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Wiktor Skrzypczak
HafenCity Universität

Introduction to a somatic inquiry of architectural space

Thesis

The correlation of bodily self-consciousness and spatial perception and action

(we embody space)
We are embodied. That is, we are bodily self-conscious, and we embody space. More precisely, our bodies already know space before we consciously analyse it. For instance, when we go upstairs, sometimes, without expecting it, we 'step' on the last tread, which turns out not to be there, and we stumble as the foot falls into a void. In this case, the knowing body was mistaken. What this mistake reveals to us is a glimpse into implicit knowledge of the body, which usually allows us to climb stairs without us controlling this activity explicitly.

(bodily self-consciousness and spatial experiences)
Bodily self-consciousness correlates with spatial perception, but we do not fully understand this correlation yet. In a recent study on "The Architectonic Experience of Body and Space in Augmented Interiors,"[1] Pasqualini, Blefari, Tadi, Serino and Blanke (2018) conducted controlled experiments to investigate how the mechanisms of embodiment interact with the experience of surrounding space. Particularly, they examined three components of embodiment, or bodily self-consciousness: 'the experience of feeling one's physical body as one's own (body ownership or self-identification), . . . [the experience of] being at a specific location in space (self-location), and [the experience] of facing the external world from a unified, embodied perspective (first-person perspective)'. In this and previous studies,[2] such aspects of spatial perception like the experience of containment, closeness to and illusory touch with surrounding walls or length estimation of presented bars were investigated in relation to bodily self-consciousness. The researchers influenced bodily self-consciousness through visuotactile stimulation (e.g., stroking the participants with a stick), which significantly influenced mentioned spatial experiences and performance of length estimation. The sophisticated study design isolated unwanted factors, among others by deploying virtual reality and Full-Body-Illusion procedures.

(modification of bodily self-consciousness)
I am interested if methods other than stroking with a stick can modulate participants' bodily self-consciousness. As a dance artist, I deploy somatic methods of movement education, in particular those of Body-Mind Centering (BMC). BMC involves sensory stimulation, or disturbance through touch and movement, as well as explorations of specific movement patterns and states of being between activity and rest.

(spatial relating)
Which aspects of spatial perceptions does this study focus on? In the first phase it addresses simple sensory-based spatial phenomena such as (1) the spatiality of one's own body (i.e., the relation of head to tail, the relation of centre and periphery, the relation to gravity and the sensation of the containment of organs) along with a number of external relational phenomena including (2) relating spatially with the environment (i.e., sensory-motor relating to light, warmth, floor, stairs); (3) sensed measuring (i.e., perceived depth of the space or one's own level above the ground); (4) interpersonal relating (i.e., being alone, sharing space); and (5) noncategorical relating (i.e., addressing 'spaces in-between' or 'seeing before naming').

(sensing spaces)
These simple forms of sensory-based relating may constitute experiences of physically accessible spaces: (1) the kinesphere (the peripersonal space); (2) the extended kinesphere (with a stronger external intentionality); (3) nonhabitual space (i.e., backspace); and (4) the prominent background space (i.e., the space of auditory aura). Finally, the timespace as an inseparable experience of movement, space and passing time completes the set of categories that I propose to structure the practices of sensing the space. I will be using Bonnie Bainbridge Cohen's BMC concept of 'Sensing, Feeling and Action'[3], which proposes a general order of somatic movement education. According to Cohen, sensing is a phase of somatic inquiry during which the focus lies on sensory-motor perceptions themselves, before they convey emotion or affect. In this way, sensing is a pre-aesthetic engagement with the world, a setting for focused play, a process of trial and error, a practice that has no aim or use other than the accumulation of possible choices and ways of interacting with environment.

(research gap)
Although authors from several disciplines converge on the central role of the knowing body in the constitution of spatial phenomena, there is not much empirical research on this topic, as Pasqualini et al. (2018) recently stated.[4] Somatics delivers methods of exploration and experience of bodymind-space correlation that are, in my opinion, suitable for experimental, practice-based and praxis-relevant research.
We have little evidence and few verified theories explaining bodymind-space correlations. We do not have explicit, elaborated knowledge describing it within architectural contexts, and we do not have applicable design methods to build upon it. The aim of this study is to describe experienced correlations, develop open-ended practices of spatial inquiry and propose applications in architectural design. This study does not intend to explain or rationalise the investigated phenomena or what might build upon the richness of artistic research and somatic practices.
The research gap seems to be wide, and it seems to be unclear what we are looking for. But, the body knows. Despite all of those questions, what the correlations are, why they work, how they can be deliberately applied, we have always been embodied and relied on our knowing bodies without realising it. So, the leading meta-question of the somatic inquiry could be: 'How can I witness my body acting before my mind acts?' But this question is a dualistic articulation that is irresolvable. Instead, since movement always has components of corporeality and cognition, the meta-question might be: 'What does my movement reveal about me being in a particular space?' And because I inquire about my own movement, I can also ask: 'How does it feel to move and be in the space?' If this implicit knowledge has always been in us but not consciously articulated, however, how can we all of a sudden access it? Movement not only carries implicit knowledge but also is the method to reveal and study that knowledge.

(becoming more or less embodied)
Visuotactile stroking applied by a stick to participant's back in the Pasqualini et al. (2018) study established the earlier mentioned condition of embodiment—bodily self-consciousness. More interestingly, participants became self-conscious not of their own physical body but identified themselves with a virtual image of an avatar, in the process off full-body-illusion.[5] The seen movement of the stick and felt touch of a stick had this surprising effect. But what does the embodiment of an avatar tell us about the embodiment of the physical body. This study did not examine this question explicitly, but in their closing discussion, the researchers applied the findings observed with the avatar to a general consideration of human embodiment. The data gathered through the questionnaires confirmed participants felt that 'during the illusion . . . the virtual body was my body'. On the other hand, statements like ' . . . I might have more than one body' or ' . . . I was in two places at the same time' were not confirmed. These statements suggest that the physical body become less embodied, at least in regard to components of self-ownership and self-location.

(arriving in dance practice)
On the other hand, well known phenomena of arriving in the room and arriving in the body are reported by dancers who carry out specific preparatory practices before dance training or performance. For instance, the components of Underscore: arriving energetically ('Bringing your attention, your presence, your will into the room.') and arriving physically ('Arriving into sensation. Focusing your attention on physical sensations, the textures and locations of sensation throughout the body.').[6] These practices promote awareness of the spatial situation and of one's own body, thus becoming more embodied in terms of self-location and self-ownership. Needless to say, these practices consist of movements scores - varying from circulation through the room to observation of one's own breath movement.

Aim of the work

(feeling)
The aim of this study is to reinforce the practical skill of feeling within the field of architecture as a competence and a relevant line of inquiry and a foundation for intersubjective communication in a design process. *Feeling* is an act of resistance[7] against dominant architectural professional culture where statements that begin with 'I feel that…' are perceived as of negligible relevance. How much easier is it to state 'I think, that…', 'I know, that…', or 'My experience shows, that...'? Concerning architectural design in its immeasurable spatial qualities: The process of designing involves virtual (imaginative) inhabitation of the emergent architectural object. If it is a well-elaborated design, the documentation of it, the plans, models, etc., will depict a few facets of its appearance, yet the actual value of the object in its relatedness and multisensory complexity remains archived in the designer's feeling. Feeling includes those aspects of the design that encompass sensory-based, poetical and existential values. These values must be felt in order to be incorporated into the design. And if at some point 'I *know* that my design is ready', it is actually because, with good conscience, ,I *feel* it'. It is potentially possible to document every conscious decision made in the design process in order to state, 'I *know*, that it is a good design, and I can prove it', but this kind of proof would overlook the metaphorical tissue that brings the design to life, both during the creative process and in the use of the built object.
'I *feel*, that this is the adequate design' might often be understood as an expression of uncertainty. The aim of this research is to associate *feeling* with certainty: certainty that the design process addressed the potential atmospheric experience of the site, deployed the embodied know-how of the designer and strived for meaning through dwelling within the structure over its quantitative values.

(beyond dualism)
Further aim of the work is to demonstrate how the Cartesian preconception of divided 'body' and 'mind' still shapes profession of architecture and how somatic movement practices can overcome this dualistic view, in line with embodiment theory[8] and the philosophy of phenomenology. Attaching an absolute value to the mind and disregarding the body as its mere container raises practical problems - it overlooks the actual, tangible interactions that occur between the corporeality and intellectuality of humans, communities and places. In this respect, this research will fan out and differentiate the cognitive modes of the thinking body within the spectrum between abstraction and physical interaction, focusing on the alleged 'gap'—the skill of feeling, where the bodily and mental sensations converge. Because we address tacit knowledge, pre- and anti-logical[9] interactions and holistic, non-divisible phenomena, it is necessary to employ means of reflection other than rationalising, verbal discourse. Here is where movement can help. Movement allows us to comprehend the unity of conceptual dualities like 'body and mind' or 'action and reaction' and reveals the responsive nature of the world.
We know intuitively that certain problems arise when architects build with materials they have never held in their hands; when they deploy crafts or technologies they have never haptically, proprioceptively experienced; when they collaborate without meeting people face to face; when they design for a site on which they have never stood or when they design places they have not 'mentally' inhabited. So, we intuitively know, therefore *feel*, that the design process will not work optimally if the mental assembling is not backed with and built upon physical experiences. But the body feels and knows and interacts before we identify with those acts. It is our animalistic, primitive nature, which we traditionally neglect due to Western Cartesian bias. What somatic methods reveal are access points to these primordial abilities as they manifest themselves in movement. In its basic setting, somatic research is an educational and artistic practice confined to a laboratory-like situation of a dance studio, provisionally detached from dominant social conventions and focused on simple, sensory-based experiences.

Potentials of somatic design practices

Design through the body

(researcher's experience)
Moments marked by a profound experience of my presence in space perceived through dedicated movement practice and resulting from my double professional training as an architect and dancer confirm the correlation of bodymind and space. In my observations, practices that improve body consciousness alter and intensify the perception of space. I propose that space conceptualization, skills of spatial imagination and architectural planning are also altered in this process.

(generating affordances)
I examine this assumption through practice-led artistic research consisting of somatic and compositional practices and envisaging a transition or these practices into architectural design. Despite being methodologically structured, somatic practices are intrinsically creative because they confront the practitioner with a considerable freedom and with possibilities for bodily movement and unconstrained mental focus. Consequently, these practices invigorate the (co)constitution, intensification and differentiation of the experience of movement in space. My main field of interest lies in the progression of 'listening' to and noticing existing precepts, relating them to each other and composing new relationships and finally capturing those relationships in a design.

(intersubjective expression and sensitivity)
Moreover, I seek to create a collaborative ground for reflection on personally (partially implicitly) perceived spatial qualities by training practitioners' intersubjective expression and sensitivity. I propose that somatic practices may strengthen those skills, for they awaken one's personal authority and self-confidence and increase sensitivity, sense of responsibility and agility (Coogan, 2016). As the postmodern perspective places us in a world characterized by complexity, fluidity and contradiction, I want to verify whether somatic practices, as the art of directing attention and action and developing flexible self-regulation habits, may establish a relational and questioning attitude and prevent reductionism and routine in the creative process.

1 Pasqualini I, Blefari ML, Tadi T, Serino A and Blanke O (2018) The Architectonic Experience of Body and Space in Augmented Interiors. Front. Psychol. 9:375. doi: 10.3389/fpsyg.2018.00375
2 Pasqualini, Isabella; Llobera, Joan; Blanke, Olaf (2013): "Seeing" and "feeling" architecture: how bodily self-consciousness alters architectonic experience and affects the perception of interiors. In Frontiers in Psychology 4. DOI: 10.3389/fpsyg.2013.00354.,
3 Cohen, Bonnie Bainbridge (2014): Sensing, feeling, and action. The experiential anatomy of body-mind centering : the collected articles for Contact Quarterly dance journal 1980-2009. Johanneshov: MTM.
4 Pasqualini I, Blefari ML, Tadi T, Serino A and Blanke O (2018) The Architectonic Experience of Body and Space in Augmented Interiors. Front. Psychol. 9:375. doi: 10.3389/fpsyg.2018.00375
5 cf. Lenggenhager et al., 2007
6 Koteen, David; Stark Smith, Nancy (2008): Caught Falling
7 cf. Pérez-Gómez in: Jacquet, Benoit; Giraud, Vincent (2013): From the things themselves: Architecture and phenomenology. Kyoto: Kyoto University Press.
8 Fingerhut, Jörg. (2013): Philosophie der Verkörperung: Grundlagentexte zu einer aktuellen Debatte. Berlin: Suhrkamp
9 Kakuni Takashi in: Jacquet, Benoit; Giraud, Vincent (2013): From the things themselves: Architecture and phenomenology. Kyoto: Kyoto University Press., 221, 226

Design for the body

Finally, my broader interest lies in the recognition and induction of existential values of space (Pallasmaa 2009, Pérez-Gómez[10]) and in effectively embedding these bodily perceived values in the design process. Pérez-Gómez pleads in favour of architecture 'for the body' and specifies its characteristics and tasks:

(holistic architecture, complete human, presenting meaning)
Architecture may offer an experience of (1) wholeness, which is not reducible to semantic description. '[L]ike in a poem, its "meaning" is inseparable from the experience of the poem itself.' The wholeness, the poetical meaning, is possible only under the premise of sensory experiencing. If these qualities are not reducible to a semantic concept, like a design documentation, I maintain it is reasonable to include more experiential practices into architectural design. Pérez-Gómez further states that architecture for the body can help with (2) 'recognizing ourselves as complete, in order to dwell poetically on earth and thus be wholly human' and refers to the phenomenon of Stimmung. Stimmung, or mood of the room, is a bodily felt resonance with a place that is spontaneously expressed and picked up (Dreyfus, 2013).[11] Thus, we cannot be wholly human if we do not feel. Pérez-Gómez emphasises the need of recognising ourselves, underlining the modern Western perspective, which seems to neglect the faculty or skill of feeling. This plea is in line with the aims of this study, which I articulated as the development of a skill of feeling beyond the dualistic concept of separated body and mind. Further, Pérez-Gómez pleas for architecture that (3) presents meaning as it appears instead of superimposing it. He calls for a poetic language instead of a rhetoric one, presenting what appears as opposed to trying to convey or convince to something that is absent. In my opinion, this approach implies a positive programmatic understatement on architectural experience. Architecture for the body is probably not spectacular.

(subversive design)
According to Pérez-Gómez, a design process that aims to create architecture for the body must (1) resist the dominant technological processes of production through planning and building poetic works or through the artistic creation of critical, theoretical, metaphorical 'imaginative universes'. In other words, the process of designing (modernist) machine houses using (digital) machines operated by (dualistic) mechanical bodies needs to be resisted. Pérez-Gómez presents Prianesi's Carceri etchings as an example of an 'imaginative universe'. In this sense, the results of documenting experienced spatial relations, which I propose as one of the somatic design practices but which will not necessarily lead to the building of an object, can be perceived as architecture, and a subversive one at that. Pérez-Gómez goes on to imply the need for (5) determining the role of digital media 'beyond its current tautological, formalistic, instrumental, and biomorphic obsessions'.

Theoretical framework

In order to examine the earlier mentioned assumptions and questions, the theoretical framework is developed by combining architectural discourse, which refers to the body conceptually, with somatic discourse, which presupposes and builds upon bodily practice. The discourse analysis is based on the following approaches in architectural thinking: perception psychology (i.a., Pasqualini et al., Ballestrem, Mallgrave), phenomenological analysis (i.a., Holl, Pérez Gómez, Zumthor, Schmitz, Gleiter, Böhme) and Einfühlungsästhetik (i.a., R. Vischer, Wölfflin). It also refers to philosophical concepts regarding the poetic and existential qualities of space (Pallasmaa, Bachelard), as well as concepts from ecological philosophy (Guattari, Deleuze). The analysis of somatic methods will be based on the method of Body-Mind Centering®, the work of Bonnie Bainbridge-Cohen[12,13] and Moshé Feldenkrais' Awareness Through Movement"[14], as they exemplify somatic methods of first and second generation, as well as on newer fields such as environmental somatics (Reeve, 2013; Meehan, 2016; Munker, 2016).
Somatics is the field of corporeal practices and methods, mostly developed throughout the 20th century, which defines the notion of soma as a living body that is aware of itself: a continuum of body and mind as inseparable aspects of a human being. It covers three branches: somatic bodywork, somatic psychology and somatic movement, which find applications in "dance, fitness, theatre, music, education, health, neuroscience, research, organisational management, community organizing"[15]. By means of perception training (cf. similar concept in architecture by Neutra[16]) and particularly through its focus on kinaesthetic and proprioceptive modalities, somatics seeks a heightening of body consciousness and relating to the environment.

Methods

First phase of the study

This study will be conducted in three phases. The comparative analysis of somatic and architectural discourses in the first phase references somatic primal notions and creative tools as well aspects of composition relevant to those of architectural discourse, resulting in an extended taxonomy of existential space qualities. It aims at linking intellectual concepts with corporeal practices and 'exercises', and will be substantiated through my daily explorative movement practice. The challenge of this phase lies in translating the immediate way of referring to sensory, non-verbal phenomena in somatics and complementing it with the verbal, conceptual way of referring to phenomena in architectural thinking, in order to develop a transdisciplinary framework for the following phase of this study.

Epistemological interest

(epistemic goals of the study)
Relying on the theory of embodiment (Varela 1991, Fingerhut 2013) and accepting the premise that the body is the source of spatial experience and the primary context of space conceptualization, somatics may deliver new insights into architectural praxis because it appropriates the actions of experiencing and categorising through dedicated bodily practice. This study aims at transferring knowledge between the disciplines of architecture and dance but also at revealing tacit knowledge within them. Through the use of a personal, reflective perspective, implicit (operational) knowledge can be focused, partially explicated and woven into descriptive knowledge.

(modulating embodiment)
In light of current perspectives of the philosophies of embodiment and phenomenology, the question arises whether they imply a specific personal attitude to the researcher who investigates the world from a first-person perspective. These theories address the operational, tacit knowledge gathered in our bodies and movements. The general thesis states that because we are embodied we perceive and perform. Do these theories describe embodiment as a constant condition? Or is there a potential for the increase or decrease of embodiment, understood as bodily self-consciousness (self-ownership, self-location, coherent first-person perspective)? Can the degree and intensity to which I am being-in-the-world be influenced? And can the researcher herself modulate her embodiment?

(difference embodied vs. somatic practice)
In order to differentiate between embodied and somatic movement practices, I propose an understanding of somatic practice, as aiming at revealing tacit interrelations of embodiment, perception and performance. I would argue that we are always embodied to some extent. What makes a practice a somatic one is the real-time investigation of how the modulation of bodily self-consciousness influences perception and performance; how the modulation of perception (i.e., change in environment or sensory deprivation) influences bodily self-consciousness and performance; how the modulation of performance (i.e., changing the speed of movement or estimating a room's dimensions) influences perception (the kind of space that appears) and bodily self-consciousness (how we are in the space).

(pre-logical experiences)
What kind of 'thinking' is the thinking of the body? What kind of thinking is feeling itself? Which epistemological attitude do we need if we want to learn more about how we are bodily in the world? Kakuni Takashi makes useful suggestions: The world will appear to us as pre-logical experiences. Sometimes our rational thinking will be confronted with anti-logical perceptions, coexistence of contradicting concepts and merging of dualisms. Kakuni Takashi analyses the concept of phenomenological space within the context of Japanese philosophy.[17] He uses Merleau Ponty's example of 'inhabiting' the virtual space of a mirror, which is possible, he explains, because we instantly incorporate the bodymind on the other side. This kind of experience is pre-logical and occurs regardless of the subject's logical understanding of a mirror's optical functioning. Kakuni also locates the presupposition of a common world within the pre-logical space. Pre-logical experiences can be superimposed with logical, abstract categories or not, but what we as animals share is in first line the experience of an unexplained world. In this sense, a useful attitude in somatic practices might be to halt the urge to explain and, instead, observe. Space, body and time are bound through causality and through chaos. And out of all of our interactions, probably only a fraction are grasped logically.

(anti-logical experiences)
Kakuni also points out the anti-logical experiences, referring to Victor von Wezisäker's theory of perception. In everyday experience, contradictory logical concepts may coexist and dissolve. Kakuni quotes the example of a view of a railroad, where the rails visually cross on the horizon and, at the same time, we know that they never meet. In the somatic practice of BMC, practitioners may experience the inversion of causality, for instance in observing the movement of the breath in the chest. It seems that the muscles contract and release because the lungs alternately fill themselves with air and empty. A logical, mechanistic explanation would suggest the opposite order, which is counterintuitive or might deploy the concept of external 'mind', which controls the body. In this example, the phenomenon of feeling one's breath seems primary to its logical, mechanical explanation.

(movement merges dualisms)
An attitude that replicates Cartesian dualism of separated 'body' and 'mind' can be counterproductive in somatic work. Although it is an old concept of (dis)embodied cognition that cannot be scientifically supported any more, regarding the studies on embodied cognition, it still dominates Westerner's daily life understanding of corporeality. An attitude that does not force a conceptual division of bodily and mental aspects is necessary to experience one's own thinking body. This logical challenge is solved by the act of movement. Movement, as the oldest form of thinking, is simultaneously the intention, attention and displacement of matter. In this sense, the moving body - the thinking body dissolves the dualism of 'body' and 'mind' into one phenomenon. Also, the abstract categories of space and time appear in movement practice as one.

(corporeality, spirituality)
If we think of a sacral building, we can notice how the relationship between a somatic, corporeal practice and spirituality might be comparable to the relationship between built architecture and religion. This research doesn't inquire into spiritual experiences of any type and is written from an atheistic stance. It acknowledges, however, the corporeal deepness of celebrative and casual rituals as well as of personal bodily practices such as prayer, meditation, contemplation of nature, etc.

(we share corporeality)
The phenomenon of spiritual experiences across cultures is, in my opinion, not proof of the existence of a sacred absolute but an indication that those experiences originate in something that we all share, that is in our corporeality. I would argue that spiritual experiences have a simple physiological origin and a strong enactivist dimension. For example, putting the hands together in a prayer in the main aisle of a church and hugging a tree both directly refer to the middle line of the sensitive body. The phenomenon of middle line has been extensively investigated in cranio-sacral approaches. And the sensation of the middle line, with its evolutionary, functional and aesthetical meanings is a strong, intersubjective, intercultural reference that can be elevated to spiritual experience through attentive practices.

(denouncing implicit manipulation)
The ability to influence the mood in the room or induce intersubjective resonance, such as sense of togetherness through clapping hands in a church or verbally addressing corporeal feelings like anger or wholeness, is a powerful skill that includes intuitive understanding of implicit, bodily processes. This tacit understanding may be misused in religious and esoteric contexts for manipulation. Research on tacit knowledge may denounce these kinds of misuses and reclaims the authority from gurus to the subjects, establishing a personal authority. This power imbalance also raises ethical questions regarding an architect's power to lastingly influence moods.[18]

(unverifiable information)
In space phenomenology and somatics, we encounter in real-time unverifiable facts (i.e., the sensation of being embraced by a dome or the sensation of arriving in one's own body). From a scientific and humanistic point of view, it is crucial to differentiate between an unverifiable implicit feeling and unverifiable explicit information—a dogma. In pragmatic terms, these 'facts' are unverifiable, yet we receive this information and have to cope with it. In these situations, somatics suggests orienting towards the sensory grounding of information. 'The feeling body and not the method stands in the centre.'[19] In this sense, somatic practice may sharpen the awareness of the source and the reliability of the information: sensory, unverifiable; or rhetoric, unverifiable; or rhetoric, verifiable. For it is proved that the Earth is round even if we do not sense it.

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10 Pérez-Gómez in: Jacquet, Benoit; Giraud, Vincent (2013): From the things themselves: Architecture and phenomenology. Kyoto: Kyoto University Press., 467
11 Hubert L. Dreyfus in: Jacquet, Benoit; Giraud, Vincent (2013): From the things themselves: Architecture and phenomenology. Kyoto: Kyoto University Press., 26
12 Cohen, Bonnie Bainbridge (2014): Sensing, feeling, and action. The experiential anatomy of body-mind centering : the collected articles for Contact Quarterly dance journal 1980-2009. Johanneshov: MTM.
13 Hartley, Linda (1995): Wisdom of the body moving. An introduction to body-mind centering. Berkeley, Calif.: North Atlantic Books.
14 Feldenkrais, Moshé; Beringer, Elizabeth (2010): Embodied wisdom. The collected papers of Moshé Feldenkrais. San Diego, Calif., Berkeley, Calif.: Somatic Resources; North Atlantic Books.
15 Eddy, Martha (2016): Mindful Movement. The Evolution of the Somatic Arts and Conscious Action: Intellect L & D E F A E., 274
16 Neutra, Richard Joseph (1956): Wenn wir weiterleben wollen. Erfahrungen und Forderungen eines Architekten. Hamburg: Claassen.
17 Kakuni Takashi in: Pérez-Gómez in: Jacquet, Benoit; Giraud, Vincent (2013): From the things themselves: Architecture and phenomenology. Kyoto: Kyoto University Press., 226
18 In this sense it would interesting to identify "popes, preachers and shamans" in architectural community. However, it is not the concern of this study.
19 "Der Leib und nicht die Methode steht im Zentrum der Somatischen Akademie." Author's translation, accessed 23.08.2018 https://www.somatische-akademie.de/index.php

Investigation: Temporality of Space - Patterns of Flow

Theoretical framework

The following chapter discusses the experience of the temporality of architectural space and of bodymind as a flow. This consideration relies on Lena Hopsch's phenomenological analysis of spatial rhythmisation of Borromini's baroque architecture and on a somatic understanding of fluid systems of the body in BMC (Cohen). Both Cohen and Hopsch used the notion of flow as a pattern in nature, or architecture, that has a kinaesthetic origin and which carries, respectively, expressive and communicative or dramaturgical qualities.

(origin in movement)
Hopsch stated: 'When you move past or through architecture, spatial sequences change and beholder shapes (rhythmatizes) the formal contentual events in flow.'[1] She underlined the enactivist role of the moving body in bringing the flow of events to appearance. In the same sense, the internal movement in the proprioceptively feeling body facilitates the flow of bodily fluids, as an spatial, temporal and expressive quality, according to Cohen.

(flow patterns in Hopsch)
Which 'coherent patterns' of flow did Hopsch and Cohen distinguish? Hopsch described the act of entering Borromini's San Carlino as a *dramaturgical* sequence, comparing it to the structure of ancient drama: tension - culmination - dissolution.[2] This sequence consists of (1) flow of 'Direction' towards the building, with qualities of forwarding force and being embraced; (2) flow of 'Border', with qualities of entering, concave/convex consummation, fulfilment of expectation; and (3) flow of 'Completion', with qualities of being admitted, enclosed, timeless, non-directional, whirled about, part of and merged with the space.

(flow patterns in Cohen)
Cohen identified specific dynamics of flow in relation to bodily fluids: cellular fluid, intercellular fluid, blood, lymph, cerebrospinal fluid, synovial fluid. Flow is understood here as sensing the circulation of fluids and feeling the influence of the circulation on the practitioner's expression. Cohen proposed methods, through movement, props, touch and voice that may allow exploration and differentiation of each fluid's sensation as well as scores for their combining, contrasting and balancing. For overview of suggested characteristic qualities of each flow confer Table 1.

'Arterial flow travels away from the heart and is an expression of the heartbeat based upon precise pulse, alternating action and rest. Characteristic qualities of arterial bloodflow are pulsating, rhythmic, active, assertive, flowing outward from the heart.'	'The intercellular fluid is the foundation of vitality and flow of power through the organs and muscles. It is the ocean wherein the cells dwell. . . . Characteristic qualities of intercellular fluid are vitality, strength, fluid muscularity, sensuous, spongyness, . . . activity-oriented, active involvement with outer environment.'	'The cerebrospinal fluid (CSF) relates to meditative rest and the central core of unbounded self. Characteristic qualities of cerebrospinal fluid are effortlessness, lightness, stillness inactivity, awareness, flow through the spine (head to tail) and from the spine outward to the periphery, sustained, timelessness, infinite spaciousness, suspension between Earth and Heaven.'

Table 1 (Excerpt): Overview of flows/fluids in BMC and citation of their suggested qualities.[1]

(spatiality of fluids in Cohen)
A fluid's expression can have spatial qualities, such as direction of 'flowing inward to the heart' (arterial flow), or sense of scale - 'infinite spaciousness' (cerebrospinal flow) and, thus, may allow one to relate to natural and architectural spatial structures. In 'Sensing, Feeling, and Action' (2014), Cohen exemplified the flows with photographs of 'moments in nature [and architecture] that resonate familiar states of consciousness within ourselves.'[3] One of the photographs depicts a winding flight of stairs leading to a beach. The caption suggests: 'Arterial flow travels away from the heart and is an expression of the heartbeat based upon precise pulse, alternating action and rest.' Characteristic qualities of arterial bloodflow are pulsating, rhythmic, active, assertive, flowing outward from the heart.' Other photographs depict Gaudi's curved facade and refer to the venous flow. It seems plausible to characterise this architecture through never-ending, wave-like, nurturing flow. But in contrast to the obvious sensation of flow going upstairs and feeling the rhythmic, arterial flow, this image does not necessarily involve locomotive movement. The image of the facade evokes a sensation of internal movement of venous blood, or (sub)consciousness of this movement.
Cohen used another architectonic illustration—a photograph of the Taj Mahal mausoleum, or actually its reflexion in the long water pond in front of it, and connects it to the flow of cerebrospinal fluid in its 'lightness, infinite spaciousness and suspension'. The architectonic configuration of the marble-white building mirrored through the water and suspended upside down between endless blue sky and endless mirrored sky seems to resonate aptly with the description of cerebrospinal flow. These examples suggest that the temporality of architecture, in terms of a flow, does not necessarily have to be experienced by moving through it, as explained by Hopsch, but can also be experienced through internal, proprioceptive movement.

(open attitude)
As tools, both phenomenological and somatic explorations require from the researcher similar, open attitudes. Hopsch stated: 'To experience architecture as a temporal event connects to letting oneself *become engaged* by what comes first and what comes next.'[4] Cohen asked for 'being open with whatever . . . resounds in you. . . . The purpose is not to have the same experience but to have the possibility of *being touched*.'[5] Whether *being touched* or *becoming engaged* is the method or the aim of the work is discussed later in this study.

(why exploring flow)
What the explorations of flow seem to promise is a differentiated understanding of how architecture works as a temporal event. In everyday life, we usually notice spatial situations that have great sequentiality, such as a well-planned museum exhibition. And we notice situations where the flow has irritating qualities, for instance feeling disoriented in a symmetrical train station. Exploration of flow might allow us to reflect on and design spatial situations apart from the duality flow–no-flow because it shows that experience of space is always also experience of passing time and moving 'body'.

(flow as design objective)
It seems that architecture is able to induce certain qualities of flow, as Hopsch suggested in her description of experiencing Borromini's San Carlino and as Cohen illustrated using the images of stairs, Gaudi's facade and the Taj Mahal. Using this premise, a design objective can be formulated as a specific somatic experience: '[F]assade as a hug, that draws the visitor inside and encloses her.'[6] In this way, measurable and pragmatic design objectives may be extended with a differentiated intention of addressing existential or simply somatic experiences. A pragmatic function of 'a place of gathering for a religious community of 100 people' can be achieved through the architect's intention of flow of 'drawing in, embracing and enclosing'. Because this intention comes from bodily experience and is articulated as movement and bodily gesture, the probability that it will affect the users is high, even if they come from different cultural contexts. What if the intention is not 'understood', or the actual use differs from primal function? I propose that the intention, if clearly articulated and felt by the architect, will still affect the user, providing an enriched experience of individual flow as its contrast or colouring.

Movement exploration

Exploration 180726
Go through the room at a chosen speed but never stay still. Pay attention to (feel) the places you go through. Modulate your speed. Go as slow as you can. Keep your movement continuous. What is your comfortable speed? At which speed does your gait feel unusual (unhabitual)? For a moment, stay at this speed. Pay attention to the distance between your heels and the top of your head. What kind of sensation emerges? Let your body remember and keep this sensation. Allow your attention to wander through the room. What are you passing by? Passing through? What are you approaching? What are you leaving behind? Which zones are you entering? Which are you not? Which borders are you crossing? Which not? …
Keep the continuity of the movement and switch between slow motion and habitual speed. How do the different speeds influence the direction of your attention?
Finish by standing still. Jump several times, if you feel dizzy.
Talk with a friend about what you've experienced (2 minutes each).
(Duration: 15 min)

Exploration 180828 - Re-performance and development of Exploration 180726 (excerpt)
Environment: Stairs, Holzhafen

The second trial took place on waterfront in Holzhafen, on the stairs in front of highrise building. Being more exposed to the crowds passing by surprisingly helped me ignoring others' attention and establishing freedom of non-habitual movement. I have chosen a route for the slow-motion exploration beforehand - a walk over a rough granite block. Again, the divided attention between coordination of the unusual gait and lively, vast environment was a dominant effect. The changing cloudiness, breeze and sunshine engaged me, however, into the spaciousness of Holzhafen. Feeling that my eyes, ears, sense of balance accommodate more and more smoothly to the open, changing space made the practice more effortless and led me to moments of thoughtless suspension while ascending the stairs. (Duration: 7 min)

Environment: Plateau, Holzhafen

The third trial took place on the plateau at the top of the stairs. This time I did not use the extra slow, neutral flow, but I carried out, instead, the simplified BMC exploration of cerebrospinal flow[7] in sitting, facing camera (7 min). Then I repeated it (10 min) but facing a distant perspective of Elbe's bank flanked by the pylons of the highrise. Also here I was investigating, to what extent it is possible to keep a clear double-focus on inner work and on a particular external image. Last repetition (10 min) took me into movement on all-fours, standing and running. Similarly to the first one, this trial placed me at moments in unusual standpoints and oriented toward new visual perspectives in actually familiar to me places. I felt that I have enough time to notice whatever came into my view field. The effect of pleasant disorientation, looking around and looking back delivered more impressions than a habitual walk in this area. Also looking upwards at the highrise, at the birds, at the tree branches seemed new, easy and stimulating.

How can the documentation of experienced spatiality induce an architectonic image, become the inception of a design? The sequentiality of spatial relations experienced through this exploration can be described and documented using eleven characteristics which I identified in essays on flow by Hopsch and Cohen. Those are: mechanics or situation of origin, direction, preposition, relation, rhythm, temporality, attention, effort, form, materiality and metaphorical gesture or image. In work with body fluids and flow Cohen describes its "combining, contrasting and counterbalancing". Accordingly, this exploration can be seen as combination of the sequentiality of the environment - chosen places in Holzhafen and sequentiality of movement practices done there - the "slow motion walk" and cerebrospinal flow exploration.

In following I confine the description to the explorations on the plateau and its stairs. I am standing on a firm surface of granite. It has a flame-cut finish. I take off my shoes, the stone does not feel cold. There is lots of sun and wind and people passing by. I see a roughly split stone block, it seems to be inaccessible for the pedestrians and I decide to do my trial on it. I start the slowest ever stroll on it. It feels like standing exposed on a pedestal. I maintain the idle continuity of the gait, it is demanding. Now, the people and the street disappear in their own time. The sun and the wind confront my eyes. The sun and the wind choose, in which direction I turn. I turn away. I arrive in front of the next boulder, I feel over-challenged. I pause aimless, for a moment, and my attention wanders back to the sunny warmth. I look into the sky. Then I jump over and arrive on the plateau.

I choose a spot on the plateau, on the office workers' pathway. I sit down and notice in the frame of pylons the river shining far. I look for the sensation of my vertebrae resting on each other. I know this place in me. I play with this chain of pearls, I drop my weight in it. Behind the line of spinal discs is the spinal cavity, spinal cord, cerebrospinal liquid. I bow a little initiating from the feeling of resting discs and vertebrae. Then, I bow a little initiating from the feeling of the space just behind them. It feels light. I want to stay here. It is where the soft medulla dwells. I bow a bit more, I joggle it lightly and look where it brings me. I dropped out. The shine of the river in front of me. I go back. I know the resting discs well. I move from there. I want to go into the medulla and its fluid. I find it again, I am more careful now. I wander up the thoracic spine into the cervical, and down, and up again. And up into the cranial cavity. I feel the weight of my brain. It floats in the fluid, the fluid pours down the spine. I want to give more space to it. It pours up the spine, into the head. My eyes follow. I see the highrise passing by, I look into the sky. My head perks up and to the side and I fall, almost. People go by, they don't know, they don't care. I begin again, I go there again, the spine knows what I want and lets me in. I let myself fall, my hands know exactly, where the floor is. Granite feels surprisingly soft. I roll, and my medulla rise me. I'm astounded by the openness, the elevating force. I walk and jog over the plateau. The sight of the highrise, moving when I move, makes me curious. I run. How easy it is to see it from different angles. People at the bus stop down there watch me. I watch them. I want them to know that I know that they watch me. The medulla rises me again and I let myself fall. And again and again, endless. The highrise behind my back seems to justify my dance. I will come back here tomorrow.

I wrote this text the day after doing the explorations. My bodily state was typical for work with computer - a confined focus and restricted mobility. During writing and recalling the experiences from yesterday my state changed and picked up the qualities of the past exploration - released muscular tone, soft neck. Apparently the words brought up bodily memory, in a surprisingly vivid way. I never experience that vividness when I use other media.
On my next vacation I will write poems instead of taking photos.

1 Lena Hopsch in: Jacquet, Benoit; Giraud, Vincent (2013): From the things themselves: Architecture and phenomenology. Kyoto: Kyoto University Press., 320
2 321
3 66
4 320, emphasis added
5 66
6 317
7 "The Dynamics of Flow: The Fluid System of the Body" in: Cohen, Bonnie Bainbridge (2014)., 78

Investigation: Sensory Sensitization - Listening

Theoretical framework

The theoretical framework for this section is in writing process. The following exploration is an example of embodied inquiry, which per se is conducted with minimum of external abstract references. The facilitation of the exploration was conceived in accordance with concepts of auditory aura of architecture (Sylvain de Bleeckere), practice of listening (Nancy Stark Smith) and order of support of the senses (Bonnie Bainbridge Cohen).

Movement Exploration

Exploration 180713
cf. Sylvain de Bleeckere: Aural Architecture and Its Phenomenological Roots[1]
Duration: ca. 1h

This score was inspired by de Bleekere's essay on aural architecture, which we perceive, among others, through hearing, and by Nancy Stark Smith's concept of listening as a dedicated practice. The aim of the score is to become aware of what roles hearing and listening play in our spatial orientation. How do objects, the studio and the environment, appear to us through listening? The idea is to listen to the background, to the stillness. The world is never still; there is always white noise there, which informs us.

'Can you hear what is not making a noise?'[2]
If you move your hands around your head—on its sides, in front of it, behind it—you will feel that they are there. Try it out and focus on hearing. Listen to your hands, feel where they are in the space.
You can also use your palms to direct your hearing sense. If you put you open palms behind your ears you will hear your front space better. If you put your palms on the other side of your ears, you will hear more of your backspace. [People experiment with their hands]

I want to invite you to explore your backspace through hearing. Our front spaces are sometimes dominated through seeing, and it may be challenging to really focus on hearing. In our backspace we have no choice, we have to trust our hearing. I want you to walk backwards across the studio towards the wall at its end. Move at the speed that is comfortable to you. Listen to the architecture of the studio, use your hands to cut off the sounds from the front space.

Wiktor demonstrates approaching the wall backwards and stops just before touching it. People follow with their own trials of approaching the wall. After that, every participant has an opportunity to give one sentence of feedback. There is no moderation of the talk. The participants are asked to mind a pause of silence between each statement.

The group agrees to explore this phenomenon outdoors. The studio is located on land, surrounded by forest, meadows and ponds. After 15 minutes, the group comes back to the studio. The specific focus and interest are noticeable. The group follows the suggestion to do a dance improvisation with this focus.

At some point the quiet becomes more and more cultivated. Wiktor asks every participant to finish the score by filling the space, one after another, with the sound of their name.

In the group feedback, participants reported their sensations: The approached wall felt like a void, was perceivable as a quiet figure in the background of the white noise. Concentration on the backspace positively altered participants' posture and balance. Despite the prespecified focus on the auditory modality, the presence of the wall was also perceived in its tactile and thermal quality. Some participants also felt that the 'psychological' presence of other participants influenced the 'physical' space. Others preferred to use their whole body for 'listening'. The architecture of the rectangular studio became more asymmetrical because of the soundscape pouring into the studio through open windows in one of its walls. Passing the windows was a rhythmic sensation, due to crossing the sound shadows.

Participants' feedback (exact wording):

"As I walk backwards, listening the space and wall coming towards me, I got lost noticing other bodies in space. Shadows and temperature also created an spatial sensation and I wasn't anymore sure which was the physical space and which the psychological/sensitive space. Outside, details became more clear. I could feel the presence of trees before touching them. As I roll on the floor I enjoyed to listen the grass coming towards my head and leaving it. Afterwards, the quality of my movements where light, and I relate this to the attention on the listening channel, the ears and the equilibrium system of the inner ear, which is pretty close to my head joint. Opening the ears help me to open the space of the atlas joint and that affect my general coordination."

"I could not hear with my ears, I was listening with the whole body, I took off my hands from the years, opened my eyes and the whole body perception (skinesphere, kinesphere). I could feel very clear the wall behind me, and than the small distance to the wall, the feeling was like the wall suck me in, it covered me. After the exploration outside - It was a feeling of opening the whole perception (bodymind?) to the space and people and objects in it. Listening to the presence of the lake, waterfall, ground, trees... listening to the silence of the trees. I was also listening to the listening people. During the exercise it was very concentrated, may be too much. And then while they were walking back to the studio I could see there attention was not so tensed anymore, but still all of them were very present and still continuing to listen and perceive the space, being relaxed and wide."

"Could the sound of nothingness have anything to do with body temperature? Or is it that I have the sense of touch more developed than my hearing? Can we perhaps hear the warmth of our hands? When exploring the backspace I realised that I got bored very quick, then I reflected and noticed that I didn't feel comfortable walking backwards and having the sensation of moving away of something. So I changed my fronts and had my internal eyes placed on my back. This became more interesting for me, having the sensation of reaching something and moving towards it."

"I felt i was falling into the void as i was getting very close to the wall. It felt as if the space behind me had a thick density and colour, somehow dark, like sea. I felt [it] only for a while. "

„Ich finde den Effekt, wie präsent der Raum hinter mir durch das Anlegen der Handflächen die Ohren wird, so stark, dass ich mich frage, wie es wäre, wenn derselbe Effekt für die Augen so einfach möglich wäre."

"Approaching the wall was scary, because I could felt it without seeing it, and surprising because the feeling was precise and clear, nevertheless. The score relaxed my eyes and pulled me up. After it, took a little rattle to my hand and was surprised how very loud it was. Apparently, the practice also increased the volume of perceived sounds."

Translation of practices

Architectural design as documentation of experienced spatial relations
This research includes empirical trials of specific bodily practices oriented towards spatial phenomena. Part of its documentation is a first-person perspective record of relational interaction with spaces and places. This kind of documentation of spatial relatedness has properties of architectural design: Despite originating from an ephemeral experience, it is material (non-abstract) because its roots are in the material world. It can define relationships before it addresses structures (cf. Cohen[3]). It has the characteristics of 'construction documentation' because it describes the method and circumstances of spatial experience induction (or emergence).

The concept of architectural design as documentation of experienced spatial relations is currently evolving out of documentation methods of this study. Potentially it can be conducted using varying media, however, what I observed is, that it is helpful to (1) articulate verbally or in writing the chronological order and objective setting of the original exploration. This is a distanced relation of the procedure. Then, (2) repeat the articulation, but in a more informal way allowing metaphorical references and intuitive understanding of experienced situation. This process of recalling the experience induces in my observation a kinesthetic and proprioceptive response of researcher's or designer's bodymind, for example an illusory sensation of wind on own face, or illusory sensation of a void behind one's back. The recalling, gathering and induction of past spatial experiences results in a lively pool of 'architectural matter'. By (3) changing the medium of documentation from writing to drawing I experienced, that this matter easily crystallizes in new perspectives of past experience and is a seed for its creative transformations and spatial design.

. . . .

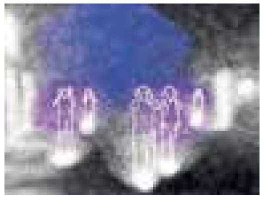

Fig. 1 - Exploration 180713.
Presence of 'white noise' (white), auditive rhythmicality of windows, silence of the wall (blue) and presence of other practitioners (purple) becomes prominent.

Fig. 2 - Exploration 180828, trial 3, part 3, video still.
Exploration of cerebro-spinal flow induced openness which harmonised with the vast spatiality of the site. The observation of temporality of bodily flow supported the focus on temporality of the site.

1 Sylvain de Bleeckere: Aural Architecture and Its Phenomenological Roots in: Jacquet, Benoit; Giraud, Vincent (2013): From the things themselves: Architecture and phenomenology. Kyoto: Kyoto University Press.
2 Alan Watts, The Way of Zen, 165 in: Jacquet, Benoit; Giraud, Vincent (2013): From the things themselves: Architecture and phenomenology. Kyoto: Kyoto University Press., 87
3 Cohen, Bonnie Bainbridge (2014): Sensing, feeling, and action. The experiential anatomy of body-mind centering : the collected articles for Contact Quarterly dance journal 1980-2009. Johanneshov: MTM.

Technische Universität Berlin

Wiktor Skrzypczak

Introduction to a Somatic Inquiry of Architectural Space

A heightened bodily self-consciousness enhances the perception of the environment. How can this correlation be consciously and effectively applied in architectural praxis? An account of the first phase of doctoral research will be presented, including its interdisciplinary theoretical framework (in the fields of architecture and somatics) and introduce somatic inquiry as a spatial research method and explore the concept of architectural design through documentation of experienced spatial relations.
The study's framework draws from body-oriented architectural theory (Einfühlungsästhetik, phenomenology, perception psychology) and exemplary somatic methods (Body-Mind Centering®, Feldenkrais Method®). This study examines the reduction of a spatial experience to bodily felt phenomena - a method used in both somatics and phenomenological analysis. It also discusses how the tacit knowledge of the body 'feeling' itself correlates with explicit knowledge about the environment.
As a field of corporeal practices and methods which mostly developed throughout the 20th century, somatics seeks to heighten body consciousness and relate the body-mind to the environment, by means of perception training (cf. a similar concept in architecture) and particularly through its focus on kinaesthetic and proprioceptive modalities.
This research includes empirical trials of specific bodily practices oriented towards spatial phenomena. Part of its documentation is a first-person perspective record of relational interaction with spaces and places. This kind of documentation of spatial relatedness has properties of architectural design: Despite originating from an ephemeral experience, it is material (non-abstract) because its roots are in the material world. It can define relationships before it addresses structures (cf. Cohen). It has the characteristics of 'construction documentation' because it describes the method and circumstances of spatial experience induction.
This performance lecture provides an account of movement-related architectural thinking. Besides a verbal presentation of the above-mentioned topic, it will include the researcher's movement. It also addresses the audience's direct kinesthetic response and may require seating modification in the conference hall. This contribution can be illustrated with work samples from current research.