An Experience of the Soil: Modeling Intervation

Asst. Prof. Dr. Esen Gökçe Özdamar
Namık Kemal University
Faculty of Fine Arts, Design and Architecture, Department of Architecture
egozdamar@nku.edu.tr, gokceozdamar@gmail.com

Abstract: *This article focuses on experiencing the boundaries of architecture and built space through direct observations and experiences gained from the intervention to the environment. This article aims to understand kinesthetic perception as an important experimentation field in architectural education. In this context, architecture students at Namık Kemal University experienced kinesthetic perception, by observing haptic and corporeal intervention to the natural environment. Therefore, this article is a small-scale experiment to understand kinesthetic perception in architectural education.*

Keywords: *Kinesthetic perception,void, tracing movement, plow*

Bir Toprak Deneyimi: Müdahaleyi Modelleme

Özet: *Bu makale, mimarlık ve yapılı çevrenin sınırlarını kavramada doğrudan gözlem ve çevreye müdahale üzerinden deneyimlemeye odaklanır. Makale, kinestetik algıyı mimarlık eğitiminde önemli bir deneyimleme alanı olarak ele alır. Bu çerçevede Namık Kemal Üniversitesi mimarlık bölümü öğrencileri kinestetik algıyı, doğal çevrede dokunsal ve bedensel müdahale üzerinden gözlemleyerek deneyimlediler. Bu makale, mimarlık eğitimindeki estetik algıyı kavramaya yönelik küçük ölçekte bir deneydir.*

Anahtar kelimeler: *Kinestetik algı, boşluk, hareketi izleme, pulluk*

1. MODELING INTERVATION

Tekirdağ, as one of the largest economies in production of vegetable oil industry in Turkey is located by the waterfront of the Marmara Sea. Invaded by large beds of sunflowers and canola, perpendicularly aligned to the sea, the landscape of Tekirdağ is blurred with yellow color during the spring months (Figures 1, 2, 3). The city has a great potential of organic farming and edible gardens.

Figure 1. The canola landscape

However, facing with the disadvantages of becoming a greater municipality, Tekirdağ has been losing its natural and human-formed environment: Farming is slightly disappearing, leaving in to concrete housing blocks without any regard for the natural environment. The city grows with the dichotomy: The built space versus the nature.

Figure 2. Waterfront and the hills

Figure 3.Waterfront and the hills

Based on the rapid decrease in agricultural areas, first and second year architecture students at Namık Kemal University raised questions on the formation of the boundaries between inside and outside in the soil in regard of environmental awareness. The students observed agriculture vehicles and analyzed corporeal movements and morphologies as an intervention by the traces of a plow in movement. The plow, as one of the major agricultural vehicles used for cultivation of soil, sowing the seeds and planting, modifies the soil layer three-dimensionally. This intervention the soil forms a specific rhythmic pattern in different speeds (Figures 4, 5, 6).

Figure 4. The plow in movement

Figure 5. The plow in movement

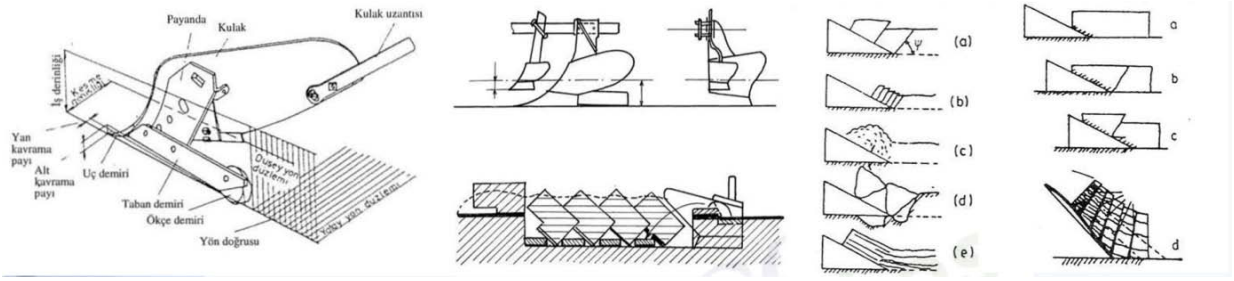

Figure 6. The plow section [1: 74, 75, 8]

In a simultaneous work, the students watched a dance movie, Pina by Wim Wenders. The film's fragmentary dance scenes and the corporeal interaction with the space were represented as a collage work. Following this, they experimented with the built space through corporeal interventions the void through their body and on-site infill installation works (Figures 7, 8). Later, they observed the sound and body movements of a dancer, craftsman, musician and the lines of repetitive movement in space and later experienced built space through corporeal movements and interaction with surrounding space. Considering the corporeal lines and movements, the students represented the movements into a series of relief works with cardboards (Figure 9). The random movements reflected as a spatial transformation and a metaphoric world of experience of the visual stimuli, perception, tactile, all of which enabled to create an "embodied consciousness," as Merleau-Ponty and Pallasmaa mentions in the Eyes of the Skin: Architecture and the Senses [2: 79]. Later, the students were asked how it feels like to be a certain building or a form, as mentioned by Forrest Wilson's "What It Feels Like to Be a Building" book.

Figure 7. Surfaces triggering haptic and corporeal experiments
(Photograph by Şeydanur Aydın, Esen Gökçe Özdamar)

Figure 8. On-site infill installation to the void, group work

Figure 9. Body movements of a craftsman and a dancer represented as a relief work. The process is a transition from an anthropomorphic perception of movement to an experienced space and topography

In his book, Wilson draws attention to understanding of the existence of a space through a phenomenological approach (Figure 10) [3]. In his metaphoric projections; kinesthetic and cognitive perception are engaged and trigger anthropomorphic metaphors for the creation of space, like gravity and pressure. The tectonics of a building is understood through human scale and how different forces take place in constructing space; a column, a brick wall or a cathedral. The physical body is taken as an interface and anthropomorphic metaphor for transgressing the boundaries for a creative perception of space.

Figure 10. Perceiving built space through body [3: various pages from Wilson]

2. ON PERCEPTION OF MOVEMENT

Pallasmaa defines that "including vision, are extensions of the tactile sense" [2: 10]. This refers to the other senses that do not complement the vision, which is a dominant sense. Pallasmaa argues the dominancy of visual perception as a sensory organ in western cultures. For Merleau-Ponty perception is "always a process of creative receptivity, a composing rather than a copying of the external world, …., "a formation already bound up with a larger whole, already endowed with meaning" [4: 110].

According to psychologist Vernon, in the perception of space, "..the observer may continue examining the object and piecing together the various sensory impressions until he has made up his mind what it is. In everyday-life situations where objects can be clearly seen there will be corroboration between a variety of different types of information as to the nature of the objects. Shape, colour, texture, spatial position, movement or absence of movement, will all be congruent, and will fit what the observer expects to encounter in such situations" [5:32]. In the perception of matters of movement, space-time perception is inseparable from the body of the situation of the object. Visual sense motivates kinesthetic perception and corporeal perception, and this is why we feel like moving when we are watching a running race or a bird flying. "Thus if we are in a vehicle which tilts to one side, we automatically adjust the position of the body until it is vertical, by means of "postural reflexes" - the immediate reflex responses to sensations of change of position [5:121]....perception of movement depends on the relative movements of objects and their backgrounds or surroundings, rather than upon the movement of images across the retina [5: 143].

The body is the general instrument of "comprehension" [4: 112]. In anthropomorphic architecture, the body exists in all forms of architecture: from analogy to human body in a physical state, such as Ginger and Fred building in Prague by Frank Gehry. Ginger and Fred is "the human body in a particular gesture of togetherness" and display the human body in motion. However, "the human body is a complex whole of external and internal forms, measurements, proportions, symmetry, forces, gender, posture, senses…" [6: 27-28].

Kinesthetic perception has along ago been in the research area of architecture. It is directly linked to visual and corporeal relation, since a phenomena is perceived through physical sensors in the muscles. As a sense of the movement (kinein) to move, and aesthesis, kinaesthesia is "a sense mediated by end organs located in muscles, tendons, and joints and stimulated by bodily movement and tensions," and relatedly the "sensory experience derived from this sense…" [7: 482]. Also named as by kinaesthesia by Henry Charlton Bastian "muscle sense" as well as feedback from tendons, joints, and skin play a role in perception [7:482]. This perception is the sense of movement and sensory experience and forms a memory of movement of the body. An important feature of kinesthetic perception is the tactile of the surface that triggers the movement. Physically, the sensors in the muscles of replicate a similar movement to the observed object. This perception can also enable and undermine a phenomenological interpretation of space in design process.

Deriving from kinesthetic perception, the students thought on how space and objects of static formation evoke movement which mind completes, moves and transforms. After analyzing the intervention of the plow to the soil, the students modeled the movements as a negative space in plaster injected soap bars (Figures 11, 12, 13). In these works, the emphasis was to understand built environment through different layers of perception and motivate students for developing holistic architectural thought through a hybridization of senses. The materials were chosen to create a limitation for ideas, but the material was seen as a body in the process of making the form. The students transformed the nature of the material as they related to their perception of the observed phenomena.

Figure 11. Atmosphere of the intervention of the plow
(Courtesy of Oğuz Uğurlu, Şeyda Kıraç, Taha Yunus Aydın, Emel Yılmaz)

Figure 12. Plow movement modeled with plaster (Courtesy of Büşra Çağlar)

Figure 13. Plow movement in colored plaster poured in soap bars

The void in the soap bars were evaluated as a spatial configuration and a process of a temporary intervention. The students perceived the lines and loops in the soil as an "experienceable surface" [8: 134] (Figures 14, 15, 16, 17, 18). Mapping this intervention enabled a bodily-kinesthetic and spatial experience. In these works, the emphasis was to understand built environment through different layers of perception. The materials were chosen to create a limitation for ideas, but the material was seen as a body in the process of making meaning within it. The movements reflected as a spatial transformation and a metaphoric world of experience of the visual stimuli.

Figure 14. left: Colored plaster relief (Courtesy of Emel Yılmaz);
Figure 15. right: Lines of the plow in the soil (Courtesy of Miraç Melikşah Yalçın)

Figure 16. left: Lines of the plow in the soil (Courtesy of EmineDündar)
Figure 17. right: The sweep of the plow after duration (Courtesy of Büşra Çağlar)

Figure 18. Circular movement of the plow

In integration into creative fields such as art, design and architecture, an awareness of kinesthetic perception and searching for ways to improve it enables holistic approach and the formation of an empathetic bridging between the subject and object. As such, in the synectics approach in problem solving methodologies as defined by Gordon in the 1960s, the designer puts himself to the condition of

the designed object and tries to feel like how it is stored or how it stands. Therefore, the alienization and de-alienization of objects to be designed evoke a kind of spatial awareness of the designer. This leads to a more efficient design process, where the designer understands the psychological process he /she operates [9: 6].

Therefore, the role of increasing kinesthetic awareness in design process and the perception of space may help demolishing the borders between the subject and object and enable and understanding of the environment as a process by both thinking and making. In this context, the students created metaphors, or "a powerful juxtaposition or "transfer" of ideas as Pallasmaa defines for metaphors from relationship to music, dance and corporeal relations [2: 79]. The movement of the plow was experienced in a variety of ways and the design process helped students experience corporeal, kinesthetic and spatial perception and transforming linear and circular movement in terms of form/function, idea/space, space/experience, thus enabling an environmental awareness.

Acknowledgements
I would like to thank my first and second year architecture students from Namık Kemal University Architectural Studio II and IV, spring term in 2016 contributing their works in this essay.

REFERENCES
[1] Ülger, P. ve diğ, 2011. Tarım Makinaları İlkeleri. Hiperlink Yayınları; İstanbul.
[2] Pallasmaa, J., 2005. The Eyes of The Skin. John Wiley & Sons; England.
[3] Wilson, F., 1988. What It Feels Like to Be a Building. Landmark Reprint Series, The Preservation Press; Washington.
[4] Mallgrave, H. F., 2010. The Architect's Brain: Neuroscience, Creativity, and Architecture. Wiley-Blackwell; Oxford.
[5] Vernon, M. D., 1963. The Psychology of Perception. Penguin Books; Baltimore, Maryland.
[6] Nas, P. J.M, & Brakus, C. G., 2005. The dancing house - Instances of the human body in city and architecture in S. Shahshahani [Ed], *Body as Medium of Meaning*. Münster: LIT Verlag, 2005, 27-28.
[7] Paterson, M., 2012. Movement for Movement's Sake? On the Relationship Between Kinaesthesia and Aesthetics, University of Pittsburgh, Essays in Philosophy, Aesthetics and the Senses, vol. 13, 2.
[8] Vyzoviti, S., 2004. Folding Architecture: Spatial, Structural and Organizational Diagrams. BIS Publishers; Amsterdam.
[9] Gordon, W. J.J., 1961. Synectics: The development of Creative Capacity. Harper and Row; New York.

ESEN GÖKÇE ÖZDAMAR, Arch.,
She is Assistant Professor and Head of Department of Architecture in Namik Kemal University, Tekirdağ. She holds PhD and Master's Degree in architectural design programme from Istanbul Technical University. Her research focuses on transdisciplinary methodology, housing, kinesthetic perception and haptic space. Some of her latest publications are "Still Life Architeture" in Berkeley Planning Journal, 27 (2014) and "Rooftop Architecture in İstanbul" in Lo Squaderno 2015, "Unemployed In Summer: Pamphlets From The Waterfront" in Visual Communication (2016) and "Transforming the historical waterfront: An(r/t)repo in Istanbul" in On the Waterfront (2016).