking of architecture and the human body. It is Hermann Schmitz's theory on Leiblichkeit – explicated in next chapter - which forms an important reference for Böhme's notion of atmospheres.

In his essay "Atmosphere as the subject matter of architecture" - part of the book "Herzog & de Meuron: natural history" - Böhme raises the question what really counts in architecture. After objecting the generally assumed importance of seeing considering our spatial experience, claiming that rooms need to be sensed (»wie müssen gespürt oder erspürt werden«18, he answers this question by referring to, in his words, the sense that might be translated as "mood" (Befindlichkeit). At this point I strongly doubt whether the translation - part of the English version of the original book 'Herzog & de Meuron: Naturgeschichte' - of "spüren" into "sense" is legitimate, since it is used in an essentially different way in Hermann Schmitz' theory. Here, the German word 'Spüren' does not refer to the sensitive aspect as it is used by Merleau-Ponty in his theory, where the mind as an image is necessary when referring to the senses, since otherwise the talking about these senses would be meaningless.

Böhme continues his statement with: "A mood contributes to sensing where we are [...] a sense of 'whereness' refers to the character of the space in which we find ourselves. We sense what kind of space surrounds us. We sense its atmosphere.«19 Böhme bases his philosophy concerning atmospheres, among others, on that of Merleau-Ponty and Schmitz, and labels atmospheres as «the primary "object" of perception. [...] What is first and immediately perceived are neither sensations nor objects or their constellations, as gestalt psychology thought, but atmospheres, against which background the analytic regard distinguishes such things as objects, forms, colors, etc.»20. As stated in chapter 2, the perception of architecture occurs through all senses - i.e., not only through sight, but also through hearing, taste,
How can we define the atmosphere of the space that surrounds us, and of the elements and materials that define this space? A first definition of atmospheres is provided by Böhme - corresponding to that of Schmitz - in his book "Atmosphäre und Architektur" as »ergreifende Gefühlsmächte«. In our daily experience of the spaces we encounter, atmospheres are characterized in many ways, leading from calm to tumultuous atmospheres, from cheerful to gloomy atmospheres etc. When claiming that atmospheres have a spatial character, we are actually saying that people are able to experience them through their bodies, in their being-to-the-world. Sensing the kind of space that surrounds us seems to be largely caused by its defining form and materials. In their transmission of a certain atmosphere, they are able to “tune” a space, depending on the qualities of form and material. According to Böhme, using the qualities cold or warm as an example, the atmospheric sensing of a material to be cold or warm is its “synaesthetical character”. He then continues, saying that such synaesthetical characters can be generated through various objective properties, “cold” through smooth and glassy surfaces, “warm” through wood character or matte surface. They are called “synaesthetical characters” since these properties can belong to various sensory areas. Important to realize is the fact that such characters that are transmitted by materials are independent of the physical meaning of the character, i.e., the atmospheric sensing of a material to be cold or hot does not refer to the actual temperature of the material. A different understanding of synaesthetical characters will be discussed in next chapter on Schmitz’ Leibphilosophie.

What does it exactly mean to experience atmospheres? Böhme provided the following description of the perception of atmospheres: «Part of the perception of atmospheres I sense in what kind of environment I am situated. This perception has two sides: at one side the surrounding, which transfers an atmospheric quality, at the other side me, while in my mood I am part of this atmosphere and become aware, that I am here at this moment. […] Conversely, atmospheres are the way in which things and surroundings present themselves.» In the previous chapter the term intentionality was introduced, meaning that our interaction with the world requires “both the world (object) and the body (subject) to exist”. Concerning the notion of atmospheres, at this point, the question rises in what way atmospheres intermediate between subject and object. Schmitz uses his philosophy of the Leib to tackle this dichotomy. Böhme argues in an excerpt on Schmitz, «if atmospheres are considered to be projections of moods that are generated as part of the bodily experience, being relatively independent of the objects, they would need to be considered subjective.» The question rises whether we should actually attribute atmospheres to the subjects who experience them or rather to the objects or environments from which they proceed. An answer to this question and partial refutation of previous quotation can be found in Böhme’s use of the term “quasi-objectivity”, meaning that atmospheres are not purely objective and certainly not purely subjective. He underpins this statement with reference to the aforementioned “forces of feeling”, by stating that several subjects are able to agree upon the existence of a certain atmosphere and that atmospheres are experienced subject-independent in a first encounter: the subject feels itself touched, moved by the atmosphere, feels itself affected.

This chapter on the thinking of Gernot Böhme showed us that architecture is not only perceived through sight, as tends to be focussed on in today’s architectural practice, but that it transcends atmospheres that are able to come in through the totality of sensory systems as an initial dominating perception. Important within the distinction between theory and perception, as described in the introductory chapter, is the intentional interrelation of object and subject and the consequent questioning whether atmospheres originate from and belong to the subject or can also be ascribed an objective character. Böhme clarified this problematic reciprocity within phenomenology, concerning the perception of atmospheres, by explaining that forces of feeling are transcended from encountered objects and as such are initially experienced subject-independently.
5. Hermann Schmitz on Leiblichkeit

Concerning phenomenology of architecture and of cladding tectonic particularly, "suggestions of movement" and "synaesthetical characters" are important terms, of which the essence can only be sufficiently explained by addressing Hermann Schmitz’ Leibphilosophie. In addition to Hermann Schmitz’ books “Der Leib im Spiegel der Kunst” (1966) and “Subjektivität” (1968), in which he provides a clear and comprehensive description of the contribution of suggestions of movement and synaesthetical characters to his Leibphilosophie, Ralph Brodrück’s essays “Einleibung en de architectonische vorm” and “de leiblijke communicatie van muziek en architectuur”, in which he considers the experience of music and architectural form in relation to Einleibung, will be considered in this chapter. Before explaining both terms, Schmitz’ use of the term "Leib" needs some clarification to be able to understand his thinking.

The Leib

The term Leib is used by Schmitz in his theory as a clear distinction from the word Körper. This distinction, which can be found in German and also in Dutch, is not part of the English vocabulary. Along with a few other essential terms that would lose their meaning or confuse the reader when being translated, the word Leib is used throughout this text. Whereas the Körper refers to the body and its sensory perception, the Leib considers the affectivity of the body (leibliches Befinden), leaving out all senses. Although der Leib, due to its use as a noun, seems to be a thing, it should be realized and remembered that the Leib - in Schmitz use of this word - is a system of experiences instead of a thing with a physical boundary and surface. Compared to Merleau-Ponty, it can be seen as a fundamental difference that is made by Schmitz. In Schmitz’s words: “The own human Leib is considered to be that, which he is able to sense from himself in the area of his body, without supporting him with the five senses and the sensory body schemae”. Terms with them leibliche Regungen – those excitations which makes oneself aware of his own Leib - Schmitz provides divergent examples such as «fear, pain, itch, tickling, uneasiness, exhale and inhale». In his aforementioned book “Der Leib im Spiegel der Kunst”, Schmitz defines five categories of being situated leiblich, which are Engung und Weitung (narrowing and widening), Spannung und Schwellung (tension and swelling), Intensität und Rhythmus (intensity and rhythm), Richtung (direction), and protopathische und epikritische Tendenz (protopathic and epicritic tendency).

The importance of the Leib can be linked to architecture, since it complements the human body. «The decisive experience takes place only when we take part through our [physical] presence in the space formed or created by architecture. This participation is an affective tendency by which our mood is attuned to the nature of a space, to its atmosphere. [...] man is the size of architecture.» What should be added to this is an explanation of the extent of the Leib. When referring to the body we know that it has a rather fixed size of its own and that it is connected to the three-dimensional space surrounding it. This does not count for the Leib, with reference to the Leib, the term “space” should be conceived as a sphere, having a less defined and permanent character when compared to the aforementioned three-dimensional space. Schmitz describes the Leib to be «a pre-dimensional volume. [...] It possesses dynamic in narrowing and widenings”. Böhme elaborates on this by explaining that «the leibliche space is neither the place that one occupies with his body, nor the volume that constitutes the body. [...] [it] transcends the limits of one’s body». The next two sections will show how tectonic expression can be related to the experience of one’s own Leib, through suggestions of movement and synaesthetical characters, which can be seen as powerful experiences. An example of such an experience could be the afore-mentioned “swelling” which is experienced at one’s own Leib when being proud, and is correspondingly known - in the same resonance - in our built environment.

Suggestions of movement

According to Ralph Brodrück in his excerpt on Schmitz – “Einleibung en de architectonische vorm”, a coherence between tectonic expression and our Leib can be found in Schmitz’s philosophical thinking: «the understanding of the perception as leibliche Kommunikation or Einleibung enables Schmitz to profoundly explain the expression of architectonic form».

Referring to Schmitz’s magnum opus “System der Philosophie”, Brodrück further states that «Schmitz is able to position the theme of Stütze und Last [(support and load)], which according to Schopenhauer is the only permanent theme in architecture, within his theory of the Leib».

Of special interest for tectonic expression is the way in which Schopenhauer elaborates on his stated theme of support and load by saying that «the joints need the column to stress the earth; the arch needs to carry itself and is only through the mediation of pillars able to..."
Leiblichkeit

competition of tension and swelling – in relation to the Leiblichkeit. «26 After considering this formulation by Schopenhauer, the question remains from which outer appearances the seemingly opposing support and load can be experienced. Schmitz indicates that the answer to this question resides in the meaning of the art-form in relation to the Leib, claiming that the relationship between support and load is in its dynamic primarily perceived at one's own Leib and, therefore, the perceived suggestions of movement are to be found again as Gestaltverläufe.35. In addition to the suggestions of movement, the synaethetical characters entail a further equivalence within leibliches Spüren. In his book "Leiblichkeit", Hermann Schmitz provides a clear and comprehensive description of the contribution of synaethetical characters to his Leibphilosophie. He states that synaesthesia are more than just two different phenomena which are connected temporarily or spatially.35. In previous chapter it was stated that, according to Böhme, the atmospheric sensing of a material to be cold or warm is its "synaethetical character"36. There seems to be a crucial difference though, when comparing Böhme’s and Schmitz’ conception of synaethetical characters. The quoted description that Böhme provides, is a reduction of Schmitz’ approach. According to Böhme, the synaethetical character deals with a constellation of individual qualities, whereas Schmitz considers it as a situation in which one is subjected and in which one experiences leiblich. It is Schmitz who considers this leibliches Spüren to transcend experience through the senses, by claiming that the "eigenleibliches Spüren provides in the highest degree encroaching and undeniable phenomena, which in their existence impress in a much more drastic way"37.

Referring to "the chaotic relation between the Leiblichkeit and that which we perceive"39, Schmitz states that the synaethetical character is leiblich in its origin and mirrors itself in different sensorial areas. Whereas the body and the Leib have strong distinct meanings in Schmitz conception, i.e., the Leib leaves out all senses in its perception, he shows that both acts of leibliches Spüren and sensory perception are not separated but intertwined in the experience of synaethetical characters. Schmitz continues that the so-called "intermodal characteristics" form such a part of every sensory quality, that within the perceived there exists a shimmer between separate sensory qualities and common synaethetical character. Schmitz exemplifies this statement using softness as an example, showing the impossibility to interchange the characteristics of a sense with another sense, e.g., formability and resilience as characteristics of touch are not transmissible to hearing, smell, taste, or sight. Schmitz concludes that "an accuracy, which motivates the mentioning of softness in every case, cannot be denied. However, it seems to be undefinable as long as it can only be read from the objective, specifically differentiated sensory qualities"39. Thus, what we are looking for is the common relation of these single sensory qualities to the leibliches Spüren.

To explicate this relation, Schmitz refers to the "heaviness" of sound. The aforementioned impossibility to interchange the characteristics of a sense with another sense, becomes immediately clear when comparing the heaviness of sound - its "property of mass" - to the physical mass. Schmitz refers to van Hornhorstel who recognizes that "the dark sound is..." satisfied its strive for the earth etc. Though precisely at these forced detours, precisely through these inhibitions unfold clearly and manifold the forces that form an internal presence of the stone mass.40 Brodick claims, referring to Schmitz, that this citation of Schopenhauer allows us to relate the meaning of architectural forms with that of Schmitz’ theory of Leiblichkeit. The formal characters that are discovered by Schopenhauer are dynamic which means that we are dealing with a play of suggestions of movement, of the ‘sinking down’ and the countereparting“striving holding up”, and the fact that Schopenhauer discovers an antagonism in this play, indicates the importance of the antagonism – the competition of tension and swelling – in relation to the Leiblichkeit.«40. After considering this formulation by Schopenhauer, the question remains from which outer appearances the statically opposing support and load can be experienced. Schmitz indicates that the answer to this question resides in the meaning of the art-form in relation to the Leib, claiming that the relationship between support and load is in its dynamic primarily perceived at one’s own Leib and, therefore, the perceived suggestions of movement are to be found again as Gestaltverläufe.35.

The Doric column and its inextricably related entasis which were used as an example of the relationship between core-form and art-form in the introductory chapter, symbolically express present forces. Schmitz refers to the same entasis to exemplify his stated relationship between tectonic expression and Leiblichkeit, and to read the suggestions of movement that emphasize the play of forces of support and load in the overall formation of the temples of which these columns are part. Schmitz describes the entasis, referring to Krauss, as “the bulbous swelling of the column shaft [...] at which as a result of an internally present expanding force the surface seems to be driven out and tightened until bursting, expressed through and held together with twenty flutings”40. Schmitz reacts on this by saying that the collaboration of powerful swelling with binding tension, and its representation through the flutings, enable narrowing, widening, and direction to become embodied in the Doric column. [...] its shape represents an upwardly focussing leibliche intensity.”40. In addition to the Gestaltverlauf of rounded forms, to which the Doric column and entasis belong, Schmitz further describes those of straight forms. He considers the difference between rounded and straight forms, by claiming that “in an arched shape the beholder is able to resonate, since it invites, by way of the transition between convexity and concavity, and the sliding transformation of its direction, the majority of categories of leiblichen Befindens—narrowing, widening, direction, tension, swelling, intensity, rhythm, protopathic tendency—to participate in its Gestaltverlauf. [...] The Gestaltverlauf of elementary straight forms is leiblich unsaturated.”40.
wide, large, heavy, but also syrupy, diffuse, loose, soft, and blunt. Schmitz comments on this awareness by saying that this form of heaviness does not match the heaviness as it is experienced in physical objects, whereas the defined properties do match the heaviness which is experienced at the own Leib.

The gravity of sound and that of physical objects such as buildings, which is experienced equivalently at the own Leib through suggestions of movement, is further explained in Brodrück’s essay “de lijfelijke communicatie van muziek en architectuur”. Here Brodrück refers to a tectonic description of the St.-Basiliskerk in Brugge, qualifying it as: «the heavy materiality’, ‘the oppressive character of the space’, ‘stubby columns’, and ‘the enclosing force’s». He further explains the comparable suggestion of movement of «the high, light nave [which] rises from the wide expanding forest of pillars» at the Vrouwekathedraal in Antwerp, and that of «the first trumpet in Bach’s Et exspecto resurrectionem which is also expressed as ‘rising’». According to Brodrück, these rising suggestions of movement... as well as the clear synaesthetical character of the light in the high windows and the timbre of the trumpet, become each other’s equivalent because a lightness which is experienced at the own Leib is reincarnated in all of these qualifications.

Thinking Tectonic Drapery - philosophical table

Whereas «a normal table is a thing we use to decorate our home, sit at, eat at, work at and have conversations around; the philosophical table focuses on being the both the product and the subject of discussion». The philosophical table that is shown in Fig. 11 - named “Thinking Tectonic Drapery” - was designed and built by the author of this essay as a critical embodiment of the aforementioned theories on tectonic and cladding; it explores the way we can deal with the core-form. The diagram of structural forces is made palpable by the bracketed, cantilevered construction, the simplicity and clarity of which belie the complexity of the jointing technique used to make it into a rigid single frame. The initial symmetrical geometry of the table has been distorted simply by amputating its left wing, thereby removing its intrinsic balance and disturbing its response to the forces of gravity. The added cloth used to drape the construction now becomes a structural element to restore stability and to ensure the table is kept at a horizontal plane by absorbing the enormous moment of the exaggerated cantilever. The part of the cloth that is not needed to hold the structure in place, conceals the details of the wooden structure, its joints and the material (Fig. 12 - Fig. 15). At the same time the tensile forces active in the cloth, keeping the handicapped structure stable, are accentuated.

The table is placed in Gordon Matta-Clark’s “Four Way Wall” (1974), which questions the arrangement of spaces by cutting four rectangular openings into two crossing walls, thereby complementing the table as a psychodyslepticum, disturbing its spatial setting and framing

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its view (Fig. 10). Whereas the location and positioning of the philosophical table does not necessarily requests the level of expressiveness as it is apparent in the design, the totality of the table transcends that it is not superfluous. This expressiveness is an inherent part of the image that focuses on the vertically placed cloth (Fig. 11), showing that it is not a table that can be lifted and moved to a different spot or location. It contains a play of forces, an inner tension which provides the table a certain lightness, a working from the inside to the outside which peculiarizes the connection of the table with the building.

When approaching the tectonic of the philosophical table from a phenomenological point of view, the vertically stretched cloth – restoring stability and ensuring that the table is kept at a horizontal plane by absorbing the enormous moment of the exaggerated cantilever – is the element at which tectonic and phenomenology become intertwined. The actual tension that is introduced and which stresses the cloth can be perceived, without reference to a theoretical separation between structure, forces, and symbolism – as we have seen in Bötticher’s, Semper’s and Frampton’s theories. In the appearance of the table, the dichotomy of forces and expression is unified and made perceptible, making physical the difference between perception and knowledge. The deviating expression of the table cloth immediately brings to the observer’s attention that something is going on; a play of forces is displayed and perceived. This awareness does not rely on knowledge, but merely emanates from that which is experienced, without being acquainted with code language or mechanics. This is not the case when perceiving, for example, a concrete rectangular column. Such a column does not physically express the forces which it absorbs and transfers, causing that the object first needs to be analyzed before conclusions can be drawn. Both examples show the fundamental difference between perception and knowledge.

When considering the table as something that is perceived in its totality, individual aspects can be extracted; e.g., one could question the apparent uselessness of the object as a regular table due to its irregular surface, or how the balance of the table is guaranteed. When the cloth is stressed with a tensile force this means that something is manifested within the cloth which will be experienced as a play of forces. The possible separation between appearance and the technical aspect by the user succeeds this perception, and forms an inherent aspect of this table. Instead of using symbolism to explain the play of forces, as Semper strived for and in which the symbols need to be known and recognized accordingly, in case of the philosophical table no knowledge of any code is needed to perceive and read the play of forces that is apparent in the cloth, keeping the table in horizontal position. The forces display a suggestion of movement which is observed as “downwardly flowing...
the functioning of the Brikkenbouw as a stage for the divergent activities that take place. Referring to Böhme, it is the Brikkenbouw, inter alia, that in its transmission of a certain atmosphere, it is able to “tune” the space.

In previous chapter, synaesthetical characters and suggestions of movement were stated to be those experiences through which the cladding tectonic can be related to one’s own Lebenswelt, and therefore, according to Schmitz, can be seen as more powerful experiences when compared to sensory perception. Whereas suggestions of movement are likely not to be perceived when approaching this building, the initial perception of the Brikkenbouw (Fig. 16) was dominated through the experience of the synaesthetical characters “feathery” and “heavy”, by its appearance in which the building seems to consist of two volumes - a virginal white, feathery and standing volume and a dark, heavy and downwardly pressing volume - of which the former seems to carry the latter. This unexpected and abrash appearance is mainly caused by the white surface and the thick, dark delimiting line of bitumen. This line visually separates both volumes, inside and outside, though is perceived as belonging to the white. After the synaesthetical characters of heaviness were experienced through the Lebenswelt, one starts to read the white volume as a layer which is added onto the building. As in Richard Artschwager’s work “Description of table” (1964) (Fig. 20 and Fig. 21), the Brikkenbouw can be experienced both as the image of an object and as the object itself. What unites this art work and the encountered building is their exploration of the vagaries of perception; a viewer is not certain of what exactly he is looking at, resulting from an alienation through transformation. By adding a thin layer of differently colored laminate veneer, Artschwager transforms a basic cube into something which can be perceived as a table with a cloth on top of a table surface and emptiness underneath. A comparable transformation in perception came about after the demolition of the adjacent factory halls, leaving behind both the image of those halls and the alienated Brikkenbouw itself. This is what Husserl and Merleau-Ponty termed “intentionality”, meaning that a perceived object can provide references to a thought object or recalled object. According to the phenomenological reduction of the natural attitude, which alludes to the return to the things and the world, such intentional acts are not a reference to the real object but to the meaning of that which appears to the observer. The essence of the image of the halls should therefore not be sought for in the actual halls, the physical matter that used to surround the Brikkenbouw, but rather in the meaning the thought image of these halls is able to transcend to the observer.

Based on the perceptions that were discussed, reason shows us that both surface and line - palimpsest - are traces of the factory halls that used to surround the Brikkenbouw. As a result of the functioning of the Brikkenbouw, the Sphinx is able to “tune” the space.

The terms and concepts that were introduced in previous chapters and are applied to the first case study, will now be considered in relation to the Brikkenbouw (Fig 16 and Fig. 17). It will become clear that they barely correspond to the conceptual framework as we now it in architectural theory, which resulted in a mere absence of those concepts in today’s architectural practice. Especially the rational approach of which factory buildings such as the Brikkenbouw can be seen as an example, should be named with this awareness. Guided and characterized by progressions in modern technology, the rational approach of designing such buildings limited its attention of the way people - in this case employees - experience the building to those aspects which are necessary for increased productivity. The awareness that spaces are designed for people to be bodily and Leiblich present, arousing certain feelings through their atmospheric qualities, is neglected completely.

Although the Brikkenbouw is a good example of an utmost rational building, it was chosen as a case study for this essay on the phenomenology of cladding tectonic. Interesting is therefore the question whether this building was chosen because it fortuitously fitted the theoretical framework of the cladding tectonic, or because it fascinated me from the very first moment. If the latter is the case, it means that in the Brikkenbouw and its surroundings, certain aspects are present and transcended to the passerby’s perception of this place which were considered to be valuable. It needs to be shown that those aspects which fascinated me and the way they are present at this specific site can be made intersubjective - i.e., taking them out of my personal subjective sphere - by showing that these are aspects which you, the reader, would also be able to experience when encountering this very building. To achieve this, I will focus on two pictures in which the Brikkenbouw is apparent.

The current division of the Sphinx site into the southern Sphinxpark and the northern parking lot is a very strong one, causing a focus on each place when being bodily present, strengthened since the complete site is still surrounded by the factory wall. Fig. 16 and Fig. 17 show the atmospheric qualities of both places, and especially in Fig. 17 the functioning energy”, enhanced through the shininess of the glass fiber cloth. The shininess improves the perception of the curves that directly result from the active forces and the way in which the wooden structure transfers the forces to the cloth. Interesting is the way in which the four wooden beams are exposed to the observer, drawing his attention to the cross sections or cuts that provide a thought image of the beams being amputated. The way the beams penetrate the cloth, physically expresses their dependence to remain in horizontal position.

Sphinx Brikkenbouw

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of the demolition of the factory halls, the layers of paint and bitumen are converted into architectural means of expression, causing the observer to mentally recall these halls and their interior. Consequently, when being physically present at the former Sphinx site and moving between the three remaining buildings *Brikkenbouw*, *Eiffel*, and *Gebouw B*, all of them showing their interiorized exterior walls, I feel bodily present in these halls. As such, the factory halls are experienced as a phantom limb. It can be stated that the demolition of the surrounding halls freed the *Brikkenbouw* from being engulfed, though simultaneously left behind the trace of what used to be the Sphinx factory. The perception of the *Brikkenbouw*, along with the other remaining buildings showing such traces, entails a strong presence of the halls as a phantom limb - meaning that their presence can still be felt - while being physically removed and disposed. Similar to the physical tension that forms a vital part of the philosophical table - as a direct result of the amputation of its left wing - the amputation of the factory halls from the enclosed *Brikkenbouw* causes a metaphysical tension of the present absence of the factory halls.

The perception of the phantom limb and in particular the white walls that remained after the demolition of all factory halls, questions the ambiguity of interior and exterior, of inside-out and outside-in, that is captured in the thought image this palimpsest establishes. When approaching the *Brikkenbouw* from the parking lot, i.e., from its north and east façade, only one door provides the opportunity to pass through, to go from one side to the other, from the former interior to a new exterior atmosphere. This exterior atmosphere which is experienced when entering the building is colored by the current state of the building, allowing exterior phenomena to enter the interior and to be perceived as such (Fig. 18).

Whereas the theoretical code language on cladding tectonic which was postulated by Bötticher - the problematic reciprocity between core-form and art-form - and Semper will be restricted in adding meaning to the rational *Brikkenbouw* and its topos and typos, the phenomenological approach shows that value is added to architecture when its users are touched by a certain atmosphere or physicality, instead of the consideration of the rational concrete structure of the *Brikkenbouw* (Fig. 19), which in no way seems to address the intensity of *leibliches Spüren*. As a consequence, the synaesthetical characters and thought images that were experienced when being physically present at the Sphinx site should be used as a reference point in case of a possible re-design of the *Brikkenbouw* in near future.
concluding thoughts

In this section, a concise summary of the discussed theories of Merleau-Ponty, Remy Zaugg, Gernot Böhme, and Hermann Schmitz will be provided, guided by some concluding thoughts on the phenomenology of cladding tectonic.

The forces within a built object that are passed to the foundation are expressed symbolically in the classical tectonic, meaning that the actual forces are not visible but are represented with theoretical code language, i.e., they can be read once the spectator is familiarized with the theory. As stated in this essay the phenomenology differs in an essential way. It basically means that to experience a thing or mood - in this case a tectonic expression or cladding atmosphere - it should be perceived. Instead of focusing on knowledge and code language to make expressive the apparent forces within a built object, phenomenology focuses on experiencing that which is perceived through the senses and even more intensely, as stated by Hermann Schmitz, through leibliches Spüren. This resembles Merleau-Ponty’s view that before things are ascribed a theoretical meaning through the intentionality of the conscious, they already are given meaning resulting from the way we relate ourselves to these things. In architecture, the experience through the Leib is mainly guided by suggestions of movement and synaesthetical characters.

As shown in both case studies, buildings or objects do not need to be an accumulation of separately nameable characteristics, but are situations with which one shares experiences from his or her leibliche resonance. Based on this leibliches Spüren, the analysis of the Brikkenbouw was driven by the strong believe that this building and the way it is situated in its contextual environment contains a certain feeling or “mood”, which was expected to be an inextricable part of this specific place. Guided by the “light” and the “heavy” as synaesthetical characters which are transcended by the object which is perceived, it was shown that the feeling and perception that were transmitted directly by the expressive potential of; in this case, the cladded Brikkenbouw, can be made inter-subjectively observable and discussable. This entails the important consequence of being able to leave the subjective sphere and touch that on which science is based.

The interaction of subject and object forms an important aspect of the way in which we perceive the world and more specifically how we experience atmospheres. This can be further exemplified with the feeling certain buildings or objects arouse within its observers, e.g., the Kolumba Museum (Fig. 22) and the Bruder Klaus Chapel (Fig. 23) which are both designed by Peter Zumthor. Based on my own experience of visiting both buildings on different occasions, the feelings that visitors Spüren are generally corresponding. In Böhme’s words, several subjects are able to agree upon the existence of a certain atmosphere, which is experienced subject-independent in a first encounter. In case of the Bruder Klaus Chapel, the transcended atmosphere is based on a strong suggestion of movement, drawing the visitor’s view instantly towards the point where the building opens up to the sky, controlling the atmospheric qualities of the interior, as all types of weather are able to penetrate the opening and as such interact which the materials that are used. Silence can be considered an important synaesthetical character of this building, not only due to its function of a building that is used for prayer and reflection, but even more as a silence that is experience through the Leib in the way the light penetrates the skylight. Could according to the described observation and Böhme’s statement be determined that the feeling is an inherent part of those buildings? If so, than it exists first and foremost outside of oneself, meaning that only the feeling of this feeling should be considered as a subjective activity, allowing feelings to be intersubjectively discussable. The actual feeling as a subjective activity can be seen as the willingness of building visitors to attentively approach it. In accordance, as is clearly discussed in Zaugg’s approach of Judd’s sequence of boxes, this willingness is that which, in this case, a museum adds to the work of art.

The research question on the way in which the cladding tectonic can provide embodied knowledge to direct the analytic ways of knowing the world, implicitly refers to the Merleau-Ponty’s remark that it is not the intention of phenomenology to reject knowledge and science but to return to that which preceeds all knowledge, instead of merely averting the way in which we are exposed to the world. One could say that an overemphasize on knowledge and theory directed us away from the most essential things, which in my point of view - in accordance with the aforementioned philosophers - are our bodily presence in and to the world. Interesting in this conception would therefore be the analysis and designing of buildings which besides practical functioning and esthetical value, both important features of a building, also consider them as situation which can bring about resonance. Based on this way of approaching the design
assignment, when compared to conventional analytic methods of gathering knowledge about a building or location, its is the expressive quality that might be experienced leiblich, which is sought for.

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