

University of Pécs Faculty of Arts

Doctoral School

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In the Gentle Embrace of Geometry

DLA Dissertation Theses

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2025.

Soft Geometry

At the center of my dissertation is the concept of *soft geometry*, which is both a personal creative path and the focus of my theoretical research. My original doctoral research plan focused on contemporary tendencies in painting that extend from the flat surface into the third dimension. Within this, I intended to study the relationships between the increasing presence of virtual worlds created by digital media, their impact on our perception of reality, and painting's expansion into real space. My artistic practice has undergone a gradual transformation. In 2012, I entered the world of abstract geometry, then in 2015, I moved into the third dimension. Around the same period, I began working with textiles, and in 2020 I situated my artistic practice within the natural environment. It was during this process that I created the term *soft geometry*, in which geometric forms are closely linked to natural forms, while their softness is captured partly in the chosen materials, and partly in their translucency. During my work, I encountered similar artistic approaches. **Ruth Asawa**'s wire sculptures—also described as “drawings in space”—form complex, interwoven structures through repeated geometric forms, unfolding processes of transformation and interconnectedness. I also discovered manifestations of soft geometry in the work of **Aranka Hübner**, where, as Márta Kovalovszky observed, “the disciplined, carefully expanding nature and the vividly breathing, flexible geometry” (Kovalovszky, 1989. p.3.) coexist. For all these artists, as in my own work, the use of everyday materials is of central importance. Whether Asawa with wire, Anne Lindberg with cotton thread, Gabriel Dawe with sewing thread, or myself with waxed leather thread, these choices continue the tradition since Duchamp of elevating everyday materials into the realm of art. Throughout this dissertation, I aim to demonstrate that the practice of *soft geometry* is particularly well suited to rebuilding our relationship with real space and with nature. The balance of geometric structures and organic forms, the sensuous use of materials, and the play of transparency are all elements that can reconnect us to the lost reality which, in the words of Miklós Almási, “has broken off, (...) disappeared, no longer exists.” (Almási, 2019. p. 37.)

Textile and Spatial Experience

The following chapter addresses the spatial expansion of textile art and further interpretations of the concept of soft geometry. The artistic practices I analyze focus on solid, massive spatial forms constructed from flexible, soft materials. At different moments (the Bauhaus, the 1970s),

textile art became a field of free experimentation. Although bound by its techniques and its applied-art background, it nonetheless produced progressive results within the fine arts. My research focuses on geometric, minimalist textile installations—sometimes relying on transparency—that are often placed in natural environments. Among Hungarian neo-avant-garde textile artists, **Margit Szilviczky** stands out. Her work deals with the relationship of plane and space, and the transcendental connections of geometry, and she realized several large-scale textile installations in natural settings. **Gábor Attalai**'s spatial textiles from the 1970s and 1980s present a particular interpretation of soft geometry, where rigid geometric structures meet the natural behavior of the material. **Lujza Gecser** introduced radically new approaches to the relationship between textile and space through innovative uses of the physical and structural properties of materials. **Judit Droppa**'s works simultaneously recall mathematical precision and the playfulness of organic forms. This chapter also presents a segment of my own artistic path: I first built spatial installations and objects from elastic tulle, then arrived at a stage where I deconstructed textile into individual threads, constructing form directly in connection with space itself.

A Thread of Geometry: The Dialogue of Material and Light in Contemporary Art

This chapter guides the reader into the world of thread-based spatial installations, showing how the textile's most basic element, the thread, can become an expressive tool in contemporary art. I also present my own artistic journey, emphasizing the significance of solid spatial forms built from flexible, soft material. These thread-based installations operate on the boundary between materiality and immateriality: the negative spaces between the threads are as much part of the forms as the physical elements themselves. One of their special qualities lies in balancing between light and material. The delicate threads almost dissolve into the physicality of space, leaving nothing but color and its play. Such works resist documentation; true reception is only possible through physical presence, while paradoxically they also reflect on the fleeting presence of digital images and virtual space. In the practice of **Anne Lindberg**, the interplay of light, material, and space is particularly significant. Her minimalist drawings and installations use fine lines, tones, and textures to create visual illusions. Her intricate thread networks appear to float in space. Similarly, **Sébastien Préschoux**'s installations investigate the dynamic interaction of light and material. His meticulously designed structures dissolve into fluid geometries under light, recalling natural patterns such as webs or spirals.

Akiko Ikeuchi creates silk-thread installations where intricate weaving and knotting form delicate geometries. **Gabriel Dawe**'s *Plexus* series transforms thousands of meters of sewing thread into light itself, imitating the dispersion of light through a prism. His transparent forms and radiant colors embody the softness of geometry. **Janet Echelman**'s monumental thread installations, created with traditional knotting techniques, are sensitive to environmental influences and continuously shifting, embodying both mathematical precision and organic freedom.

I also present in detail my own thread installations, including *Two Points* (Nádor Gallery, Pécs, 2020), *Pécs Pyramid* (Pécs Gallery, 2021), *Across* (Velence Lake Island, 2021), *Division* (Nádor Gallery, Pécs, 2021), and *Traverse* (The Space Gallery, Budapest, 2024). I discuss their sources of inspiration, technical challenges, and personal layers of meaning. During the COVID-19 lockdown, I developed the series *Insta(nt)llation*, where I embroidered cyanotypes with spatial ideas. These works allowed imagination to take flight within the confinement of the home, creating virtual installations in abstract, real, and often sacred spaces. Over time, the series evolved toward natural forms—clouds, trees—into which I embroidered geometric shapes or organically disordered vector systems.

Soft Geometry and Nature

This chapter explores the weakened connection between humans and nature in the digital age, and the role of art—particularly works using soft geometrical forms—in rebuilding this relationship. Reconnecting with nature is essential not only for personal well-being and neurological balance but also for establishing ecological responsibility. Michel Serres, in *The Natural Contract*, traced the historical and philosophical reasons for our weakened bond with nature and outlined possible new relations. Greek natural philosophy, Enlightenment Cartesian dualism, and the development of scientific thinking all widened the distance between human and nature. Phenomenology, feminist and queer ecologies propose strategies for overcoming dualistic thinking and recognizing interconnectedness, thereby constructing a new vision of nature. Moreover, artistic creation within the natural environment deepens perception, strengthens presence and connection. Within land art and ecological art, I focus on those practices where the intention of reconnecting with nature is central—such as artistic walks or works created in cooperation with natural elements (wind, sun, water). Water, as a co-creator

in art, can take three roles: as material or medium (e.g., Nicolás García Urriburu's or Olafur Eliasson's river-coloring works), as instrument (e.g., Mario Reis's or Laura Medcalf's water prints), or as a reflective surface that complements human creation.

Water–Mirror–Symmetry

The water surface functions as a special mirror: it reflects and receives, holds and transforms. It is not merely a surface but a boundary connecting two worlds, constantly changing under the influence of light and natural elements. This chapter examines the role of water surfaces in artworks situated in nature, with special focus on how they merge human creation and natural environment into an inseparable unity. **Márta Pán's** sculptures exemplify the dialogue of geometry and nature. Her works synthesize Western and Eastern influences, embodying both rigidity and flexibility, hardness and softness. Her floating sculptures establish a strong relationship with their environment, as water reflects and complements their forms. **Rachel B. Hayes's** textile installations play with transparency and color, situating geometric arrangements of fabric panels into natural settings, in between painting and textile art. The **Rakotzbrücke (Devil's Bridge)**, built in the 18th century, can be interpreted as an early land-art work. Constructed from basalt stones, it was designed so that its reflection would complete a perfect circle in the water. This demonstrates the idea that human creation is incomplete without nature's presence, and vice versa: the relationship is mutual.

Geometry as Dialogue with Nature

This chapter investigates the special relationship between geometry and nature, where geometric forms do not impose themselves upon nature as foreign, but rather reveal and reinforce its inherent universal structures. I present practices where geometry emerges simply, intuitively, empathetically, drawn out of nature and reinserted back, inseparably. **Javier Riera's** light projections reveal the geometry latent in nature, cast onto trees, bushes, or landscapes, often doubled by reflections in water. According to Riera, these forms do not destroy or rewrite nature, but merge with it, revealing hidden dimensions. I also share my own personal experience of discovering the torus form in a sunflower field. **Emma Kunz's** geometric drawings balance rational precision and intuitive creativity. Originally created as

diagnostic and healing tools, her layered grids and radiating patterns visualize energetic and cosmic flows, linking the physical and the metaphysical. In my own earlier terminology, I called this approach “sensual geometry,” where systems of form and color move toward sensuality, harmonizing instincts and emotions with structure and order. **Gizella Rákóczy**, working in relative isolation, systematically examined the arrangement of four basic colors (cadmium yellow, carmine lake, chromium oxide green, Paris blue) in squares and bands, guided by mathematical algorithms. Though minimal and rule-based, her works became deeply sensual and transcendent. **Agnes Denes** approaches geometry as “flexible geometry,” using mathematics as a pliant language to explore philosophical questions of human existence and our relation to the universe. In her series *Isometric Systems in Isotropic Space—Map Projections*, she reimagines the globe through different geometrical transformations while maintaining mathematical accuracy. Unlike her male contemporaries’ monumental land works, Denes’s ecological projects (*Wheatfield—A Confrontation*, *Tree Mountain*) emphasize care, cultivation, and collective responsibility.

The Luppa Pyramid

The *Luppa Pyramid* is a large-scale geometric structure placed in nature, constructed from neon-pink waxed leather thread stretched in a steel cube frame. Its realization was at once a meditative, technically demanding ritual and a communal event. I perceive the presence of geometric form in the landscape as a completely natural phenomenon. In my experience, nature as the medium of art most powerfully emphasizes art’s freedom and independence from institutions and man-made systems. Beyond this, I consider nature the “most valid” site for my geometric spatial installations, not only because sunlight most strongly activates their light-like effects, but also because in this relationship the order of creation, its sacredness—shared by both nature and geometry—becomes most visible and emphasized.

Conclusion

In conclusion, the concept of *soft geometry* may be approached in several ways. Physically, it refers to geometric forms constructed from textiles, threads, and flexible materials—as in Ruth Asawa’s sculptures or Akiko Ikeuchi’s installations. Softness also manifests in translucency,

when form does not block vision but indicates its presence subtly, as seen in the works of Anne Lindberg and Gabriel Dawe. A third aspect is the cooperative revelation of geometry inherent in nature, for example in Javier Riera's light projections. As a special case of this cooperation, the water surface was also analyzed: Márta Pán's floating sculptures, Rachel B. Hayes's textile installations, and the *Rakotzbrücke* all demonstrate how reflection transforms and completes geometric forms. In the face of the challenges of the digital age, it becomes particularly important to develop artistic practices that can rebuild our weakened connection with real space and with nature. *Soft geometry*—at once rational and intuitive, structured and organic—may play a key role here, creating a bridge between the dematerialized digital and physical experience.

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