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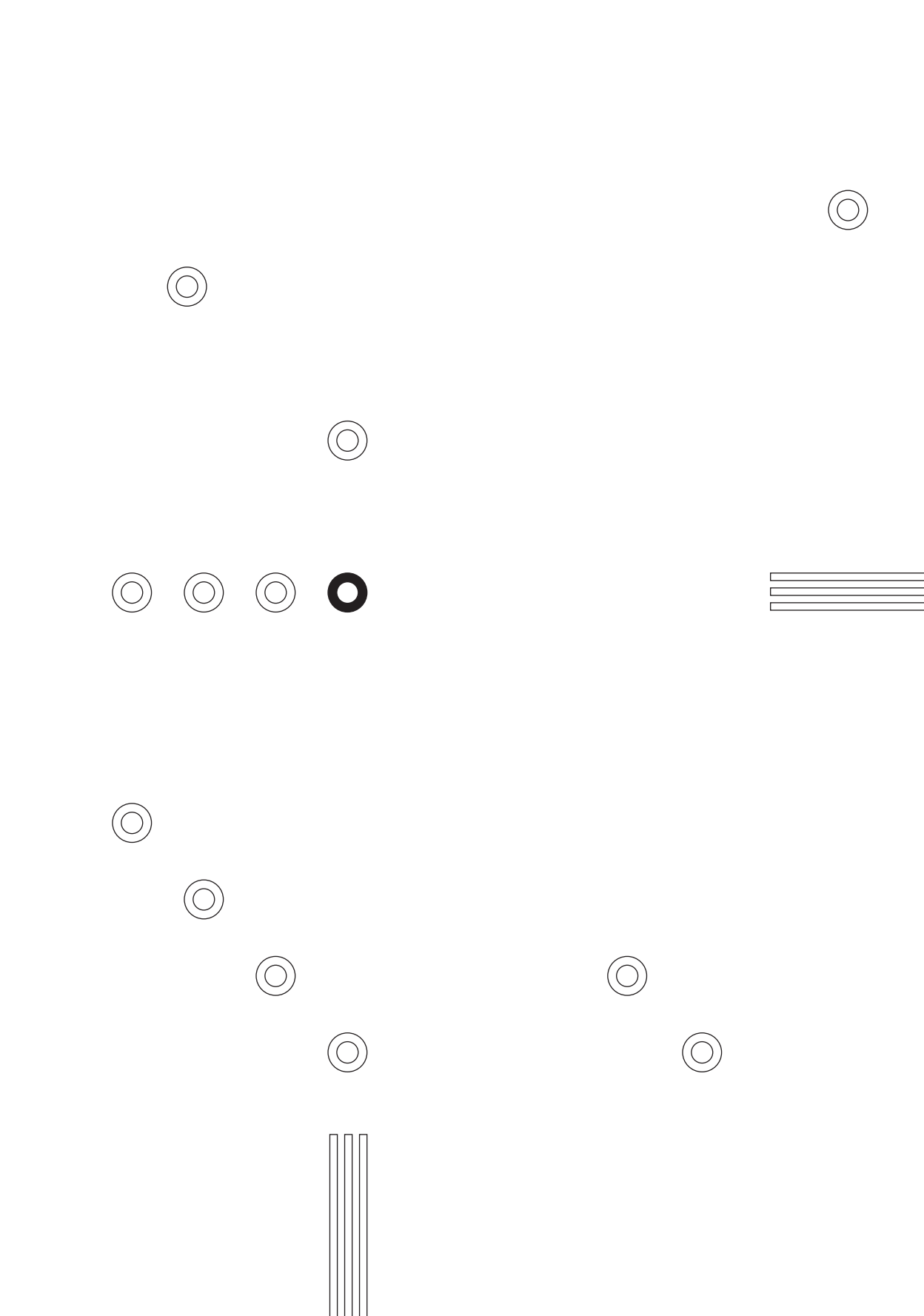
VI/02
journal of design culture
_S/D: Sign and Design



Disegno

Journal of Design Culture
Double-blind peer-reviewed, open access scholarly journal

Aims and Scope

Disegno publishes original research papers, essays, and reviews on all aspects of design cultures. We understand the notion of design culture as resolutely broad: our aim is to freely discuss the designed environment as mutually intertwined strands of sociocultural products, practices, and discourses. This attitude traverses the disciplinary boundaries between art, design, and visual culture and is therefore open to all themes related to sociocultural creativity and innovation. Our post-disciplinary endeavour welcomes intellectual contributions from all members of different design cultures. Besides providing a lively platform for debating issues of design culture, our specific aim is to consolidate and enhance the emerging field of design culture studies in the Central European academia by providing criticism of fundamental biases and misleading cultural imprinting with respect to the field of design.

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"FABRICA" AND "RATIOCINATIO"

INTRODUCTORY NOTES ON DESIGN AND SEMIOTICS

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Although Vitruvius' *De architectura libri decem* is generally regarded as the most ancient remaining piece of some sort of architectural theory, it is better to think of it as a book devoted to ancient design culture mutatis mutandis. We can do this retrofitting or intended retrospective anachronism with good conscience since a book on *architectura* written more than two thousand years ago can hardly be described as an example of the theory of architecture, since the concept did not exist at the time. A quick look at Vitruvius' masterpiece brings to attention, for example, that its tenth book is on *architectura organica*, which has naturally nothing to do with the mod-ern style and phenomena of organic architecture, but with the design and building of machines, tools, and instruments (that is, *organa*). Etymologically speaking, *architectus* (or its Greek equivalent, *architektōn*) means someone who designs and creates the principal structures of any designed environment. In order to do so, one applies *fabrica* and *ratiocinatio* at the very same time. On the one hand, therefore, the *architectus* is well versed in crafting basic structures, but he is equally capable of inventing, imagining, or designing these environments, objects, tools, and instruments, as well as clearly explaining and instructively interpreting their structure and executing process. Hence, according to Vitruvius, a designer who strives only to manual prac-tice without written culture (*sine litteris*) cannot be successful at all.

This is the clear context into which he introduces his rather laconic proto-semiotics, according to which, and as in everything else (and especially in designing) there are two fundamental parts. First, things signified (*quod significatur*), then, things that signify (*quod significant*). The things signified are those of which we discourse, signifiers in turn are discursive explanations based on scholarly principles. The designer must be well-versed in both aspects. Natural talent (*ingenium*) is not enough, scholarly discipline (*disciplina*) is also very much required. On the following pages of *De architectura*, therefore, one can read the famous encyclopaedic model of Vitruvian education, which can be seen as a

telling precursor of the more recent interdisciplinary models of design culture studies (Alsted 1630; Hearn 2003). As Vitruvius explains in Book 1, Chapter 1 of De architectura, the good designer, in turn, is trained in (among other things) drawing, geometry, history, philosophy, music, medicine, jurisprudence, and astronomy to a level that guarantees fruitful dialogues between different stakeholders of a given project to build truly liveable environments and beautiful, good, and just worlds.

However, not everyone is happy with this primordial constellation of design and semiotics. Although the real decay of semiotics in the Humanities began sometime after the heydays of structuralism, post-structuralism, and postmodernism, which, although initially provided a highly popular view of design as a natural language, in the end it also resulted paradoxically in a decadent hypertrophy of semiotics, especially in postmodern architecture, in which half-baked theories blossomed. This happened to such an extent that influential critics such as Klaus Krippendorff—whom we published in translation in a previous issue, and who kindly provided academic support to *Disegno* thanks to Péter Wunderlich's acquaintance with him—began to try to "transcend semiotics" and introduce a certain "semantic turn" in design culture as a new foundation for design (Krippendorff 1992, 2006.). Even more powerful criticism came from exponents of "theory after theory" such as Hans Ulrich Gumbrecht who underlined the importance of "producing presence" versus creating meaning, thus symbolically ending the era of the hermeneutic or the semiotic that began during the Reformation with the transformation of the Catholic Holy Mass into the Reformed Lord's Supper in which the original magical presence of the substance of Christ's body and blood in the accidents of bread and wine were transformed into pure symbols by means of eliminating the good old Aristotelian idea of transubstantiation (Gumbrecht 2003). Later, the emergence of somaesthetics, theories of atmosphere, or the return of aestheticism proved equally important to this process, to mention only a few examples of new currents in cultural studies that have seemingly overshadowed semiotics in the last decades (Shusterman and Veres 2023; Böhme 2017; Joughin and Malpas 2003).

Despite all critical tendencies, design semiotics can still be quite relevant to design culture studies. From Renato De Fusco to Matthew Holt, many distinguished scholars clearly regard semiotics as the best means of understanding designed phenomena and hence design culture (De Fusco 2005; Holt 2017). De Fusco claims that design has a particular role in the continuation of the "unfinished project of modernity" (Habermas) and semiotics is eminently important in this endeavour. Matthew Holt on the other hand argues that "any theory of the sign is […] a theory of constructed meaning—of designed meaning." (2017 S333)

Correspondingly, given that the broadest understanding of semiotics in Morrisian terms can be best represented in the so-called "semiotic cube" by Józef Maria Bocheński, which comprises semantics along with syntactics and pragmatics (Bocheński [1954] 1986), we can still regard

Krippendorff's theory as an advanced design semiotics. As once he put it, "design is making sense (of things)." (Krippendorff 1989, 1) This is still a reliable common denominator of different attitudes of design semiotics as the famous Italian designer Michele De Lucchi so perceptibly expressed it when he referred to his beard as his first design that differentiated him from his twin brother. (Szentpéteri 2013). This semantic act can easily be grasped both in syntactic and pragmatic terms as well, and this combined analysis would provide a quite plausible and truly palpable understanding of the Italian's ultimate design intervention.

In the following contributions, there are new papers devoted to the topic we collected from a conference held in December 2021, at the Moholy-Nagy University of Art and Design, in the Doctoral School on the 6th PhD Day titled *Design Culture, Semiotics, Education*, alongside papers we received for our open call.

Beyond these semiotics-focused writings, this issue proudly includes two papers on different subjects: one by Joana Meroz, on what life/non-life differentiations can mean in the widest sense of design, and one by Maressa Park, on the radical restaging of the revolutionary musical, *Oklahoma!*

Márton Szentpéteri

REFERENCES

Alsted, Johann Heinrich. 1630. *Encyclopaedia septem tomis distincta*. Herborn: Corvinus.

Bocheński, Józef Maria. (1954) 1986. *Die zeitgenössischen Denkmethoden*. Tübingen: Francke.

Böhme, Gernot. 2017. *The Aesthetics of Atmospheres*, edited by Jean-Paul Thibaud. London: Routledge.

De Fusco, Renato. 2005. *Una semiotica per il design*. Milano: FrancoAngeli.

Gumbrecht, Hans Ulrich. 2003. *Production of Presence. What Meaning Cannot Convey*. Stanford: Stanford University Press.

Hearn, M. Fil. 2003. *Ideas That Shaped Buildings*. Cambridge: MIT Press.

Holt, Matthew. 2017. "Semiotics and Design: Towards an Aesthetics of the Artificial." *The Design Journal*, 20 (Sup1): 332–41.

Joughin, John J., and Simon Malpas, eds. 2003. *The New Aestheticism*. Manchester University Press.

Krippendorff, Klaus. 1989. "On the Essential Contexts of Artifacts or on the Proposition That Design Is Making Sense (of Things)." *Design Issues* 5 (4): 9–39.

Krippendorff, Klaus. 1992. "Transcending Semiotics: Toward Understanding Design for Understanding." In *Objects and Images: Studies in Design and Advertising*, edited by Susann Vihma, 24–47. Helsinki: University of Industrial Arts.

Krippendorff, Klaus. 2006. *The Semantic Turn: A New Foundation for Design*. Boca Raton: Taylor & Francis, CRC Press.

Shusterman, Richard, and Bálint Veres, eds. 2023. *Somaesthetics and Design Culture*. Leiden: Brill.

Szentpéteri, Márton. 2013. "A designtörténet leghíresebb szakálla—Michele De Lucchival Szentpéteri Márton beszélgetett a Moholy-Nagy Művészeti Egyetemen." *Octogon Architecture and Design* 108: 88–93.

Klaus Krippendorff (1932–2022)

Mary Angela Bock

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On October 10, 2022, my mentor and friend, Klaus Krippendorff died at the age of ninety. Dr. Krippendorff was the Gregory Bateson Professor Emeritus of Communication. He spent fifty-eight years on the faculty of the University of Pennsylvania's Annenberg School for Communication, the longest-tenured faculty member in the history of the school.

Klaus was best-known as a pioneer in the study of content analysis but was also influential in the fields of cybernetics and design. I like to say that he was the scholarly version of an athlete who plays for the NFL and the NBA. He connected the spheres of communication and design in *The Semantic Turn* (2006), in which he argued for a paradigm shift in the design theory to recognise the role of human beings in the creation and use of artifacts. This was no small shift, he argued, as "Artifacts are prostheses of the human mind, being, and doing." (36)

It is natural that Krippendorff entered the world of communication via cybernetics. He had a degree from the State Engineering School in Hanover, Germany, and earned a design degree from the experimental Ulm School of Design, one of the most influential institutions of its kind following the Bauhaus movement. After completing his PhD in Communication at the University of Illinois, the Annenberg School for Communication at the University of Pennsylvania became Dr. Krippendorff's academic home.

Krippendorff approached communication studies with this foundation of engineering and design, thinking in terms of systems for human interaction. His desire to always see the "machine" behind the process is reflected in the way he diagrams his ideas. As he guided me through my own research, I remember him sketching his interpretations of my ideas. My own model for visual affordances in social media, which I theorise as an uncontrolled "tornado," was influenced by his persistent reminders about recursivity.

Forever interested in the "design" behind communicative systems, Dr. Krippendorff was a leading scholar of cybernetics, a theoretical approach that remains influential today in psychology, social systems and machine learning. He was granted the Norbert Wiener Medal in

Cybernetics by the American Society for Cybernetics in 2001 and the Norbert Wiener/Hermann Schmidt Prize from the German Society for Cybernetics and German Society for Pedagogy and Information in 2004.

Yet for this major league player, it was not enough to dominate just one paradigm. During his early years at the Annenberg School, Krippendorff became the world's leading methodologist for content analysis. His name is almost synonymous with this method, which is unique to the study of media and communication. His textbook, *Content Analysis: An Introduction to Its Methodology* has been cited more than 50,000 times and it received the International Communication Association Fellows Book Award in 2001. The book has been translated to Hungarian, Japanese, Spanish, and Italian.

Krippendorff's approach to the content analysis blends his goals of useful design and precision with the variability that comes with human activity in research. It's one thing to count the number of times the word "yellow" appears in a newspaper article; a computer can do that. But what of something like identifying "violence" in a TV program? This question motivated Dr. Krippendorff in the 1960s, when he worked with former Annenberg Dean George Gerbner on the famed television violence studies. How could researchers be sure that the people who were scoring programs for violent content were in statistically sound agreement about those scores? Krippendorff's answer was *Alpha*, perhaps his most well-known contribution to the academy. This coefficient remains the gold standard for content analysis research.

Yet even with this methodological triumph, Dr. Krippendorff was not finished exploring the world of human communication. Content analysis can answer many questions about texts, but he once remarked to me that we must go beyond "counting things." His curiosity as a philosopher took him into new territory once again, and when he became president of the International Communication Association in 1984, his inaugural address established his vision for the social construction of reality and its implications for research.

I met Dr. Krippendorff in this stage of his career, when he was writing and teaching extensively on the discursive constructions of reality, a philosopher in its truest sense. I clearly remember the very day I met him because I was so inspired by his philosophical approach to research. He agreed to supervise my work, and I spent many an afternoon in his home, where he preferred to meet, discussing what became a theoretical foundation for studying photojournalistic meaning. Dr. Krippendorff had never written about photojournalism or journalism generally, so my topic had nothing to do with what interested him except in this larger philosophical sense, and that is where we overlapped, and always will. We shared an understanding of the researcher's relationship with the researched, the notion that meaning is co-constructed with others, and the resulting ethical standpoint that comes with such a theoretical foundation.

Dr. Krippendorff explored the nature of the universe and questioned what was possible to know about it, blending cybernetics into the relationship between language, perception, and the ethical use of power. I and many of his students have been inspired by his insistence on equality in research relationships. In his 2003 essay, "The Dialogic Reality of Meaning," he wrote: "Recursive constructions not only call on a certain openness, indeterminacy, and acknowledgement of others' agency, which goes against psychological theory, they also call on us to abandon the position of the superior outside observer" (6).

Dr. Krippendorff wanted to design a better world for all, whether that means encouraging researchers to be mindful of their own power positions or making sure that a cooking area had room for "small kitchen machines." He liked to work from his home, an historic rowhouse in Philadelphia that he had renovated, and we often met there as I worked toward my doctorate. He took great pains in this house, and others, to make sure each space was functional. During his memorials, friends and families reminisced about the many design touches he made to his home and theirs. He installed a swing for his children in the middle of his living room. He rebuilt kitchens. He supervised a bricklayer in making a unique design that had no repetition. He built a conversation pit in his home so he could spend time conversing with friends and colleagues about philosophy, communication, and life. Dr. Krippendorff even designed a logo for the International Communication Association that was used for many years. Human centered design was not just a book subject for him.

During my visits, I learned bits and pieces about his childhood in Germany, his memories of bombings during the war, and of his family escaping danger. I am certain these experiences are part of what made him as sensitive to the human condition as he was insightful about cybernetics.

His blending of design theory, cybernetics and the dialogic nature of reality lives on through his influence of today's researchers. My first PhD student, Krishnan Vasudevan, now on the tenure track at the University of Maryland, was inspired by *The Semantic Turn* and the implications of its philosophy. In recent correspondence with me, Vasudevan wrote: "Specifically, his ideas allowed me to understand how meaning is not only constructed through information but also the designed forms it is presented within. During a time when interactive technologies mediate nearly all aspects of life, I have found Krippendorff's prescient insights especially helpful in my research about digital platforms, capitalism and race."

Dr. Krippendorff was a feminist and an anti-racist but avoided such labels. He called himself an emancipatory scholar and wanted everybody to live their best life. He supported me through my doctorate and beyond. When I took on a tenure track job at The University of Texas, I poured out my anxieties to him at a conference just before the job began. "You know what to do," he said. I wrote it on an index card

that remains on my office bulletin board to this day. By not giving me practical advice on what to do, he gave me something so much more important: evidence of his faith in me.

Many of the tributes that have come out since his death cover his scholarship and his kindness; his contributions to design, cybernetics and discursive theory. Tying these strands together is the fact that Dr. Krippendorff was a philosopher in its truest sense. He explored the nature of the universe and questioned what is possible to know about it. He thought deeply about how researchers, no, really each of us, should interact with our fellow human beings. He is the only academic I know of to emphasise the importance of human love in an article about cybernetic systems. Klaus Krippendorff never stopped trying to build a better world, whether with his hands, his teaching, or his writing. The best way for any of us to honor him now is to follow his example.

DESIGN, SEMIOTICS, ANTICIPATION

Mihai Nadin

ABSTRACT

From the Why semiotics? question to the specific aspects of the semiotic underpinning of design the journey is one of discovery. Indeed, design is discovery, i.e., it is anticipation-driven. Therefore, nothing qualifies as its foundation. Design as a process does not require secure preliminaries (theories) from which to set out. It does not require a "place to stand," a necessary reference, from which to start the adventure. Design assumptions are by their nature questions guiding anticipatory action. They are circumstances of conflict (the old, the current, the new), which semiotics registers very much like a seismograph. The "earthquake," i.e., the creative design, is not the graph of the Earth shaking, but a new landscape. The interruptive character of design inquiry, i.e., its disruptive nature, is especially significant when subjected to the après-design analytic moment. This is when recursive definitions (of aesthetic nature, semiotic, economic, cultural, political, etc. significance) are used as a metric of design, creating the illusion that they can become some norm. Actually, design creates a context for meaningful interactions. Design's self-motivating nature of inquiry escapes such exercises. The activity called design is constitutive of the new, not the celebration of the past. Therefore, we present not only what has so far been learned from a design informed by semiotics, but also what might better serve designers in the context of the rapid change we experience in our days.

#anticipation, #discovery, #meaning, #narration, #semiotics

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The plan pursued in this paper is simple:
1) Preliminaries—easy-to-follow explanations regarding the WHY? question of semiotics.
2) A formal synthesis of what designers ought to know about the semiotics du jour (current dominant ideas), i.e., the WHAT? question.
3. An attempt at alternative foundational views of semiotics.

1 PRELIMINARIES

1.1 Why do designers need semiotics?

The only reason for revisiting the subject (at the suggestion of *Disegno*—a journal focused on design culture) is the unabated optimism of a design educator (and theoretician) still trying to understand what design is—and why we need it. Especially in a day and age when text-to-image machine learning (under various labels) generates pseudo-design at the level at which, unfortunately, design is practiced today. Of course, design continues to change (otherwise it would die); so does the automated generation of pseudo-design. If artificial intelligence is trained on mediocre design, it will generate the same. But this is also true of design education. In its deepest meaning, design is an activity through which human beings became what they are while creating realities for their various activities.

Design is consubstantial with the sense of the future characteristic of everything that is alive. This understanding is key to framing the relevance of semiotics in design—and it includes design education. Study music if you intend to become a composer or play some instrument (virtuoso level or for pure pleasure). Studying music does not make you more talented, but it gives you what it takes to understand what you do, even if you create new, original forms of music, new realities expressed in sound form. Neither semiotics nor any theory—of design (yes, music is designed!) or of anything else, including complex networks theory, computer science and artificial intelligence, and genetics—will compensate for lack of talent, or for inadequate design skills. If you are dedicated to navigating the ever-more agitated ocean of change in the hope of discovering new continents (or islands, at least), a compass might come in handy; or if you build a house, scaffolding in some form is unavoidable. When we listen to a concert, we don't

hear the scales that the musician trained on day after day, year after year. But without them, there is no music. Learning the basics applies as well to dancers, actors, painters, sculptors, even poets.

There has never been more design than today. And never has more money been spent on junk design. For all that design still contributes to culture, no other field promotes a more unsustainable way of living than design. It promotes a delusional understanding of progress to consumers at the expense of the future. Advertising—making Silicon Valley richer by the minute—is an activity with an effectiveness below two percent. When everyone seems to know what design is, and what qualifies as successful design (i.e., successfully monetised), it is justified to entertain a simple but direct question: Is there some way—such as studying semiotics—to guide designers and the public in matters of design?

In this context, another question pops up: *Why* semiotics? It is easy to find a justification for other disciplines—communication theory, psychology, cognitive science, culture theory, anthropology, etc.—when trying to explain what design is. In the peer review process, I was gently reminded that hermeneutics (Follesdal 1979, as well as Ricoeur 1981, 1986; Heelan 1972; Ihde 1997; Markus 1987, among others) facilitates the experience of interpreting texts for the visual realm. Indeed, with DALL.E2 and Midjourney, words are originators of images coming out of the large "mixer" of training data (the whole web, museum collections, design production, etc.). Accordingly, hermeneutics cannot be disregarded. In the same vein, the actor-network theory—ANT—(Latour 2005) cannot be omitted when providing a broader context. Any productive question should be considered. What should not happen is that we lose sight of the whole: trees are important, but the forest should remain the focus.

For semiotics, the situation is more challenging. As an encompassing theory of signs and sign processes, it does not resolve any design-specific problem. Accordingly, some see semiotics, not unjustifiably, as a useless intellectual overhead: study definitions, compare various kinds of semiotics (e.g., Peirce, de Saussure, Lotman, among others); learn words that have nothing to do with what a designer is expected to do, or that might help those who use design. Seen in this light, it really is useless. This is not unlike its application in medicine: symptoms deserve attention, but healing does not come from the semiotics of disease. Again, in this limited understanding, semiotics can, at best, be consulted after a design is finished, more of an afterthought than a guiding principle or method.

"Why semiotics and not information theory?" pops up as the next justified question. Without probing the subject in depth here (for details, see Nadin 2018, 2019), let's place it in the current context of the obsession with big data.

In our time, everyone wants numbers—which means data—and therefore everyone measures everything. Due to this expectation alone, advertising—this is where Silicon Valley sucks in the billions—wastes not only money, but also resources. Yet we continue to measure, in a culture in which wasting (somebody else's money) is a source of wealth. Semiotics does not offer a metric by which one can at least distinguish between adequate and marginally acceptable design. But it opens a perspective crying for our attention: *meaning!* Data is not information. It becomes information once it is referenced to meaning (Nadin 2018, 2019). Unfortunately, in the hands of incompetent, so-called semioticians, even semiotics itself, in defiance of its own condition, submitted to quantification and the measurement craze. For some, it became a numbers game—such as in the so-called ecological evaluation of user interfaces—instead of a pursuit of meaning.

The failure of semiotics itself to resist opportunism fragmented the field to such an extent that it sacrificed its fundamental condition: being a *meta-discipline*. Indeed, feminist semiotics, legal semiotics, gender semiotics, etc., are caricatures of a discipline meant to describe how our thinking (focused on representations), and our doing (the making of everything, from ideas to government, to revolutions and wars, etc.) come together and make sense. Semiotics is holistic—what counts is the *whole*. Reductionism—dividing semiotics into several parts to be examined in no relation of one to another or to the whole—kills the living nature of sign processes. Those who miss the necessary understanding of the holistic nature of sign processes end up missing the understanding of design as a holistic expression.

Semiotics and design are as inseparable as scales are for making and experiencing music; or as movement exercises for dancing; or as drawings for building a house or a machine. Or better yet, as inseparable as programs from the functioning of the simplest to the most complicated machines. Yes, semiotics integrated in design is the program. We need to understand programming above and beyond the mechanics of writing instructions in convoluted languages that translate our thoughts into what the digital machine can process. In the absence of a program, the old meatgrinder—remember this kitchen tool?—is only a set of various pieces of metal. The hand crank, the screw clamp, the blades, and all it takes to assemble it and make it workable are part of a whole with a precise function: turn a chunk of meat into ground for your burgers or meatballs. The combustion engine can become a car on account of an elaborate design program in which a motor is only part of a whole called *automobile*. The bicycle and the surfboard are nothing but hardware of a sort, unless "programmed" to allow for functions that we call bicycling or surfing. Theories such as those describing the Social Construction of Technological Systems (Bijker, Hughes, and Pinch 1987) imply that designing integrates design-specific contributions

and users as co-designers. Neither bicycles (motor-assisted or not) nor the internet-grounded activities they analyse are co-designed. There is no design interaction to account for, but rather conditioning through design. The myth of collective wisdom extends to customisable products (e.g., user interfaces) that are actually selections from a predefined set. Semiotics and design as a semiotic activity (the art of design) are by necessity the expression of the individual experience integrated in an open-ended process, i.e., *semiosis*.

1.2 What designers need to know

As important as it is to debunk pseudo design theories, let's not forget the initial question: Why semiotics? Does semiotics turn the metal pieces that a meatgrinder is made of? Of course not. Semiotics does not turn the motor into a car, or the two wheels held in a frame with a handlebar into of what we call a bicycle (with or without battery). The programming that design provides is semiotic programming in the language of design. What is programmed, i.e., made possible, is *meaning*.

Semiotics, as the science of sign systems of all kinds (the language of mathematics, the formalism of physics and chemistry, the notation systems of music, of dance, of the World Wide Web, etc.) is the domain of meaning. Logic that guides human thinking is about what's true and what's false regarding mind operations such as inductions, deductions, inferences, calculations. What does it mean to say that "Semiotics is about meaning"? There is the "Know how"—how to grind meat, how to drive a car, how to bike, how to surf—and there is the "Know that," i.e., the science behind all that it takes in terms of knowledge and skill to make new things (Ryle [1949] 2009).

Everything is designed. Sometimes successfully, other times not. Constitutions, governments, highways, posters, songs, user interfaces, websites, fashion, food (not just its presentation), drugs (for medical purposes or for so-called recreational use), babies, education, bank robberies, currency (crypto, anyone?), chat GPT, wars, and peace agreements. For your own enlightenment, name one thing in your life that is not designed. Of course, there are some things that are not subject to design: toothaches and heart attacks are not designed, likewise sneezing, falling in love, and making children. Or stones on a beach. Earthquakes. But as soon as human beings purposefully make things happen, as soon as individuals constitute themselves through their actions (We are what we do!—recall *The Civilization of Illiteracy?* Nadin 1997), they identify themselves, as semiotic animals (*zōon semiotikon*). This is the identity of the designer—the animal that makes a meaningful future happen for some explicit or implicit *purpose*. Aristotle is watching (even those who never heard his name): "The specific difference is that part of the essence which distinguishes the subject from other things of the same genus or kind" (*Categories*, 350 BCE).

Is a bird's nest designed? Is a beaver's ingenious den designed? Asking these questions before advancing the idea that *Homo sapiens* are designing beings will spare us the embarrassing realisation that other creatures also design. Their designs are the expression of the anticipatory nature of life: do what it takes to preserve it (fig. 1).

FIGURE 1. *A bird's nest and a beaver's den—anticipation expression: natural forms that we perceive as design of the living expressed as what we perceive as design. Design is purposeful above and beyond survival. Author's archive.*

If we take note of the fact that quite often design is not the purpose, as is it in human activity, then we realise that there is a distinction between a bird's nest and a skyscraper. Design is purposeful above and beyond survival. This is where thinking enters the picture. And there is one more distinction: design is something that is associated with the sign, in other words the way in which we re-present goals and purposes. Therefore, design is always the unity of syntax (formal aspect of representation), semantics (understanding), and pragmatics (what for?). Design is, within culture, a sui generis educator. In association with art, poetry, film, and media, design promotes values.

Design starts as a semiotic process, and it is best represented by how tools come into being.

For those aware of semiotics, it is easy to realise that the hammer—one of the first tools, a stick with a stone attached to it—is an extension of the hand. Semioticians would call it an iconic representation (fig. 2).

FIGURE 2. *Semiotic evolution of the hammer: from iconic condition to symbolic function. Author's archive.*

In time, this extension of the hand acquired functions that the hand itself could not achieve. Of course, if you have a hammer in your hand, you have more power than someone who doesn't. Tools are empowering. This is how from the iconic level—imitate the arm—people proceeded along the sign process to achieve the symbolic level. The gavel in the hands of a judge signifies many things. But the hammer can also become the hammer that ignites the bullet in a gun (fig. 3).

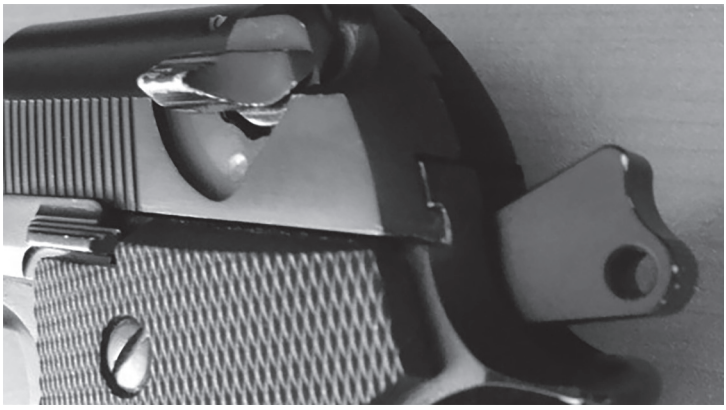

FIGURE 3. *The hammer ignites the propellant in the bullet. Design empowers—and not always in the most desirable manner. A long way from the ur-hammer. And designs evolve! Ever thought about the cell phone as a weapon? Author's archive.*

At this instance between the direct action—hitting the nail on its head—and the indirect action—triggering the process through which an explosion is produced, we notice a chasm. Reflect upon social media—the most pervasive design of our time—and its possible destructive potential. To design is to guide actions through which the possible futures become reality. Designers make possible means and methods for triggering change. Through semiotic means—what else are the infinite numbers of web pages and the associated browser technology for facilitating interactions?—the anticipated future is turned into a new reality.

There is no identifiable need for a theory of design. Bees and birds do not know semiotics; beavers build their abodes ignorant of any theory of design, or of science. While each of the animal or bacteria expression of anticipation is based on that particular organism's need to survive, design is social in nature. It transcends the limits of a beehive—a small community. The social scale of design is testimony to a process that makes design a necessary component of a society. While the word *design* points to an activity focused on the sign, it could also mean not only *from the sign* but also *on account of the sign, concerning the sign, according to the sign*, and even *through the medium of the sign*. The programming aspect—to program meaning—is reflected in the variety of ways in which a design facilitates human interaction. Design has formal aspects (the looks, the materiality), but in the final analysis, it is a pragmatic endeavour: it facilitates meaningful human action, with the emphasis on *meaningful*.

Here is the place to rehash semiotic concepts. Semiotics as a discipline reflects the nature of knowledge acquisition. It was conceived (actually constructed) and developed in order to facilitate activity in the domain of what is meaningful to society and its members.

1.3 From form to *Gestalt* to design

Designers are among those professionals who have shown a first and continued interest in the modern revival of semiotics. In search of a theory for a field of human practice characterised by the lack of a conceptual discipline, designers, especially those formed in the Ulm School tradition (which built upon the Bauhaus), were willing to adopt semiotics as their theory. They expected that semioticians pay attention to critical problems of design and not extend a logocratic model (i.e., based on how language works) where something else—understanding images—seemed necessary.

Maldonado—an impressive author of texts on design theory—undoubtedly deserves credit for being receptive to semiotics and making it part of his own design concept. At the initiative of Theo Crosby (architect, sculptor, writer, designer, founder of the design and architecture firm Pentagram, and editor of *Uppercase* magazine), and with the assistance of some of his students—Guy Bonsiepe should be mentioned here—he published several articles dealing with semiotic concepts and their pertinence to design, see, for example Maldonado (1967). Bonsiepe embraced semiotics to the extent of defining design as interface—sign systems bridging between realities. This happened when Europe, still in love with semiology (based on de Saussure's work on language) discovered Charles S. Peirce. Max Bense, continuing his search for a scientific foundation of aesthetics, arrived at sign theory (1970, 1971). East European designers, facing constraints typical of authoritarian regimes, approached the semiotic problems of codes with new hope for their future work. Working with semiotics, a designer could avoid the trap of ideological discourse. On the American continent, the interest of designers in semiotics was expressed quite late, mainly through students and scholars from Ulm (the famous Hochschule für Gestaltung), or by contamination from other fields—predominantly from literary studies. Americans were intellectually too lazy to get to the core of Peirce's semiotics. This has not changed over time. The quick-fix expectation still dominates. This short historic note is hardly a rigorous account of names and events, but an explanation of work that results from applying semiotics to design, or from looking at design from the semiotic perspective.

A certain turn in my life (i.e., forced emigration) put me in the position of being able to devote many years to the issue. I carried with me what I learned from Hans (János) Mattis-Teutsch, a friend of Moholy-Nagy (with Lajos Kassák they published *Ma*, also the name of a group). Mattis-Teutsch taught design in Brașov (Romania) and was preoccupied with

conceptual aspects of designing works of art (his own sculptures and paintings included, Nadin 1977). From Solomon Marcus—a superb mathematician—I brought semiotics with me, studied in depth, and applied it to art, architecture, theatre. All this informed my teaching of design and semiotics in Germany and the introduction of computational design. Upon my arrival in the USA, I initiated the teaching of semiotics to designers (Rhode Island School of Design 1981–1985, Rochester Institute of Technology, 1984), the development of original courses for practicing designers who wanted to apply semiotics in their work, and the application of semiotic principles to my own design work pertinent to computers and artificial intelligence (Nadin 1986).

Design happens to be a rather unsettled field of human creativity, without critical method (and without methodical criticism), and without the means to construct one for itself. People who worked in typography, printing/printmaking, jewellery design, architecture, textile, heraldry, ceramics, fashion, and other arts started identifying themselves as designers a bit over a century ago. Design is a general concept that covers various aspects of human culture. It describes the underlying quality of objects, actions, and representations which various people make possible in a given culture and within a value framework.

To design means, among other things, to plan, to anticipate according to a devised course of events in view of a goal and under the influence of an environment. Björn Englholm (1984), in an article that deserves the attention of both designers and semioticians, referred to a time "Als man zu Design noch Gestaltung oder Formgebung sagte" (when design was still called *Gestaltung* or form-giving; my translation).The shift in terminology he described is taken a bit too seriously, to the extreme that, under new names, design products "identified as good" offend the eye.

In today's design, ideology is written in upper-case letters. American design or Italian design is no longer concerned with a subject, but with representation. Design degenerates into sign. (Englholm 1984, 6) [my translation.]

Does it? Or is the process different in nature: is matter (subject of work, such as in processing materials) replaced by its representation and subjected to digital processing? The internet, and by extension the web, changed the entire environment. AI and machine learning are even more disruptive. In the grip of the mother of all machines—the Turing machine—design became a necessary intermediary. With more than seventy years of active involvement in design, Bonsiepe could celebrate his prophetic statement that design is by necessity an interface. But is it? Machine Learning took over the UX business precisely because it was no longer a form of design, but rather an appeasement of the machine model.

The "new" designers—technologists of design—now apply complex knowledge, use sophisticated expressive means, and pursue function-

ality, mimicking aesthetic quality in inciting the user to interact with the design, to "complete" it in the process of using it (the pragmatics of product). (Is this what the ideologues of social castration of technology had in mind?) *Jugendstil* designers beautifully concentrated on syntactic aspects. *Bauhaus* started with strong semantic overtones. The so-called product semantics—an attractive product design aimed at maintaining product form as close as possible to what users perceive the product to be—should be mentioned as an example (despite the primitive thinking often embodied in the theory developed). Very few designers concentrate on pragmatic issues, critical in this age of fast-changing contexts in which design is perceived and interpreted. Ray and Charles Eames come to mind; and maybe Florence and Hans Knoll. I claim that, despite their fundamental differences, the Bauhaus and postmodern models share a common focus on the pragmatic level of the sign: Bauhaus in accord with the socialist ideology it embodied; the postmodern along the line of a better understanding of our new human condition in this age of technological renewal and scientific discovery. Design acquired, in the postmodern, qualities reflecting the semiotic awareness of designers. The world is "semiotised." Humans work less and less with real objects, and more and more with their representations. Therefore, designers are forced more to shape representations than to shape realities.

2 ON THE SEMIOTIC NATURE OF DESIGN

The process of designing is quite difficult to describe due to the interdisciplinary nature of design. Design covers such various fields of activity as architecture (from landscape to interior, urban, monumental), visual communication, engineering, and industrial design. It is one of the most pervasive human activities. The "specialised" components (e.g., planning, aesthetic quality, the social and psychological aspects of design and the designed product, communication, science, technology) require an integrative procedure. A self-critical moment, allowing designers as well as users of design to compare new designs with previous work and situate design in the broader context of culture and civilisation is desirable. The design process, in its close relation to design products and their use, implies design intelligence, cultural sensitivity, and a critical attitude—semiotic components of the many other forms of human activity.

Design principles are semiotic by nature. To design means to structure systems of signs in such a way as to make possible the achievement of human goals: communication (as a form of social interaction), engineering (as a form of applied technical rationality), business (as a form of shared efficiency), architecture, art, education, etc. Design comes about in an environment traditionally called *culture*—currently identified as artificial through a rather romantic distinction between natural and artificial—and acts as a bridge between scientific and

humanistic praxis. Along this line of thinking, Herbert Simon stated, "Engineering, medicine, business, architecture, and painting are concerned not with how things are but with how things might be—in short, with design." ([1969] 1996, xii) The object of semiotics is sign systems and their functioning within culture. For a long time, one type of sign—the symbol—was considered representative of all signs in human culture:

For most of us [...] the significant part of the environment consists mostly of strings of artifacts called "symbols" that we receive through eyes and ears in the form of written and spoken language and that we pour out into the environment—as I am now doing—by mouth or hand. (Simon [1969] 1996, 2)

Actually, we perceive signs through all our senses, and we generate signs that address the same.

2.1 Sign horizons

In order to apply semiotics, we have to settle upon one of the many definitions of sign that have been advanced and then use it in relation to design. The definitions fall into two basic categories:

1) Adoption of one kind of sign—usually pertaining to verbal language—as a paradigm, with the understanding that every other sign is structurally equivalent. Artificial intelligence researchers are quite comfortable with this model. The Swiss linguist Ferdinand de Saussure (1857–1913) advanced a definition of the sign as the unity between a *signifier* (the actual sign embodied in some material form such as words, shapes) and the *signified* (what the sign is supposed to mean).

2) Adoption of a logical structure, with the understanding that each type of sign and each sign operation can be described within a panlogical system. The American scientist and logician Charles S. Peirce (1839–1914)—a pioneer of the computer—advanced a definition of the sign as "something that stands to someone for something in some respect or capacity." (Peirce, CP 2.228)

No matter which definition is adopted, the question of semiotic relations governing sign processes necessarily comes up. Remaining within the realm of the sign as a symbol, Simon felt entitled to state:

The laws that govern these strings of symbols, the laws that govern the occasions on which we emit and receive them, the determinants of their content are all consequences of our collective artifice. ([1968] 1996, 2–3)

Both de Saussure and Peirce described the same through the role of the social, a semantic equivalent of "collective artifice." Although Simon is mistaken in limiting the sign to the artifact, he is correct in considering signs as having an air of contingency (natural phenomena having an air of necessity, in his opinion).

The panlogical definition of the sign is more appropriate to design, an activity in which the visual dominates. However, there are numerous instances when the Saussurean definition, (or some of its refined versions for which we are indebted to contributions of the French School of semiology) can be used as an efficient analytical tool. Nevertheless, I shall apply the panlogical definition in this text due to its appropriateness to the subject of design and my intention to present examples of semiotics applied to design.

2.2 Explanatory models

Design activities are not reducible to the model of verbal language (or of any other sign system). On the basis of Peirce's definition given above, this diagrammatic representation (not the only one possible) can serve as an operational model (fig. 4).

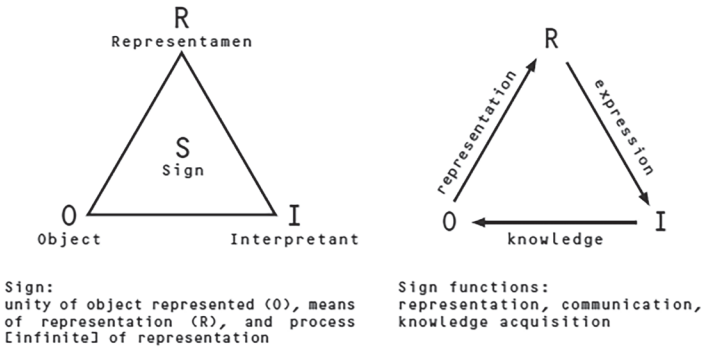

FIGURE 4. *Sign definition and sign functions. Illustration by the author.*

Semiotic levels at which sign processes (semioses) take place, levels that became familiar and important in design, can also be depicted (fig. 5).

Syntax: the relation between signs, how signs are constituted

Semantic: the relation between sign and object, what the signs are conveying

Pragmatic: the relation between signs and the user, what signs are used for (Morris 1938).

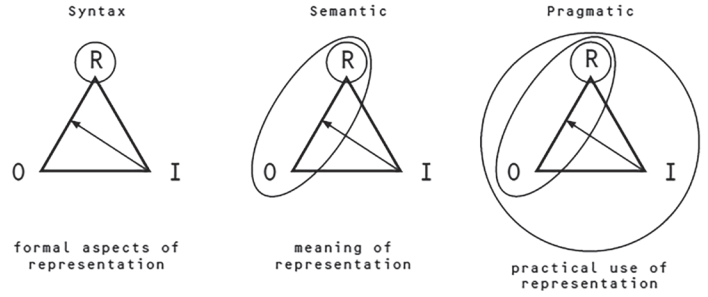

FIGURE 5. *Semiotic levels. Illustration by the author.*

There is little trouble in understanding from this that no sign can be considered independently of its relation(s) to other signs, be these similar (such as words in a given language) or different (words, images, sensory perceptions, etc.). The interdisciplinarity of design is the consequence of the fact that sign processes are heterogenous by their condition. In order to understand how different kinds of signs constitute design, we have to become acquainted with each different kind, as well as with the principles governing human or even machine interpretation of design. Representation of an object, and the consequent interpretation of such a representation can take three different forms (fig. 6).

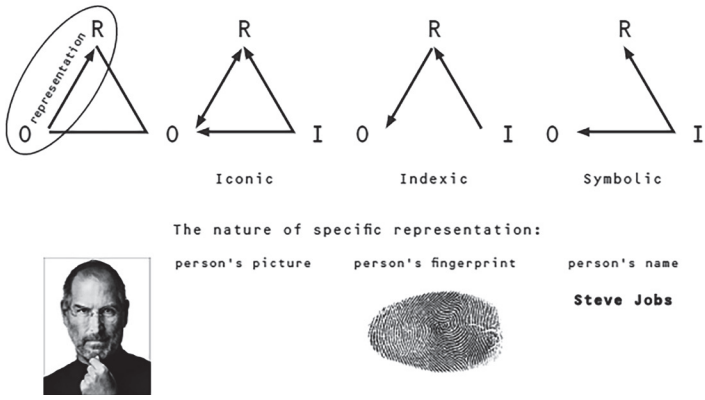

FIGURE 6. *Forms of representation (I used this diagram to explain semiotic representation to Steve Jobs as it applied to work on the semiotics of the LISA computer; Nadin 1984).*

It should by now be clear why Simon's concern with symbols alone (also the concern of the field known as symbolic anthropology, which influenced designers for a long time) proves to be a serious limitation of his explanatory model. However, since symbols are the dominant sign representation in human culture, and since each symbol contains iconic or indexical elements, it is easy to reformulate some of Simon's ideas in order to more adequately make use of the semiotic principles governing the cognitive condition of design. Semiotic interpretation of design requires that we identify the design as the elements constituting it.

2.3 Design as applied semiotics

The main sign operations—substitution, insertion, omission—are actually the rules of design language. They are applied over a repertory that is practically infinite (as opposed to the twenty-six or so letters of western alphabets). Consequently, we do not have an overall design language but sets of design languages. The realisation that there is no medium that suits every application and every user frames the issue of design as applied semiotics in its proper framework. There is no universal method that, once applied, will ensure good or effective

design. The reason is simple: design is interpreted or used by various interpreters; that is, the interpretant—the process represented by all the instances of interpreting a sign—is infinite. For designers to apply semiotics does not mean to design with a treatise of semiotics on the drawing board or under the computer keyboard, but to consider the semiotic implications of whatever they design. What matters is the understanding that designers must know for whom—user within a culture, not commissioner—they design, i.e., to establish a semiotic system with precise, appropriate, and consistent rules.

2.4 Design as interface

People communicate using signs: words of a language, gestures, sounds, images, odours, etc. Such signs can be simple or very complex, homogeneous or heterogeneous, sequential or configurational. An interface is the meeting place between two different entities that are supposed to come in contact, to be brought together, i.e., to communicate. It follows that an interface has the nature of a sign. Simon even introduced "the artifact as interface." ([1968] 1996, 6–7) The concept of interface became fashionable in the "computer age" (as it was called at that time). But it is actually a product of human culture, an artifact environment, and it is in this respect that Simon regarded "the artifact as interface" and "the environment as mold ([1968] 1996, 5–6)."

Interfaces are also a problem of human-to-human relations, especially in the context in which human contact and inter-influence become more and more mediated. Defining the sign as a mediating entity and semiotics as the theory and practice of mediation, I suggest that despite the diversity of signs and sign processes characteristic of design, these all fulfil the basic function of intermediary, go-between, medium between two or several distinct entities brought together through a specialised human activity which we call design. The contingency of each mediation—its likelihood, relative unpredictability, its dependency on and conditioning by other factors—that is, the contingent nature of design, is a reflex of design's dual nature as science (in respect to the scientific principles of design) and as art (in respect to a particular, original way of designing). *The product of design is the reality through which user and designer communicate*. I should repeat that an interface, no matter what kind, specifies the optimal set of signs for the interaction between two entities, be they animate or inanimate. In a limited sense, a user interface specifies the action the user is supposed to take in order to access different parts of a system to the design of the conceptual model that is the basis of that particular system.

Cars, radios, dishwashers, and vending machines, etc. all require an interface in order to be optimally used. Each requires a certain sequence of actions that allows for the pragmatics of using it. What

makes things a bit more complicated in comparison to the most common social forms of interface through the intermediary of natural language (the most complicated semiotic system that we are aware of) is the fact that design interface is part of the designed object. To use an analogy, it would be like receiving with every sentence we hear or read instructions for understanding it, i.e., the code. Design is indeed a work of encoding and providing the key for the "reader." Sometimes design is quite hermetic; at other times it can be direct to the degree of being simplistic, offending our sense of design.

3 ALTERNATIVE FOUNDATIONAL VIEW OF SEMIOTICS

3.1 How does semiotics help the designer?

Semiotics is not an unchanging religion. Like the sciences—mathematics, physics, chemistry, biology, etc.—semiotics changes over time. The wooden planks and metal poles—scaffolding—used in building have been replaced by the aerial lift. Soon, drones will bring the building components to the builders. Semiotics is scaffolding for designers, as it is also scaffolding for the sciences. The relatively primitive view of signs, often based on intuition, was replaced by strict definitions of Peirce's semiotics. But the dynamics of life in our age requires a more dynamic view of semiotics. The alternative suggested reflects this premise.

Semiotics, in order to justify its legitimacy, whether in the design field or in any other human endeavour, has to account for how, from the quantities taken in through the senses, or through measurements of all kinds, we arrive at awareness of the world, i.e., a representation of pragmatic significance. Indeed, meaning is always associated with action (physical, cognitive, emotional, etc.): we want to do something. This is the justification of the effort to know.

The impact semiotics could have on human activity, in particular design, depends on

a. *effectively* associating knowledge acquisition with semiotics (as a meta-discipline);

b. understanding meaning as a particular form of knowledge, complementary to quantitative descriptions of reality.

The immediate consequence of this association: it identifies temporality, a characteristic of semiotic processes, as intrinsic to its definition. Designers rarely realise the time dimension of their activity. In the review of methods and concepts that make up semiotic awareness, it becomes clear that in the absence of a dynamic view of semiotics, its reason for being accepted and practiced vanishes. Designers need to understand that only the union of a past-defined dynamics and that of a future-informed action is of consequence. It is in this sense that a semiotic perspective is complementary to the deterministic view of

change. In what follows, an attempt will be made to redefine semiotics according to what from inside the discipline became an imperative: couching the semiotic in the broader view of pragmatism. Let me "rewrite" Peirce: The purport of semeiotic consists in the open-ended holistic modes of existence, in particular, of rational conduct, which, in any given context, would ensue the acceptance of a semiotic process perspective (Peirce CP 5.438 paraphrased; see Hartshorne 1965).

3.2 Semiotics and anticipation

The bird's nest or the beaver's den is not constructed in reaction to danger, but in anticipation of change (reproduction, protection, etc.). The anticipatory nature of the living vouches for the necessary nature of a semiotic view in ways similar to how the deterministic nature of physical processes (such as the functioning of the universe) explains gravity. With one important difference: gravity, as a phenomenon of physics alone, is the embodiment of determinism. It can be explained through cause-and-effect relations. That is, a past (cause) leads to a current state (effect). Semiotic processes (semioses) testify to the non-deterministic nature of the living. The same sign can mean different things. Yet another paraphrase of Peirce (in reference to CP 5.402): We compare action (through which anticipation is expressed) to the finale of the "symphony of thought" (Peirce's words), or better yet, to holistic cognitive processes. They integrate the sensorial, the cognitive, and the motoric. We do not understand the few bars at the end of a musical movement as the purpose of that particular movement (i.e., effect), but rather as an integral part of the whole. The aesthetic quality of a typeface or of a design cannot be a goal in itself. The meaning of design is constructed in the act of interpretation by those using it—i.e., those interacting with designs. The goal is a concrete manner of meaning emergence. It is a possible future. The bird and the beaver live their choices. Human beings can evaluate their adequacy before making a choice. To evaluate the outcome, to take a critical view of it, is what semiotics affords. The entire interactive domain of human activity today is testimony to this. We can model a possible future before making our design choices.

Based on this idea I wish to define an alternative view. Let me reaffirm the fundamental idea to which almost everyone in the choir of semiotics agrees: Semiotic processes, in whichever domain (mathematics, poetry, design, politics, etc.) are a prerequisite for knowledge acquisition and for sharing it. Knowledge itself stands for something else—whatever that particular knowledge is about: matter, poetry, sex, astronomy, moral values, etc. Knowledge about design is different, of course, from scientific knowledge, but in the absence of it, design is simply not possible. It is the compass we need in our various journeys. For this reason alone, the semiotic description, while not the same as

the knowledge represented, is about awareness of change, not about change itself. Design is by necessity new—rehashing (the current dominant practice) does not qualify as design. The outcome of the new "machines" that transform text-to-image is imitation, but never having the condition of design.

To know is to know for some purpose—including a purpose for its own sake. Think about the famous Rietveld chair, not exactly designed for sitting. Purpose—exactly what distinguishes the living from non-living matter—is related to the awareness that all there is, including the knowing subject, changes. *To know* is by necessity purposeful. This is why knowledge is not in reaction to the past, but in anticipation of the future. This is especially true of design. Anticipation is always expressed in action. Knowledge acquisition, implicit or explicit, is the elementary form of anticipatory action. We know for the future. Based on this knowledge, designers continuously invent the future. Those still dedicated to the slogan "Design is problem solving" *do not* understand what design is.

Anticipation is a realisation in the space of possibilities. Some realisations are right—we avoid so many dangers, most of the time not even aware of them. Some are wrong. Prediction is informed by determinism: same cause, same (or almost same) effect. Anticipation is action informed by non-deterministic processes. Semiotics has nothing to contribute to the determinism of predictive mechanisms. However, semiotics could inform awareness. Consider, as an example, the culture of earthquake awareness in Japan and the learning process—a whole life long—for everyone involved. Designers in Japan internalised this awareness. Faced with the threat of terrorist attacks, Israel developed an effective alert system in which reaction and anticipation complement each other. GPS not only guides us on the road, but also supports a variety of businesses. The i3 car that BMW designed opened the horizon not only for electric cars, but also for autonomous (i.e., self-driving) vehicles.

Inference from the past to present and future, often supported by statistical generalisation, is powerful, but insufficient (and sometimes dangerous—think about Chat GPT disguised as Sydney and threatening humankind!). The future informs the present through the realisation of the meaning of something—disease, creative act, nutrition, exercise, etc.—that stands for a desired goal: maintaining life, encouraging creativity. All cells, of animals, insects, and plants, interact for the purpose of remaining viable parts of a whole defining a living entity. With a few exceptions, design for medical applications failed miserably to deliver what would actually help the healing process. Everything pertaining to a physician's office or hospital became an industrial application lacking human touch. The assumption, accepted by designers, that the human being is a machine undermined their work.

3.3 Design is purposeful

Purpose, the attainment of which semiotics should provide a means for integrating a variety of processes, is not reducible to the "atoms" from which the anticipatory action is made. To achieve a goal—e.g., advertising a product, conceiving a device, sharing a political program, engaging students in a project, denouncing racism, or affirming a new scientific or aesthetic value—involves all it takes to design a marketing campaign or to engage people in new actions. To design a political event, or a new teaching and learning environment involves a multitude of semiotic processes. Obviously, to denounce racism, for example, goes beyond the sign *#BlackLivesMatter* (or the graphic elements involved). Designers failing to understand this operate under the false assumption of substituting rhetoric for action. A new scientific concept, or a new design concept engages semiotic means: a new foundation, new methods for describing it, and testing. Once more, BMW's i3 illustrates the point. A new language of integrated actions is what designers at BMW defined, implemented, and tested. Aesthetic interactions, usually described as innovative (or creative), come to expression semiotically. They integrate look, structure, function, and adaptive capabilities. In the context of the COVID-19 lockdowns, face masks, and social distancing, new forms of expression were amply tested. But none was reducible to a sign or signs, or to their classification. They are of the nature of a semiotic aggregate, a whole unfolding in real time, or in virtual time.

The next step, i.e., to understand the holistic nature of semiotic processes—how they integrate the human and the environment—and their continuity, is not optional. Yes, design is by necessity holistic, integrating all components. As a consequence of the necessary nature of sign processes, understood as means informing action, semioses are integrative in nature. In this view, it does not suffice to identify the iconic nature of the user interface based on the desktop metaphor, or to find a justification for the indexical in identifying individuals by their fingerprints. Actually, it requires the understanding of the possibilities created, not of ways to represent things or phenomena.

Those who see in the sign the equivalent of what the atom is for matter miss the alternatives represented by fluid sign processes within an open-ended, non-decidable process. From all these possible alternatives, I suggest the dynamic view of semiotic events succeeding in time. And I shall present three different examples of ways to understand semiosis as goal-oriented: the model of the flowing stream, and narration and story.

3.4 The flowing stream

A very promising attempt at organising and subsequently evaluating our own semiotic experiences is suggested by the flowing stream, conceived by Gelernter (1991) and further pursued as a computer application by Freeman (1997). The flowing stream is the sequence of every digital

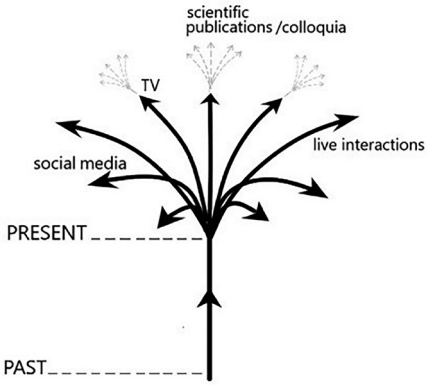

FIGURE 7. *The flowing stream—semiotic processes unfolding. Illustration by the author.*

document—mail, photo, word processed, URL, notes, sounds, etc.—referenced in the order of their receipt (or in the order in which they were generated, using the time stamp of the device used).

However, semiotics is not about data (representing quantities), but about meaning, that is, interpretations; and in this sense it is more of an art—like medicine—than a science. A record of succeeding experiences is the premise for understanding not only what happened, but also of what might happen. Let's use a visual representation: a paraphrase of Gelernter's (2013) sketch on the back of a napkin (fig. 7).

Every semiosis has a past, a present, and a future. Consider calendar entries: events consumed (e.g., visit to the eye doctor, a trip via aeroplane, a concert attended), events taking place (reading a book, listening to music, running), events to come (the next class to teach, a faculty meeting). The purpose of an action (e.g., writing a birthday card, finishing a symphony for its first performance in a concert hall, preparing for graduation, hugging) and its semiotic representation are connected. In the semiotic "forest of trees" from which other "trees" are growing, the past is always a retro-semiosis: an interpretation at $t_{present}$ of whatever happened, or we assume happened, at t_{past}. The interpretation has its own time stamp. It is not a mechanical act, but a living experience. Even the act of interpretation can be further interpreted: Why is t_{past} meaningful at $t_{present}$? Because while succeeding events (narrations) are time-bound and independent of the observer, their interpretations in stories are not. The interpretant process is open-ended. Apply this to Shakespeare's writing, to the paintings of the impressionists (recall Manet's *Le Déjeuner sur l'herbe* and how it morphed into many interpretations, each with its own meaning). Apply it to Newton's physics and to genetics, to political programs and to ideologies. Notice how the meaningful extends from its inception to the present, and how it informs anticipatory action. As an epistemological construct, interpretation earns its legitimacy by making possible the realisation of meaning: how and why a semiotic process is pragmatically significant. *Interpretation takes place from the tail end of the process: the narration in reverse, from end to beginning. Possible extensions are all meaning-pregnant.*

Thus semiosis, as a flowing stream, integrates the subject: The subject sees the red light and stops. Or drives through. The video camera provides a different record, independent of what the subject believes or makes up: "I saw a car speeding in my direction and didn't want to be hit." Their meanings are different: Through the semiosis, the subject extends a hand to the past and a hand to the future: "No, I don't want to be fined for a violation, even if the video camera shows clearly that I did not obey the

rules." Interpretation is always goal-driven, and it depends on the context. The record is independent of context (yet dependent on technology and its built-in assumptions). The "interpretation" in the autonomous vehicle is a data processing stream, without any understanding of what it means to drive close to a child, to an elderly or a handicapped person.

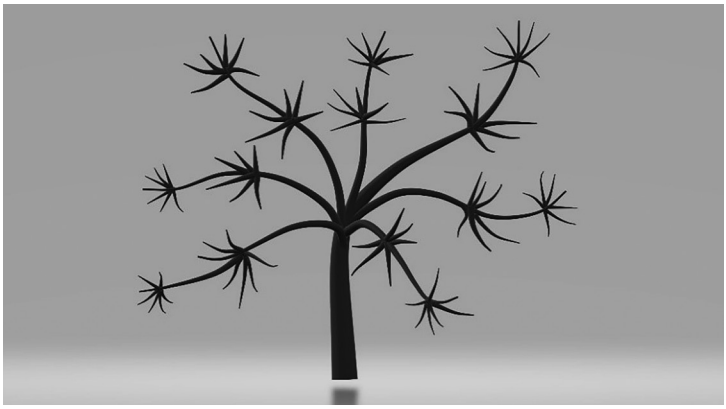

FIGURE 8. *Infinite semiosis along a variety to timelines. Semiosis generates futures as meaning. Illustration by the author.*

Actually, semiosis, i.e., semiotic process involving sequences or configurations of signs, is a diary of someone's semiotic experience. It cannot be reduced to the various signs making them up. A headache can be considered as such—the pain localised in what is called the head—or as symptomatic of something else, part of something else. Or—and this is the place where the flowing stream metaphor of trees developing from trees, etc. comes into play (fig. 8)—it can suggest a context (stress, shock) that leads to the headache. Better yet, the headache stands for something else, not as an "atom" of the state, but rather as a process. It is an open-ended process associated with future states: from taking a pill, resting, undergoing tests, requiring surgery, and so on. The tail—i.e., the time vector from the headache-free past to the present—is minimal. But the time of pain seems unending. Machines are not aware of what pain is; they receive pre-programmed threshold values. To realise this elementary semiotic distinction is a good premise for designing devices that help monitor someone's condition but do not interact with living processes.

Each semiosis, i.e., process of individual involvement in semiotic processes, starts with being born, primeval cry, naming, birth certificate, and continues with vaccination record, social security number, driver's license, official identification card, etc. More and more semiotic identifiers accumulate: first words spoken, individual motoric expression, aptitudes identified, kindergarten, school, college, etc. Notice how the "tree" branches out and new "trees" grow out. Think only of someone's loves, or of the social interactions through which identity—a semiotic aggregate—is ascertained. It takes one rumour (not to say an article in a peer-reviewed journal) to fill the world with semiotic processes ranging

from rational inferences to pathological speculations. This is where the critical function of semiotics is relevant: not in deciding upon truth or falsehood, but in suggesting the meaning of each. If the dynamic systems metaphor (e.g., the flapping of the wings of a faraway butterfly can cause a hurricane) can be modelled through a deterministic process (computers are appropriate for this), the semiotic "butterfly" escapes description. Wars were started on account of semiotic processes that went awry.

Among lesser disasters are "designs" of all kinds that have reached the market: the HydrateSpark (to remind people to drink water); the Kérastase Hair Coach (measures the brush pressure on a person's head); Garageio (for opening the garage door using your smartphone); the "smart" Griffin toaster and "smart" Griffin Mirror, Flipflops. All these and more—many more—because *meaningless* can be monetised within a culture blind to meaning—never mind sustainability. Evidently, semiotics can and should shed light on design aberrations.

The semiotic ecology expands. Cloning belongs to the process: Humans imitate and are imitated; they multiply; their semiotic output (intentional or accidental) increases and becomes part of the vaster encompassing ecology called culture. This is probably what everyone focused on the semiotic nature of culture reported on, without realising the complexity of the process. Indeed, culture is an ever-evolving process of G-complexity (Nadin 2014); that is, it cannot be consistently and completely described. It would be beneficial to take the flowing stream model and apply it to or conceive of activities such as social programs, education, medical care. The anticipatory dimension is evident: the possible future is a semiotic future, of goals representing possible states of reality. The tremors registered on a seismograph are representations of measurements—data used to infer from the past to an upcoming earthquake. The degree to which the laws of physics describing such an occurrence are known is reflected in the accuracy of the probabilistic prediction. The symptoms associated with medical conditions—headache, fever, sweating, etc.—are of a different nature. Their meaning is context dependent. There are no laws describing the state of health from good to bad. The meteorological data suggestive of a hurricane, as well as the musical passion of a four-year-old girl or boy who might become the prodigy of the future, can be considered from a semiotic perspective despite the fact that they refer to fundamentally different forms of change. The flowing of a stream is a suggestive representation, provided that the focus remains on meaning.

3.5 The design narrative and the meaning of change

Narration, and its extension in the story as interpreted narration, is an alternative corresponding to the understanding of semiotic processes as time events. The most intuitive description of a narrative is the following: record of a sequence of events as they succeed in time. Example: how to prepare coffee, one step at a time. The word (from the Latin *narrare*)

means to recount. Therefore, each narrative adds up to knowledge, at least in the sense of documenting successful and less successful activities.

Narrative emerged as a plurality of means of expression for describing human experiences and making sense of them, i.e., understanding their meaning. Some comments about narration could help in realising its semiotic significance. It is evident that parents involve narrative as a means of sharing knowledge with their children. Schank and Abelson (1995) argue that stories—interpreted narrations—about one's experiences, and the experiences of others, are the basic constituents of human memory, knowledge, and social communication. They call for a shift towards a functional view of knowledge. Schank (1995) explains: "Intelligence is really about understanding what has happened" so that those who share in it might "be able to predict when it may happen again." Such knowledge is constructed by indexing narratives of one's own and others' experiences and mapping them to structures already in memory. Atance and O'Neill (2005) write about narration as a goal-oriented representation making it possible to pre-experience an event. In other words, the goal-oriented aspect suggests that anticipation implies awareness of narrations as preliminaries to actions ahead of the time when such actions might become necessary (before storms, earthquakes, volcanic eruptions, fires, etc.). Through narration as a semiotic experience of recording actions, humans acquire the developmental basis for skills such as planning and causal reasoning—which are semiotic in nature. Their object is *what* stands for the real, and this entity can be a narration. Episodic future thinking emerges around the age of four and is related to children's abilities to construct and comprehend verbal accounts of experiences. The neural basis for the role of narrative in the abstraction of daily experience to knowledge (Mar 2004) is a subject of interest not only to those focused on marketing, but also to those discussing the broad issues of sustainability. Narrative comprehension engages a widely distributed network of brain regions, as well as the sensorial and the motoric, and is clearly distinct from basic language comprehension (Nichelli et al. 1995; Ferstl, Rinck, and Von Cramon 2005; Xu et al. 2005).

Narration is different from a progression of statements that describe something (Bruner's definition, 1968). Narration is the unity between an event and its representation (in words, images, sounds, etc.) as a time sequence. Think about the hammer—from extension of the arm to the triggering factor in a gun. Saussure would say "signifier and signified," but this holds true if we do not consider them at a certain moment (synchronic perception, frozen at the time of its capture), but rather in a diachronic sense. The bicycle we ride (including the flood of all types of eBikes) is part of a narration that starts with the wheel. There are narrations extending over a life-long (e.g., our biophysics), even beyond one's "expiration date," and others that can be extracted and further analysed (as we shall see in the example to follow).

It is not surprising that some (Mar 2004) identify the causal structure as a necessary condition for a sequence of events to qualify as narration. The narration called *determinism*—a sequence starting with a cause and ending with an effect—is an example of a selection of cause-and-effect related events, but not a necessary attribute of narration. There are narrations of non-deterministic sequences, defining the living, and for which semiosis is supposed to open access to their meaning. A person gets infected by the SARS-Cov-2 virus; the person is non-symptomatic. Can we infer from this that the person does not contaminate others? This is a possible understanding, i.e., meaning. But everything else—not infective, mildly infective, selective infectivity (e.g., only children, only men, only the elderly)—is possible. This is a semiotic meaning problem, not one of quantities, measurements (called "tests"), or models. This view entails a form of language which includes a context (setting) and a plot: a sequence of events bound by temporal, and implicitly causal, relationships.

Narratives take place in a context—meaning is context dependent. Time, location, and characters are elements of the narrative. In a distinct way, scientific texts are narratives (Bruner 1968). Consider Newton's physics, Einstein's views, quantum mechanics, genetics, etc. Their understanding is unequivocal. There is one and only one interpretation: The law expressed can be tested, but not changed. But when interpretation can expand beyond the law, we are in a different situation. The semiotic process might evaluate the semiotic means used, as well as the authority of the scientist (what Google Scholar provides), or of the institution he or she represents. Past publications, collaborators, affiliations, and funding can be taken into consideration. The current obsession with all kinds of transformers (text processing for machine learning á la Chat GPT) illustrates only what happens in the absence of semiotic competence. Semiotic identifiers are taken out of semiotic processes and transformed into narrations ranging from the coherent to the absurd. The means of expression—e.g., language, diagrams, visualisation tools—are part of the broader semiotic process of evaluation and cannot be reduced to mechanical processes.

Narrative intelligence theory (Mateas and Sengers 1999) states that the temporal structure affects the reader's ability to comprehend the story. Quantum mechanics, with its entanglement model, conflicts with the understanding of Einstein's world of a limited lightspeed. To make sense of it, competence is a necessary premise. To make sense of machine learning productions—imitations of everything used to train them—goes beyond someone's education level. You can have Chat GPT write evaluations for you that seem plausible. But not to understand what is evaluated, or why.

The semiotic perspective concerns the culture into which a semiotic concept evolves, or in which semiotic activity takes place. In other words, how the meaning is conveyed, shared, and informs the life and

activity of those who are part of the culture of their time. The design of the Webb telescope that looks deep into the past corresponds to an expanding semiotic perspective.

If indeed semiotics is about purposeful actions, it is not surprising that interpretations of the narrative—stories—are generated for a goal: establishing norms, conveying knowledge, creating a context for raising a question. In design, the narration of what is needed in order to prepare a cup of coffee becomes the story embodied in the coffee machine. Questioning is the semiotic process of conjuring meaning. The designer builds models as a form of examining and questioning various ideas and means. The narrative is held together by the temporal chain. The story escapes the temporal chain. It often involves virtual times. The epistemic power of the narrative corresponds to its function as a record of events. The epistemic power of the story explains how and why meaning is conjured. In previous writings examining the relation between semiotics and anticipatory expression (Nadin 2013), the following were asserted:

1. Narration is a record of change.

2. A story is an open-ended process of narration interpretation, i.e., meaning assessment.

Watching the universe through a telescope is a way to access the narration of the physics of the universe. The Webb telescope produces the story, which we can watch in real time. Yet a better example: compare the telephone switchboard to the rotary dial phone to the iPhone (fig. 9).

FIGURE 9. *From the manual switchboard (connecting two persons through a wire) to the rotary dial phone that allowed the user to select connections and to the smart phone of our days—connected to the World Wide Web—the design task evolved from providing a context for narration to open the story space to practically everyone. The military is behind the cell phone; thus, it is no surprise that the cell phone became a possible weapon (used, e.g., in mass demonstrations).*

In semiotic terms, the narration, like any sign process, is an aggregate. Bense (1974) introduced the notion of *supersign* to describe such sign aggregates. It can be extremely detailed, or rather abstract. "Queen X dies Tuesday, at this time and this place, surrounded by her daughters." "The King dies five days later, in the middle of the night, while trying to get out of bed." The same sequence can be expressed

as "The Queen died and then the King died" —what happened and in what order. (Forster [1927] 1985, 86) These are representations standing for real events, not the events themselves. The time sequence is representative of a semiotic process, described here through words. But imagine instead of words, images or combinations of words and images, or sounds or whatever can represent something else. The time sequence as a whole is representative for a process selected from a multitude of other events. It is a record—a memory—and as such makes the semiotic process part of the semiosis of life.

The sequence "Queen dies, then King dies" (a simple narration) can easily lead to a story: the Queen dies because the King was unfaithful; the King dies because the Queen poisoned him (or had someone do it), or she cursed him. In E.M. Forster's example, the King died of a broken heart—different semiosis, different meanings. In the story, the narrative data—what and how things happen—are associated with meaning corresponding to the context. Stories are meaning processes triggered by narrations. There are many coffee-making machines. Each offers a different story.

Through stories, the information from the narration—who died, when, where, etc.—is associated with meaning (Nadin 2011) in view of the intentions of the storyteller, or of the scientist who works on a new theory (of gravitation, of relativity, of quantum mechanics). The information regarding the falling apple (or the falling of anything, such as stones, meteorites, individuals, etc.)—the data record, the narration—reveals the meaning of the physical laws, in this particular case, the law of gravity. But it can, as well, associate the narrative to a story different in its condition from the one expressed in the theory of gravity: poetic, dramatic, religious, metaphysical. Imagine a story where the apple does not fall down, but up! Design can make this happen. In each case, a different meaning is conjured. Kings fall from power, leaves float in the wind (slow falling); the fall of Rome marked the beginning of the "Dark Ages"; people who fall on account of lost faith need help to get up and get on with life; fallen angels come to Earth to redeem themselves; and so on. Some meanings are subject to confirmation through experiment; others, being unique, are not. Physical, chemical, and biological entities are observables. Meaning is not. At best, we can construct a record of how meanings change over time, in various cultural contexts. This is actually what semiotic process is. Richard Feynman, recalling the death of his first wife, noticed that the clock stopped at the time recorded on his wife's death certificate. Was there a meaning to be assigned to this? The narration prompted the physicist, a self-declared atheist, to produce a scientific story: elimination of mystery, poetry, religion, etc. He knew that he himself had fixed the clock, and he knew that it might stop if it were moved. It was, after all, a mechanical contraption. Design from yesterday.

But similar narrations—e.g., the clock that stops exactly with the last breath of a dear person, or of some celebrity, or a daughter's dream about the loss of her father—populate culture and foster storytelling in many variations. They should not be misunderstood as observables, but rather as meaning processes, as interpretations. In some cases, the sign processes of the narration serve in knowledge acquisition, in others, in the expression of meaning.

The clock of narration corresponds to the intervals between events in real life. The clock of interpretation corresponds to a living time, of many possible rhythms. The clock of narration and the time of interpretation—the time of the story—are different. The clock of narration corresponds to the rhythm of events in the physical world. The time of interpretation projects into the physical world rhythms characteristic of the change in the living, in particular, rhythms associated with interpretation (stories about the same event can be substantially different). The pain timed on a clock and the subjective time associated with experiencing pain are never the same. When we react to something—a car rushing by while we cross the street—the reaction time affects performance.

When we imagine things in the future, we have the convenience of controlling the rhythm of time. This, too, is a design task. BMW's i3—designed by Richard Kim—embodied in new shapes and new materials things imagined. A victory for design. Indeed, as events unfold in time, the clock, i.e., a gravity-based machine that measures the interval corresponding to the movement of celestial bodies—the clock—serves as a reference. But the time of design is future. Let's imagine that all the machines we call *clock* (no matter what kind, from the pendulum to the wristwatch to the digital clocks of our age) stop. Time does not. Only the measurement—of intervals—is affected. Semiosis corresponds to time perceived, i.e., time experienced, not to time measured. The living is affected by intervals in the environment of existence; but the living also introduces its own rhythms into reality. Saccadic movements, the foundation of sight, have a rhythm different from that of the heartbeat and neuronal connections. Birds in flight or the slow fall of leaves are other examples of particular time scales; the heartbeat of animals is extremely varied. Faster-than-real-time is not only for films, but also for design: the visionary aspect.

Being a record of change, each narration is a representation of the dynamics of reality. Each interpretation of a narration is a story, i.e., the meaning we associate with the information on record. A faster clock, such as the clock of interpretations, is what it takes to evaluate the possible consequences of the phenomena on record in the narration. In other words, the future itself, as we relate it to clocks, is nothing but the outcome of time associated with a faster clock. The semiosis of a possible future based upon which anticipatory action takes place is

independent of the measured time. As a virtual reality, this future does not depend on the rate of change expressed by the clock. We refer to possible futures—plural!—because clocks with various speeds, from very slow to extremely fast, can be constructed. Each such clock allows us to investigate the future *not as a probability*, but as *possibilities* (often negating probability)—where innovation takes place. If the information in the narration is continuously subjected to interpretations from the future, facilitated by the faster time experienced cognitively or sensorially, its meaning becomes *anticipation*. The semiosis underlying reaction is different from that of anticipation. This is yet another reason why a foundation of semiotics that reflects the nature of the living can only be grounded in the anticipatory processes definitory of the living. Consequently, design in the deepest sense of the word is anticipatory.

4. IF WE ARE SERIOUS ABOUT DESIGN

For those who are prepared to give semiotics an opportunity to ascertain itself as a necessary endeavour intended to support purposeful activity, let us end with a comparative view. Nobody disputes the role of mathematics in the progress of society. Even designers realise that many of their tools are mathematical in nature. However, very few, if any, would endorse semiotics as they endorse mathematics (even if they find it difficult). This could change if semiotics were to become as necessary as computer graphics is, or as the mathematics of digital typography is. Confronted with an increasingly worrisome future, society could rediscover the meaning of sustainability through design.

The examples of alternative semiotic approaches suggested here are part of an open-ended toolbox that semioticians are invited to further expand. Indeed, there is not one and only one valid semiotic approach; and there is always the next step—new views, new methods, new understandings. The ideas spelled out here were tested in my class—*Anticipation Informed Design* (Nadin 2022), offered to the students of the Invisible Studio of the Eindhoven Design Academy (2021–2022). It was the last class of my academic career. This article on design, semiotics and anticipation might as well be the last I write on this subject. Let all those passionate about the subject pick up the baton and continue a race that should never end—if we are serious about design!

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REFERENCES

Atance, Cristina M., and Daniella K. O'Neill. 2005. "The emergence of episodic future thinking in humans." *Learning and Motivation* 36 (2): 126–44.

Bense, Max. 1970. *Semiotik. Allgemeine Theorie der Zeichen*. Baden-Baden: Agis.

Bense, Max. 1971. *Zeichen und Design: Semiotische Ästhetik*. Baden-Baden: Agis.

Bense, Max. 1975. *Semiotische Prozesse und Systeme*. Baden-Baden: Agis.

Bijker Wiebe E., Thomas P. Hughes, and Trevor J. Pinch, eds. 1987. *The Social Construction of Technological Systems. New Directions in the Sociology and History of Technology*. Cambridge MA: MIT Press.

Bruner, Jerome S. 1968. *Processes of Cognitive Growth: Infancy*. Vol. 20 of *Heinz Werner Lectures*. Worcester, MA: Clark University Press.

Bruner, Jerome S. 1986. *Actual Minds, Possible Worlds*. Cambridge MA: Harvard University Press.

Englholm, Björn. 1984. "Politik und Sprache." *Form* 1: 6–7.

Ferstl, Evelyn C., Mike Rinck, and D. Yves von Cramon. 2005. "Emotional and Temporal Aspects of Situation Model Processing during Text Comprehension: An Event-Related fMRI Study." *Journal of Cognitive Neuroscience* 17 (5): 724–39.

Føllesdal, Dagfinn. 1979. "Hermeneutics and the Hypothetical-Deductive Method." *Dialectica* 33 (3–4): 319–36.

Forster, E[dward].M[organ]. (1927) 1985. *Aspects of the Novel*. Repr. San Diego: Harcourt.

Freeman, Eric Thomas. 1997. "The Lifestream Software Architecture." PhD dissertation., Yale University, May. www.cs.yale.edu/homes/freeman/dissertation/etf.pdf

Gelernter, David. 1991. *Mirror Worlds*. New York: Oxford University Press.

Gelernter, David. 2013. "The End of the Web, Search, and Computer as We Know It." *WIRED* (online), February 1. https://www.wired.com/2013/02/the-end-of-the-web-computers-and-search-as-we-know-it/

Hartshorne, Charles. 1965. "The Social Theory of Feelings." *The Southern Journal of Philosophy* 3 (2): 86–93.

Heelan, Patrick A. 1972. Hermeneutics of Experimental Science in the Context of the Life-World." *Philosophia Mathematica* 1–9 (2): 101–44.

Ihde, Don. 1997. "Thingly Hermeneutics/Technoconstructions." *Man and World* 30 (3): 369–81.

Latour, Bruno. 2005. *Science in Action: Reassembling the Social. An Introduction to Actor-Network-Theory*. Cambridge: Oxford University Press.

Maldonado, Thomas. 1967. "Visual Signs in Operative and Persuasive Communication." In *Uppercase* 5, edited by Theo Crosby. Tonbridge: Whitefriars.

Mar, Raymond A. 2004. "The Neuropsychology of Narrative: Story Comprehension, Story Production and their Interrelation." *Neuropsychologia* 42 (10): 1414-34.

Markus, Gyorgy. 1987. "Why Is There No Hermeneutics of Natural Sciences? Some Preliminary Theses." *Science in Context* 1 (1): 5–51.

Mateas, Michael, and Phoebe Sengers. 1999. *Narrative Intelligence: Technical Report FS-99-01*. Menlo Park: AAAI.

Nadin, Mihai. 1977. *Mattis-Teutsch: Kunstideologie*. Bucharest: Kriterion.

Nadin, Mihai. 1984. "From Lisa's User Interface to Apple Corporate Language." Consulting for Apple Computer, Inc. Cupertino, CA.

Nadin, Mihai. 1986. "Visual Semiosis Applied to Computer Graphics." In *Annual Conference Proceedings of the ASEE*, 498–501. Hanover, PA: The Sheridan Press.

Nadin, Mihai. 1997. *The Civilization of Illiteracy*. Dresden: Dresden University Press.

Nadin, Mihai. 2011. "Information and Semiotic Processes: The Semiotics of Computation." *Cybernetics and Human Knowing* 18 (1–2): 153–75.

Nadin, Mihai. 2013. "Anticipation: A Bridge between Narration and Innovation." In *Narrative and Innovation, Management – Culture – Interpretation*, edited by Andreas P. Müller, and Lutz Becker, 239–63. Wiesbaden: Springer Fachmedien.

Nadin, Mihai. 2014. "G-Complexity, Quantum Computation and Anticipatory Processes." *Computer Communication & Collaboration* 2 (1): 16–34. DOIC: 2292-1036-2014-01-003-18

Nadin, Mihai. 2018. "Meaning in the Age of Big Data." In *Empirical Research on Semiotics and Visual Rhetoric*, edited by Marcel Danesi, 86-127. Hershey PA: IGI Global Publishers.

Nadin, Mihai. 2019. "Machine Intelligence: A Chimera." *AI & Society* 34 (2): 215–42.

Nadin, Mihai. 2022. *Anticipation Informed Design. A workshop for the Invisible Studio at the Design Academy Eindhoven*. Eindhoven: Design Academy Eindhoven. https://www.google.com/books/edition/Anticipation_Informed_Design/ReiiEAAAQBAJ

Nichelli, Paolo, Jordan Grafman, Pietro Pietrini, Kimberly Clark, Kyu Young Lee, and RobertMiletich. 1995. "Where the Brain Appreciates the Moral of a Story." *Neuroreport: An International Journal for the Rapid Communication of Research in Neuroscience* 6 (17): 2309–13. https://doi.org/10.1097/00001756-199511270-00010

Ricoeur, Paul . 1981. *Hermeneutics and the Human Sciences: Essays on Language, Action and Interpretation*. Edited and translated by John B. Thompson. Cambridge: Cambridge University Press.

Ricœur, Paul. 1986. *Du texte à l'action. Essais d'herméneutique II*. Paris: Le Seuil.

Ryle, Gilbert. (1949) 2009. *The Concept of Mind*. New York: Routledge.

Schank, R. C. 1995. *Tell Me a Story: Narrative and Intelligence*. Evanston: Northwestern University Press.

Schank, Roger C., and Robert P. Abelson. 1995. "Knowledge and Memory: The Real Story." In *Knowledge and Memory: The Real Story*. Vol. 8 of *Advances in Social Cognition*, edited by Robert S. Wyer, Jr., 1–85. Hillsdale: Lawrence Erlbaum Associates.

Simon, H. (1969) 1996. *The Sciences of the Artificial*. 3rd edition. Cambridge MA: MIT Press.

Xu, Jian, Stefan Kemeny, Grace Park, Carol Frattali, Allen Braun. 2005. "Language in Context: Emergent Features of Word, Sentence, and Narrative Comprehension." *Neuroimage* 25 (3): 1002–15.

SEMIOSIC PROCESSES AND DESIGN PROCESSES

INVENTIVENESS, DIALOGUE, NARRATIVITY, TRANSLATION

Salvatore Zingale

ABSTRACT

Design semiotics could lead to two lines of research: the study of design products and the study of design processes. As much as the analysis of artifacts has significance, the survey about semiosic processes inside design processes is the one that defines the unique nature of semiotics in the design context. This investigation follows "the pragmatist route" to design semiotics, for two reasons: (1) because it understands design as an activity that leverages the concept of inventive abduction and can provide answers to cognitive challenges; (2) because the work of design is never to be conceived as concluded in the final result, but embedded in a flow of unlimited semiosis.
I will focus on the concept of semiosis *according to Peirce's semiotics, understood as a process of* production of sense. *In this way, I will deal with the following four processes:*

1. Inventiveness, *whose logical model refers to abduction, the process that enables exploration of the ways to possible meanings.*

2. *Based on Bakhtin's literary theory and Bohm's epistemology,* dialogicity, *which will be considered as the social interaction model underpinning every social idea of design.*

3. Narrativity, *understood as the general scheme that is implemented in a project, understood as a series of actions leading to the achievement of a goal, and as a process of transformation.*

4. Translation, *considered not only as an interpretation process that takes place between different forms of expression, but especially as a transition from a problem or desire to an "interpretant artifact."*

#semiotic, #inventiveness, #dialogicity, #narrativity, #translation

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1. SEMIOTICS AND DESIGN

Inventiveness, dialogue, narrativity, and translation: these are the topics that I place at the basis of semiotics that is intended to make an epistemological contribution to the culture of design. They represent the field of research and teaching that I have experimented with for several years at the School of Design of the Politecnico di Milano.[1]

I am aware that these are not the only aspects of semiotics relevant to design; but they are the ones that I think best represent the methodological direction taken by the teaching of semiotics in the School of Design in Milan since 1995, at the initiative of Tomás Maldonado.[2] Before that, semiotics had been introduced to design by Maldonado himself at the Hochschule für Gestaltung (HfG) in Ulm in the 1950s.[3] From Ulm several important research projects started to develop: in the German area, for example, the contributions of Klaus Krippendorff (1961), Gui Bonsiepe ([1965] 2010), and Max Bense (1971); in Italy the teaching experiences of Umberto Eco, first at the Faculty of Architecture in Florence, then at the Politecnico di Milano. Also in Florence, the semiotic approach to design was "pioneered" by Giovanni Klaus Koenig (Zingale 2020b).

Other important contributions are those of the Hochschule für Gestaltung in Offenbach from the 1970s onwards, known as the *Offenbacher Ansatz* (Schwer and Vöckler 2021), where the question of the "language of the industrial product" (*Produktsprache*) was posed. In this context, the reflections of design professors such as Bernhard Bürdek, Dagmar Steffen, Gui Bonsiepe, and Klaus Krippendorff stand out. The latter would later promote *The Semantic Turn* (2006).

Although incomplete, the authors and research in this brief survey constitute an essential outline in my opinion. For a broader picture, I would like to point out the importance of Michela Deni's work on how semiotics is interested in design (2015). As is clear in this contribution, semiotics' interest in design developed out of the theory of the signification of objects, beginning with Roland Barthes' *Mythologies* (1957), which understands the *artefact* as a particular form of *text*. Only later did the question arise as to how semiosis and signification could be considered as processes inherent to design.

[1] *Among the academic publications concerning this experience I point out: Bonfantini and Zingale (1999), Zingale (2005, 2009, 2012, 2016a, 2016b, 2020a), Bonfantini and Terenzi (2004), Zingale and Domingues (2015), Deni and Zingale (2017), Domingues (2018).*

[2] *In 1993 the first course in industrial design was inaugurated at the Faculty of Architecture of the Politecnico di Milano (https://www.designindex.org/index/design/scuola-di-design.html). The first course in Semiotics was taught by Massimo Bonfantini in the academic year 1994–1995.*

[3] *Evidence of Maldonado's interest in semiotics can be found in Maldonado (1974).*

My contribution attempts to proceed precisely in this direction, and for this reason should not be considered in *competition* with what has been elaborated so far, but rather as a *complement* to it, at least because it calls into question semiosis processes that have found limited application in the field of design. The basic assumption can therefore be summarised as follows: the contribution of semiotics to design culture, even before that of signification, must take *semiosis* as its object of study, i.e., the processes of production of meaning and therefore of every design activity.

It is in this direction that the four vertices of the "semiotic rhombus" I will present here are to be understood: a scheme that begins with Charles S. Peirce's pragmatism and the logic of abduction, continues by calling into question dialogical relations as a constitutive part of both design thinking and social relations, and revisiting the theory of narra tivity, and concludes with a view of design as a translational pathway.

2. DESIGN SEMIOTICS AND PROJECT SEMIOTICS

It is therefore necessary to start with an inevitable preliminary question: *Design Semiotics or Project Semiotics?* What is the difference?

As I have underlined many times before (Zingale, 2016a, 2016b, 2020a), it is possible and necessary to distinguish between *Project Semiotics* and *Design Semiotics*. The study of what happens in the field of design can thus lead to two distinct areas of semiotic research, although the former includes the latter: (a) the study of project-making processes and (b) the study of the products of design. The former would take the name of "Project Semiotics" (Zingale 2012; Deni and Zingale 2017) whereas the latter should be referred to as "Design Semiotics" or "Semiotics of Design" (Mangano, 2008; Beyaert-Geslin 2012.)

These two branches can be shown perfectly in a diagram (fig. 1). Design Semiotics is part of Project Semiotics and consists of the analysis of products and their signification; Project Semiotics is the study of the processes that lead to design. The main objects of study

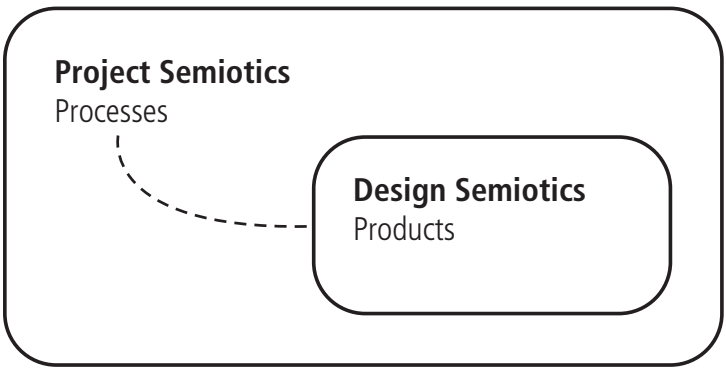


FIGURE 1. *Project Semiotics and Design Semiotics. Processes and Products.*

of Design Semiotics are the products of design, whereas for Project Semiotics the focus is instead on the processes underlying the project-making activity.

Therefore, Design Semiotics is an *applied semiotics*, a gaze over the artefactual texts, similar to text analysis of narrative and artistic texts, or of those particular ones called social practices. Project Semiotics, on the other hand, is a *specific semiotics*, comparable to text semiotics. The latter, as we know, can be divided, for example, into semiotics of literature, cinema, and painting, i.e., semiotics of a variety of texts of expressive nature.[4]

Analogously, different semiotics relate to different types of projects: an engineering project, for example, differs from a product design project, especially in terms of how much the forms, applications, and methodologies of design are able to multiply. However, the project-making activity does not only pertain to the *sciences of the artificial*, i.e., architecture, design and engineering, as Herbert A. Simon (1969) has called them. Projectuality (i.e., project-making attitude) is part of life itself. As Jean-Paul Sartre pointed out, we are what we project ourselves to be: "[…] l'homme sera d'abord ce qu'il aura projeté d'être," "man is nothing else than his plan" (Sartre [1946] 1996, 30, my translation). Every phase of our existence is a project: a professional career, a lifestyle, even planning holidays or a dinner.

This means that the *project*—or more precisely, the project-making activity—must be understood as an object of study at the same level as a text. They are both *devices* for the generation of meaning, both *cognitive mechanisms* enabling the production of certain actions or functions.

However, there is one difference between the two. In a text, we look for a universe of meaning that is already *given*, because every text is a display of such a universe. In a project, conversely, meaning is merely (or still) possible, it is what we want or must build. In the analysis of a text, we can reconstruct what is logically (although not necessarily chronologically) located in the past, while in the project-making activity we build something that is located in a future logical time, i.e., in a future that influences our present, as Peirce points out:

To say that the future does not influence the present is untenable doctrine. It is as much to say that there are no final causes, or ends. The organic world is full of refutations of that position. (Peirce, CP 2.86)

The problem is how the future can influence the present and how we can prepare for such a future. Here is Peirce's answer:

But it is true that the future does not influence the present in the direct, dualistic, way in which the past influences the present. A machinery, a medium, is required. (Peirce, CP 2.86)

[4] *On the difference between general, applied, and specific semiotics, see Eco (1984).*

In the sentences quoted here, it almost seems like Peirce had precisely the project-making activity in mind: to think and to prepare for the future, we need a *mediating mechanism*. Such a mechanism is the ability to make projects. A project is a *machinery* and *medium* directed towards the future.

3. A SEMIOTIC RHOMBUS

Our problem is to understand what underlies the idea of Project Semiotics.[5] It is a hard task, which will probably be the focus of research and reflections on semiotics for years to come.

In my personal experience as a teacher of semiotics in a design school, I have had the chance to trace some outlines of Project Semiotics, starting from the conviction that project-making processes are in fact semiosic processes. If on the one hand the analysis of industrial and media communication products may be relevant, on the other hand it is more important for semiotics to focus on the processes leading to the invention of such products.

From the many processes that we could consider here, I have chosen to present four: inventiveness, dialogicity, narrativity, and translation. At the 2017 congress of the German Semiotics Association (DGS) I sketched them in the form of a rhombus (fig. 2):

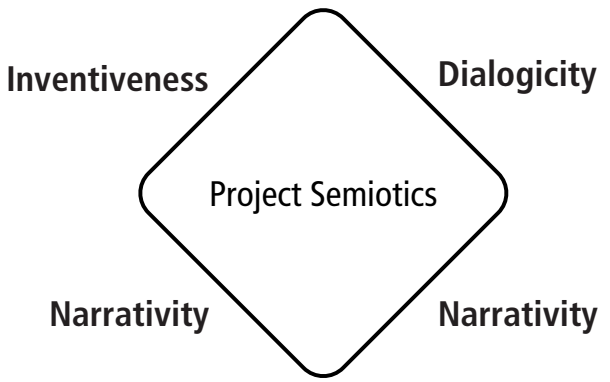


FIGURE 2. *The rhombus of Project Semiotics.*

Inventiveness, whose logical form is abduction (Bonfantini, 1987; 2021), informs us that every project must be intended as exploration of possibilities: in Latin *invĕnīre*, from which the Italian *inventiva* and the English *inventiveness* come, means *to find*. In this sense, inventiveness precedes every kind of innovation.[6]

Dialogicity is a structural aspect of design and is one of the main traits that distinguishes design from art: in design, there is a direct or only hypothetical involvement of the user as actant of the project-making activity.[7]

[5] *In Italy, the debate on Project Semiotics started a few years ago. See Deni and Proni (2008), Bianchi, Montanari, Zingale (2010).*

[6] *On the semiotics of inventiveness, see: Bonfantini and Terenzi (2004), and Zingale (2012).*

[7] *On dialogicity, see Zingale (2009).*

Narrativity informs us that every project is indeed a transition from a status of desire to the concretisation of the project, and that the project-making process proceeds through stages similar to those of a narrative programme, i.e., through the relation of various actants: from the client (the Sender of a project-making task) to the designer (the Subject of the enterprise) and ending with the artefact (the Object of value).[8]

Lastly, translation is another process of transformation: a shift from an often indistinct and unstructured number of needs (e.g., a brief or start-up guidelines) to an accomplished artefact, intended as a text which fulfils the initial needs by translating them.[9]

[8] *On narrativity applied to design, see Penati (2013) and Proni (2012).*

[9] *On the relationships between design and translation, see Baule and Caratti (2017).*

4. DESIGN AS INVENTIVE ACTIVITY

The starting point is the following: design is an inventive activity whose form is abduction.

One of Peirce's most significant definitions of abduction is found in *A Syllabus of Certain Topics of Logic*, dated 1903:

An Abduction is a method of forming a general prediction without any positive assurance that it will succeed either in the special case or usually, its justification being that it is the only possible hope of regulating our future conduct rationally, and that Induction from past experience gives us strong encouragement to hope that it will be successful in the future. (Peirce, EP 2: 299)

From the many definitions, I have chosen this one because here he mentions three crucial aspects for design: (i) the notion of abduction as "a method of forming a general prediction"; (ii) the idea that abduction has an uncertain nature and no given success prospects, yet it is in constant evolution; (iii) the notion of abduction as "the only possible hope of regulating our future conduct rationally."

Abduction means understanding the present state of things and imagining a future one. Abduction is the logical path taken in every interpretative route. This logical path moves from recognising a *surprising* or *problematic fact* and looking for its cause. This is how Peirce summarises the concept:

The surprising fact, C, is observed;
But if A were true, C would be a matter of course,
Hence, there is reason to suspect that A is true. (Peirce, CP 5.189)

A practical example of how the formula of abduction functions is the following:

		C	I see the soil is moist (**C**)	*observation of a fact*
A	→	**C**	I know that if it rains (**A**), the soil gets moist (**C**)	*recourse to experience*
A			Hence I have reasons to think it has rained (**A**)	*formulation of the hypothesis*

As we can see, the conclusion is only a *possibility*, not a certainty, but this is precisely the strength of abduction. Thinking that it has rained because the soil is moist is a good reason, but not the only possible one. This is the reason why conclusions reached through abduction are always only hypotheses. However, even if abduction is uncertain and needs verification, it is the only explicative inference: it does not only explain facts, but also allows us to track them down and find them.

When we talk about abduction in relation to project, we need to bear in mind that the medicine of Hippocrates and the art of navigation are among the roots of semiotic thinking. Like in many other activities, the mind's ability to interpret present fact, object, or event plays guiding role: for example, interpreting the symptoms of illness or the position of the stars in the sky. Such knowledge is practical and *project-making*, the expression of mindset capable of adapting to ever-changing and problematic reality. Medicine and navigation can be defined as exploratory and inventive techniques.

Design also needs an ability to discover things, to be able to search and interpret. This is because design starts from the awareness that we live in a problem-world: the environment itself is a problem.

Projectuality acts with a double gaze: between the dissatisfaction and the search for pleasure; between a feeling of inadequacy and the prefiguration of an equilibrium; between a state of discomfort to a state of well-being. This double gaze is what Peirce identifies in *abduction*, the form of reasoning enabling the prefiguration of a possible absence. All artefacts, before being designed, are absent yet possible: if we are able to think them, it is only by way of abduction.

Abduction implies the ability to see beyond the surface and to make associations between our background experiences and those that are about to come. The ability to prefigure possible scenarios is one of the conditions for inventive thinking.

Inventing means *finding*, but in order to find we need to act, to set our hands and mind in motion, to rummage, hunt, in physical as well as in intellectual reality.

Inventing is therefore identifying a possible object within the constraints of available knowledge, whereas reality—understood as both physical and psychical—becomes the field for continuous interrogation and therefore interpretation. It is not by chance that the logical form of inventiveness is abduction, because it

looks for an answer to a question in ways that have never been attempted before.

4.1. Abduction as the form of inventiveness

Let us try to see abduction as a scheme for interpretation and design. No interpretation can be imagined without an *abductive jump*. Or better put, without such a jump interpretation would only mean decrypting through deduction or verifying through induction.

On the contrary, abduction is a kind of inference that is neither mechanically driven nor experimentally tested and it often happens unconsciously; even when vividly calculated, abduction always maintains a certain degree of openness where it can embrace randomness (serendipity), wonder (art), or free play (musement).

5. THE DIALOGIC PRAXIS

The starting point here is that the reason for every communication form is a dialogical reason. The dialogic modality is also the one through which investigation, research, thinking, and reasoning proceed, and hence the project-making activity too.

What is understood here by dialogue? Not only the practice of communicating (such as conversing), but also the cognitive process allowing the thought of every person as part of a common mind (what Peirce calls *Commind*, see EP 2:478).

Dialogicity is indeed present in Charles Peirce's philosophy, in his conception of the human as a community and in the dialogic nature of inferential thinking. It is also one of the main topics in Mikhail Bakhtin's concept of polyphony in Dostoevsky (1963), in Emmanuel Lévinas' philosophy of the other (1961), and in Jurij Lotman's semiotics of culture (1990).

In the field of sociolinguistics, dialogicity is investigated as a form of social interaction through *Conversation analysis*, which originates in Hervey Sack's enquiries (1992) and resonates in Erving Goffman (1969) and many other authors. Furthermore, in the theory of argumentation, this attention to the "logics of the dialogue" and the *dialogic logic* as a method for interpersonal verification of utterances can be found (Cantù and Testa 2006).

However, it is in epistemology that dialogicity is viewed as an indispensable heuristic method. In particular, the philosopher David Bohm (1990) highlighted that the dialogic practice is a process capable of leading towards a more profound understanding of scientific problems. Ludwik Fleck's theory of the *Denkkollektiv* (1935) was already pointing in a similar direction.

In short, the praxis of dialogue is possible because *dialogicity* exists as the basis of every form of communication.

In design, there are many cases where the emergence of dialogicity can be observed. I will describe three in detail.

5.1. Epistemological aspects of the dialogue

The first aspect is of epistemological nature, because it can be related to the logic of research. In this case, dialoguing comes to the aid of a process of research, as a method for forming hypotheses and looking for possible solutions. The cognitive activity of a designer can only be dialogic: dialogicity is an experimental semiotic status in constant research. In fact, dialogue works by asking and answering, asserting, and denying, with the aim of selecting, through a series of decisions, the most appropriate choice to suit the design intentions.

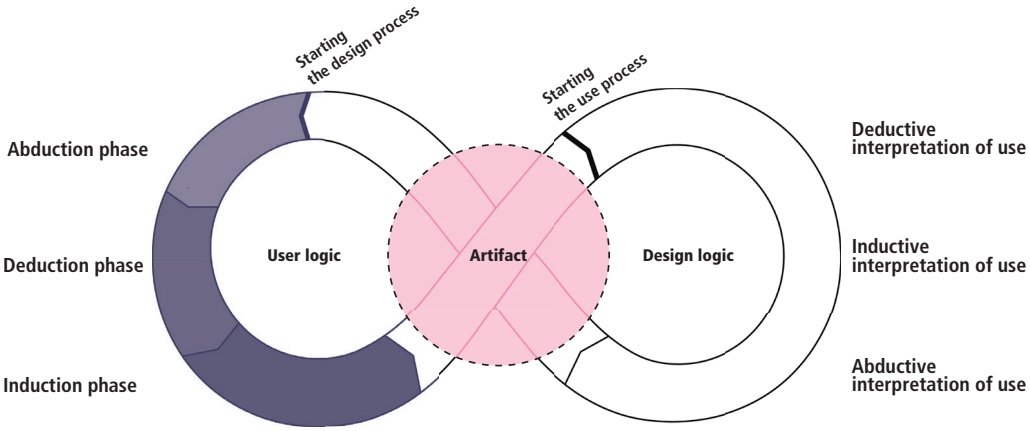
In such game of questioning and answering, the designer faces unpredictability, which is often the only way to arrive at solutions whose existence could not even have been imagined. Whenever there is a dialogue, even one within us, we know that we *are going* somewhere, but not exactly *where*.

5.2. Two logics in a dialogue with each other

Secondly, the relationship between the logic according to which an artefact is designed and the one through which such an artefact is used is inevitable. Dialogicity is a game between designer and user played remotely, with the artefact as medium. On the one hand, there is the *project logic*, from the product's first conception to its distribution; on the other hand, there is the *logic in use*, the actions performed by means of such an artefact (Zingale and Domingues, 2016).

In this case, the dialogue consists of a series of inferences: the designer must be able to imagine the future modes of use of an artefact, while the user must discover which logic underlies an artefact as it is conceived (fig. 3).

FIGURE 3. *Design and user logic.*



5.3. The dialogic method of design

In the end, dialogicity can be exploited as a method. In this third case, the dialogic praxis is effective, a form of interaction between the subjects involved in the project.

As an example, let us think about co-design practices, especially in the field of social design, where the project-making ideas grow from exchange and confrontation.

However, dialoguing cannot rely on improvisation only, a method is required.

Following David Bohm's steps (1990), one of the main requirements for favouring dialogue and reflections upon the research is the ability to set our own assumptions aside for a moment. This should prevent the dialogue from revolving around pre-existing beliefs of the participants, which would be an obstacle in the search and acquisition of new knowledge.

Therefore, in the enquiring dialogue the ability to listen is more important than the ability to express.

Such dialogic praxis has to welcome the unexpected. The unexpected must always be embraced willingly. For a dialogue to be really heuristic, we need to expect that, to some extent, contents might emerge that we have never thought of before. The unexpected can come out either within the dialogue by association or sudden abductions, or beyond it thanks to accidental events happening by chance, "synchronised" with the topic of the dialogue.

In other words: no matter what object of value the dialogue leads to, it must nevertheless derive from the dialogue itself.

6. THE NARRATIVE PATTERN

The third element is a chiasm: every narration is a project, and every project is a narration. However, the stories that we hear or read are only the modality in which *narrativity* (as it is called in structural semiotics) manifests itself. Narrativity generates narrations, but also behavioural habits, everyday acts, beliefs, and lifestyles. Narrativity is the logical-syntactic pattern through which meaning is arranged in order to be expressed. It is also the way in which meaning is designed.

Narrativity pertains to the constant formal or generic features of every type of tale, as well as of every type of semiotic activity. Narrativity is the virtual scheme of actions, whereas every action only takes a value *depending* on other actions. There is narrativity every time a series of events are put together by a *consequential* chain of connections, that is to say whenever such events are not just merely in sequence. This concatenation can be expressed with the formula

X *does x, so that* Y *can do* y, *so that* Z *can do* z, *...*

In a narration, every event lets the following events be imagined according to a sequence of expectations, hypotheses, and surprises.

For example, how an exhibition is set up can influence how much viewers feel involved. This happens mainly because what is presented and how it is presented are elements of a possible story: these elements are not only pieces of information; they aim to resonate with the visitors and entice a multiplication of meanings.

At the same time, artefacts in use often enter our everyday life story as objects of desire or magical objects, or as angels guiding and helping us, and at other times as demons leading to addiction.

But why is the process of narrativity interesting for the project-making processes? The answer lies in Greimas' *actantial* model, which he elaborated in 1966. The model is "built upon the syntactic structure of natural languages" (Greimas 1966, 99; my translation). An actant, in Greimas' words, both *does* and *withstands* an action. We can add that actants *design* actions. Therefore, the question is: how does the actantial model apply to the project-making processes?

Narratives and projects share the presence of a *process of transformation*: a shift from one state of things to a new one. Moreover, such transformation is normally a *revaluation* of pre-existing conditions: at the end of the narration, a given reality or identity takes new shapes or values. Lastly, transformation and revaluation need a *mediating instance*, i.e., something or someone that can make the change of state possible.

In project making, what activates the transformation is the *desire* to achieve certain value. According to Greimas (1966), everything revolves around the Object of desire pursued by the Subject.[10] However, the Object of desire can be also placed one step before, in the Sender. Brunelleschi, who invented how to build the dome of Florence's Duomo, is example of this: he is the Subject that designed the dome but before that, with act of self-destination, he is also the Sender of this extraordinary enterprise. As in epic fiction, Brunelleschi (the Sender) assigns to himself (the Receiver)[11] the task of realising such project (the Subject).

However, the Receiver of this architectural work is also, and most importantly, the people of Florence, or in a certain sense, the whole of humankind.

As for the receiver's place, narrativity can be inscribed into two different frames. In a smaller frame, the receiver is the person who receives the project-making task; in a wider frame, the receiver corresponds to all the users.

In both cases, projectuality can be intended as the route from the Sender to the Object, i.e., the route of an intention towards its goal. This is because design starts from a problematic or unresolved reality, and the Object of value will be a transformed reality. What is design if not an effort to transform an initial problematic situation?

[10] *The terms for the six actants—Subject, Object, Sender, Receiver, Helper, and Opponent—will be capitalised to distinguish these nouns from their common usage.*

[11] *The French term* Destinataire *is more complex: it can either mean the actant who receives the task or the actant for whom the benefit of the narrative programme is destined.*

This is my reviewed actantial scheme (fig. 4):

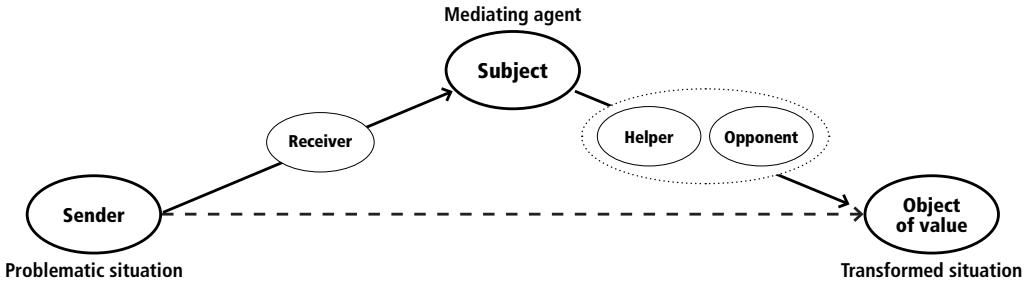


FIGURE 4. *Greimas' actantial model re-written: the triangle of narrations.*

The graph is composed of three knots and three arches: the three *actantial knots* represent the relationships between the main actants: sender, subject and object of value. In the terms of design, they correspond to the start of a project arising from a *problematic situation*, the search for a *mediating agent*, and the achievement of a *transformed situation*. The arches in the graph highlight the two intermediate relationships: the first is between Sender, Receiver and Subject; the second is between Subject, Helper/Opponent and Object. However, the main relationship of desire: from the Sender to the Object.

This would mean that, in design, it is necessary to start from the *destination instance* underlying every project, and that such an instance must be put in relation with: (a) the *goal* to which it tends; (b) the *forms of mediation* that are chosen to achieve such desired goal. The three main actantial knots of the triangle of narrations must be detected every time among the social players involved in the project: client, designer, user, and the product itself too. Every place is connected to the others according to consequential principles. Things change entirely if the role of Sender is played by the client or by the designer, or if it is the product to drive our actions, because of a fascination with objects or commodity fetishism. Resorting to mediating elements allows, for example, to understand what social role the designer plays or should play. Every change of place of the players modifies, inverts, or reinvents the type of ongoing narration. Which means: the type of design that we have in mind.

7. DESIGN AS TRANSLATION

If we conceive design as the ability to "act as interpreter" of social instances and to give answers to questions or problems, then it becomes evident that translation processes can be used to better understand the semiotic nature of design (Zingale 2016c).

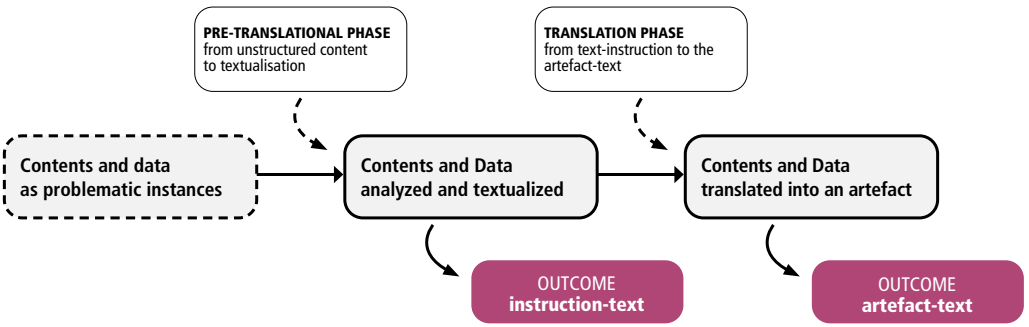
Nonetheless, semiotic theory faces a paradox here: while translation involves a shift between two structured entities, i.e., a movement from a *source text* to a *target text*, design follows different paths, as it has no source text to *translate from*, but rather a series of social instances that it needs to interpret. Design must first "translate" a generally unstructured entity with uncertain, open boundaries, an often incoherent and undetermined entity that seeks its own structure and form through design. Such an unstructured entity may be, for example, a company's search for a visual identity, the cultural tone of a book series communicated to target readers, or how to present a bulk of statistical data. In each of these cases, the *object to be translated* lacks the cohesion of a text, but nonetheless the search for an artefact that can fully interpret them fits the concept of translation entirely.

Designers behave *as if they were* translators because they conceive their own activity as an interpretative process. However, such an interpretative process requires a first step: the unstructured entity needs to take formal structure before the whole project-making process starts.

Here, Louis Hjelmslev's (1943) notion of *purport* comes to our aid: the purport is the *non-semiotic* world. It is a world made of mental and physical phenomena in search of a semiotic form. In design, translation is not used to let things be understood "in another language," but to give a valid expressive, visual, or material shape to what was originally lacking shape or defined textual structure. In design, the act of translation is essentially a way of making an entire universe of content available to the user.

The translation process acting in design can be represented through a two-phase model (fig. 5):

FIGURE 5. *The translation process of design.*



The first phase is *pre-translation* and consists of the movement from the starting conditions. This means being able to grasp a problem from which a project-making process could start. In this case, it means also studying problems that are not yet part of our "common awareness," problems that are not manifested in a precise social discourse.

However, grasping a problem is not enough. An understanding of how such a problem is experienced and felt socially despite its indistinctness is essential. This means to perceive *common thinking*—Hjelmslev's *purport*—and to reorganise it coherently by selecting pertinences and letting those traits emerge that could build a hierarchy in the objectives of sense.

This first phase has the aim of *textualising* social and problematic instances, i.e., of transforming them into a common discourse and place for a shared analysis.

The text originating from this phase will be called *instruction-text*, a text having structured and articulated features, but still lacking an adequate communication form. It is a text whose aim is to prepare for full signification. The instruction-text defines only the *content's form* of the project-making instances: the form of expression is still only virtual.

The second phase is hat of explicit translation because it involves the passage from the *instruction-text* to the *artefact-text*. In this phase, the "raw" materials contained in the instruction-text turn into the "processed" ones of the artefact-text.

Design is a form of translation for at least three reasons.

1) Firstly, the translation activity in design can be intended as the ability to *explicitly say* something that was unexpressed before but that was already in the common mind and consciousness, as a content looking for a form of expression: in this case, the designer invents and elaborates appropriate forms of expression that were lacking or inadequate earlier.

2) Secondly, the translation activity operating in design is a way to *say clearly* what was obscure before and would have no other means of being understood: in this sense, the designer becomes an interpreter of semiosically undetermined content by inventing or elaborating a form of expression that can make such content accessible.

3) Lastly, designers are translators because they suggest ways of *saying differently* things that have already been said, but that have lost power over time due to a change in social conditions (historical, ethnic, geographical ones), or that could express wider or renewed semantic values by being reformulated, using tools and techniques aimed at enhancing their expressive efficacy.

8. CONCLUSIONS

The four vertices of the rhombus represent, even if not completely, the research and teaching perspective that I have so far experienced during my many years of service at the Design School of the Politecnico di Milano. However, I am fully aware that this figure can change and that we can imagine one with many other elements added. However, I am certain that each of these four vertices can open up further perspectives, and

that a more complete semiotics for the formation of the designer should be elaborated from the territory they delineate.

The prospects of Project Semiotics are still to be explored and articulated. My wish is that, in this way, Project Semiotics can be gradually integrated into design disciplines: no longer just a science aiding design culture, but an integral part of the project-making thought.

It is not by chance that in the last years, design theories have embraced topics and problems that, looked at carefully, were previously the focus of studies in semiotics. I can give some examples of those theories that appear to have an implicit link with semiotics, in particular ones that relate to the four vertices of my rhombus.

Firstly, as already pointed out, *Participatory design* is one of those project-making practices and studies that we can clearly see acting in a "dialogic" way, through an active participation of the various social players involved in the design practice. In recent years, we have seen the paradigm of narration—or storytelling—come into play in the fields of project making and management. It is no exaggeration to say that, since Vladimir Propp's 1928 studies of fairy tales, language sciences have seen narration as one of the discourse practices in which human thinking best expresses itself. Nowadays, even data representation techniques have become forms of "narrative" because although the visual aspect of displaying data is surely important, there would be no real "communication" without a narrative, and thus informative, frame. Meanwhile, can we define data visualisation, i.e., the passage from an often-unstructured amount of data to a communicative artefact arranging them, as a form of at least intersemiotic translation?

Lastly, I would like to mention two further territories that, in my view, are implicitly linked to some aspects of semiotics: design thinking and speculative design. In both cases, the inventive action typical of abduction sneaks in. In the former case, abduction is an inventive action aimed at solving problems through methodologies and processes beginning with a deep understanding of a problematic event and ending with the elaboration of a solution by exploring and formulating alternative hypotheses. In the latter case, conversely, it is not a question of proposing solutions to a problem, but of searching for problems to be discussed and placed under the lens of a critical and projective interpretation. Hence the foreshadowing of future scenarios capable of helping us now question the implications that we can begin to highlight within our present.

No matter within what precincts Project Semiotics will be able to move, its task must be to integrate itself with the present theoretical studies inside design, constantly highlighting how much design is rooted in semiotics. The project- and product-making attitude can only be a semiosic activity, i.e., an interpretation of what may exist.

REFERENCES

Bakhtin, Mikhail. 1963. *Problems of Dostoevsky's Poetics*. Minneapolis: University of Minnesota Press.

Barthes, Roland. 1957. *Mythologies*. Paris: Editions du Seuil, 2015.

Baule, Giovanni and Elena Caratti. 2017. *Design is Translation: The Translation Paradigm for the Culture of Design. "Design and Translation": A Manifesto.* Milano: FrancoAngeli.

Bense, Max. 1971. *Zeichen und Design. Semiotische Ästhetik*. Baden-Baden.

Beyaert-Geslin, Anne. 2012. *Sémiotique du design*, Paris: PUF.

Bianchi, Cinzia, Federico Montanari, and Salvatore Zingale, eds. 2010. *La semiotica e il progetto 2. Spazi, oggetti, interfacce*. Milano: FrancoAngeli.

Bohm, David. 1990. *On Dialogue*. London-New York: Routledge.

Bonfantini, Massimo A. 1987. *La semiosi e l'abduzione*. Milano: Bompiani.

Bonfantini, Massimo A. 2021. *Scritti sull'inventiva. Saggi e dialoghi*. Milano: Mimesis.

Bonfantini, Massimo A., and Marina T. Terenzi, eds. 2004. *Come inventare e progettare alla maniera di Poe. Filosofia della composizione*. Bergamo: Moretti and Vitali.

Bonfantini, Massimo A., and Salvatore Zingale. 1999. *Segni sui corpi e sugli oggetti*. Bergamo: Moretti&Vitali.

Bonsiepe, Gui. (1965) 2010. "Visuell-Verbale Rhetorik". In *Design als Rhetorik: Grundlagen, Positionen, Fallstudien*, edited by Gesche Joost and Arne Scheuermann, 27–43. Basel: Birkhäuser.

Cantù, Paola and Italo Testa. 2006. *Teorie dell'argomentazione. Un'introduzione alle logiche del dialogo*. Milano: Bruno Mondadori.

Deni, Michela, and Giampaolo Proni, eds. 2008. *La semiotica e il progetto. Design, comunicazione, marketing*. Milano: FrancoAngeli.

Deni, Michela. 2015. "For History of Semiotics of Design Projects." The Value of Design Research, European Academy of Design 11, Université Paris Descartes, April 2015, Paris, 1–14. https://hal.science/hal-03689524/

Deni, Michela, and Salvatore Zingale. 2017. "Semiotics in Design Education. Semiotics by Design." *The Design Journal*, 20 (sup1): 1293–303. https://doi.org/10.1080/14606925.2017.1352658

Domingues, Felipe. 2018. *Pragmatism within Design Practices: Proposal of Paradigm Shift in Design Semiotics Research*. Polimi Design PhD_018. https://re.public.polimi.it/handle/11311/1043896

Eco, Umberto. 1984. *Semiotica e filosofia del linguaggio*. Torino: Einaudi.

Fleck, Ludwik. 1935. *Entstehung und Entwicklung einer wissenschaftlichen Tatsache. Einführung in die Lehre vom Denkstil und Denkkollektiv.* Frankfurt am Main: Suhrkamp.

Goffman, Erving. 1969. *Strategic Interaction*. Philadelphia: University of Pennsylvania Press.

Greimas, Algirdas Julien. 1966. *Sémantique structurale: recherche de méthode*. Paris: PUF.

Hjelmslev, Louis. 1943. *Prolegomena to Theory of Language*. Madison: University of Wisconsin.

Krippendorff, Klaus. 1961. "Über den Zeichen- und Symbolcharakter von Produktformen in sozialen Kommunikationsstrukturen. Versuch einer Zeichentheorie für die Programmierung von Produktformen in sozialen Kommunikationsstrukturen." Thesis. Hochschule für Gestaltung Ulm.

Krippendorff, Klaus. 2006. *The Semantic Turn: New Foundation for Design*. New York: Taylor and Francis.

Lévinas, Emmanuel. 2009. *Totalité et infini. Essai sur léxtériorité*. Dordrecht: Kluwer Academic.

Lotman, Juri M. 1990. *Universe of the Mind: Semiotic Theory of Culture*. Bloomington: Indiana University Press.

Maldonado, Tomás. 1974. *Avanguardia e razionalità. Articoli, saggi, pamphlets 1946–1974*, Torino: Einaudi.

Mangano, Dario. 2008. *Semiotica e design*. Roma: Carocci.

Mangano, Dario, and Alvise Mattozzi. 2009. *Il discorso del design: Pratiche di progetto e saper-fare semiotico*. EC, 3/4. http://www.ec-aiss.it/monografici/3_il_discorso_del_design.php

Peirce, Charles S. 1974. *Collected Papers of Charles Sanders Peirce*. Edited by C. Hartshorne and P. Weiss. Belknap Press of Harvard University Press.

Peirce, Charles S. 1992. *The Essential Peirce. Volume 1: Selected Philosophical Writings (1867–1893)*. Bloomington: Indiana University Press.

Peirce, Charles S. 1998. *The Essential Peirce. Volume 2: Selected Philosophical Writings (1893–1913)*. Bloomington: Indiana University Press.

Penati, Antonella, ed. 2013. *È il design una narrazione? Design e narrazioni*. Milano: Mimesis.

Proni, Giampaolo. 2012. *La lista della spesa e altri progetti. Semiotica, design, comportamenti delle persone*. Milano: FrancoAngeli.

Propp, Vladimir Iakovlevitch. 1928. *Morphologie du conte*. Paris: Seuil, 1970.

Sacks, Harvey. 1992. *Lectures on Conversation*. Oxford: Blackwell.

Sartre, Jean-Paul. (1946) 1996. *L'existentialisme est un humanisme*. Paris: Gallimard.

Schwer, Thilo, and Kai Vöckler, eds. 2021. *Der Offenbacher Ansatz: zur Theorie der Produktsprache*. Bielefeld: Transcript.

Simon, Herbert A. 1969. *The Sciences of the Artificial*. Cambridge, MA: MIT Press.

Zingale, Salvatore. 2009. *Gioco, dialogo, design. Una ricerca semiotica*. Milano: ATì Editore.

Zingale, Salvatore. 2012. *Interpretazione e progetto. Semiotica dell'inventiva*. Milano: FrancoAngeli.

Zingale, Salvatore. 2016a. "What Semiotic for Design? The Pragmatist Way and the Construction of Project's Semiotic." *Cadernos de Estudos Avançados em Design: Design e Semiótica*, 101–15. https://doi.org/1824-1301

Zingale, Salvatore. 2016b. "Semiotica del progetto: la via pragmatista / Design Semiotics: The Pragmatistic Route." *Rivista Italiana di Filosofia del Linguaggio*. https://doi.org/10.4396/2015SFL21

Zingale, Salvatore. 2016c. "Design as Translation Activity: Semiotic Overview." In *Proceedings of DRS 2016 - Design + Research + Society Future–Focused Thinking*, 03:1061–72. London: Design Research Society. https://issuu.com/erik.bohemia/docs/drs2016vol03

Zingale, Salvatore. 2020a. "Design o progettualità? Il progetto come trasformazione inventiva." Ocula 21, no. 24: 51–72. DOI: 10.12977/ocula2020-4

Zingale, Salvatore. 2020b. "La semiotica dell'architetto. Aspetti di semiotica progettuale in Giovanni Klaus Koenig." In *Giovanni Klaus Koenig. Un fiorentino nel dibattito nazionale su architettura e design (1924–1989)*, edited by Maria Cristina Tonelli, 187–98. Florence: FUP–Firenze University Press. https://doi.org/10.36253/978-88-5518-191-4

Zingale, Salvatore, ed. 2005. *La semiotica e le arti utili in undici dialoghi*. Bergamo: Moretti&Vitali.

Zingale, Salvatore, and Felipe Domingues. 2015. "The Consequences of Things: The Semiotics and the Pragmatistic Route to Designing." *11th EAD Conference Proceedings: The Value of Design Research*. Sheffield Hallam University. https://doi.org/10.7190/ead/2015/4

STONE PIPE AND METAL CONTAINER: DESIGN SEMIOTIC ANALYSIS OF SACRAL OBJECTS

Edit Újvári

ABSTRACT

Design or the designer's activity is not only designing an object, but also a complex mode of social-cultural relations and environmental situations. This paper focuses on the semiotic analysis of two historical examples where László Moholy-Nagy's views ([1946] 1971)—which I interpret as "form adjusting itself to society"—are perfectly applicable. One object included in the design semiotic analysis is a Lakota ceremonial pipe, and the other is a sacral object of European Medieval culture, the Sainte-Foy reliquary of Conques. In both cases, the analysis is centred around formal and functional elements and materials that are impregnated with meaning. I intend to explain how, as sign vehicles (signifiers), the shape, ornamental elements, and materials of sacral objects, represent meanings and content. How is the form of these objects related to their function?

#sacral objects, #design semiotics, #sign relation, #sacred pipe, #reliquary statue

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1 INTRODUCTION

The paper is focused on objects that function in the sign relation of religious practice. I intend to answer the questions of how, as sign vehicles (signifiers), the shape, ornamental elements, and materials of sacral objects, represent meanings and contents. How is the form of these objects related to their function? Can sacral objects be understood as consciously designed and formed by fixed traditions over long periods of time? I attempt to answer these questions through a design semiotic analysis, using two characteristic sacral objects from different cultures as examples.

According to László Moholy-Nagy, the practice of design was important in all periods of human cultural history: "the ingenuity of man brought forth excellent results in every period of his history depending upon his science, technology, aesthetics and other requirements" (Moholy-Nagy [1946] 1971, 91). Do historical examples indeed confirm that the conscious design of material objects is a universal feature of human cultures, a cultural universal? According to Stefan Lengyel, design is primarily a social phenomenon that has been influenced by the predominant intellectual trends in all periods (Zalavári 2008, 9–10). Design is a special unity of artisan technology and aesthetic thinking that reinforces the basic functional principle or usability of an object. Nóra Géczy highlights that innovation in design stems from the requirement of the designer to reflect on consumers' attitudes and emotions, and to synthesise these into a form, a structure, and colours (Géczy 2019, 47).

The design semiotic perspective adopted in this paper holds that semiotics can be perfectly applied to visual language, such as the form of objects, ornamental elements, and it can also be applied to questions of the functionality of objects. The application of this semiotic perspective is not restricted to the interpretation of artefacts—it can already be used during the design process since it may help the design become more refined, authentic, and richer in meaning (Fiell and Fiell 2007, 164–65). Therefore, semiotic study is important in design training, while the historical approach highlights the versatile and rich content of meaning, as well as the layers of functions of objects.

Charles Morris defined the three different aspects of sign analysis: semantics, syntactics, and pragmatics (Morris 1938, 1). All three can be successfully applied in design semiotics as well. Semantics deals with the signification of signs, the representation or conveying of meaning. Géczy identifies design semantics as the language of the product, since the human mind is originally characterised by the capacity for representation: we attach signs, metaphors, and thought content to our environment, as well as to the objects created by us. In this meta-language, a whole system of signs is interconnected and governed by various categories, logical relations, and functions (Géczy 2019, 219). The visual information content of design can be understood as an important element of social communication. Not only do forms have an objective and perceptible layer, they have a fictive layer as well, through which the meanings of objects are enriched by beliefs and intangible content. Real or imagined, mythical stories related to objects also have a meaning-generating function. This is especially true for the semantics of religious objects.

In Peirce's theory, the semantic sign types of index, icon, and symbol are distinguished through the relation of signifier and signified (Peirce, EP2 460–61; Szívós 2012, 187). Syntactics involves combinations of signs, and in the study of this, attention is focused on sign forms and sign structures. The system and hierarchy of the relation of signs and motifs of objects are vehicles of additional meaning, the study of which modulates semiotic analysis.

As Morris emphasises: "pragmatics is that portion of semiotics that examines the origin, uses and effects of signs in the situation in which they occur" (Morris 1938, 1). The focus of semantic analysis on content can be extended from a pragmatic perspective, such that the formal characteristics and visual elements of an object (including how these have changed over time) can come to the fore. By analysing the pragmatic dimension, we emphasise that creators of sign relations and the community of sign users exist in a society (Szőnyi 2004, 43; Szívós 2012, 120). Thanks to semiotic pragmatism—besides the semantic and syntactic elements of meaning—adequate attention can be focused on the process of meaning generation (semiosis) by bringing the relation between the user/interpretant of the sign and the sign itself to the focus of analysis (Morris 1938, 38–39). Understanding the connection of the function and the form of the object, as well as revealing the meanings originating in its use, may also be the result of pragmatic analysis.

2 OBJECTS IN THE SEMIOTICS OF RELIGIOUS PRACTICE

All cultures have created diversified rites for the purpose of connecting with supernatural powers. Cultural traditions of religious practice vary, but they typically use physical instruments during ceremonies. Designers,

creators, and users endow these sacral objects with meanings that fit the religious worldview of the given culture, and besides their function, their design also reinforces their system of representation. This is exactly why their design semiotic approach is relevant, since the material, colour, and shape gain their diverse and rich meaning in a relation of signs.

Narrative tradition, which is an important source of meaning construction, is also connected to sacral objects. Applied to this tradition, semiotic research can reveal fictive layers of meaning in addition to the objective and perceptible qualities of objects. Formal analysis of signs in sacral objects reminds us of the Latin root of the word design (*designare* means to name, to designate, arrange).

All sign types established by Peirce are useful categories in the design semiotic analysis of sacred instruments. The supernatural status attributed to cultic objects and their origins and first piece are frequently highlighted in narrative tradition. The first object endowed with the authority of prototype presents the characteristics of the index. According to sacral tradition, there is, in certain cases, a direct physical relationship, and in other cases, a direct mythic/fictive relationship between the object and the supernatural power it represents or the instructions through which it was made. Icons may also play a role in the ornamental sign forms present on sacral objects as long as these sign vehicles resemble their objects. Sign vehicles of symbols, on the other hand, are related to religious sign objects, and in their case, a religious worldview and narrative tradition provide the convention that forms the basis of meaning.

Sacral objects that follow the prototype bear the characteristics of iconicity since they are considered a copy of the "original" cultic instrument. Kubler's statement is especially applicable to sacred objects. It emphasises the dynamic process of creation, claiming that physical instruments can be considered sequences of artisan techniques,[1] and that these sequences are initiated by "prime objects," then followed by "replications" and variations (Kubler 1962, 39; Kapitány and Kapitány 2005, 23). The category of "anonymous design" is often applied to them since their richly decorated formal value is the result of gradual development (Fiell and Fiell 2007, 15).

[1] *"Everything made now is either a replica or variant of something made a little time ago and so on without break to the first morning of human time" (Kubler 1962, 2).*

2.1 Function, material, and form

The functions of sacral objects can primarily be understood in terms of the role they play in religious practice. Those who create and form an object reflect on the specific functions of its application of the practicing religious community during its design. This is also the reason why usage, which is complex and differentiated, varies through periods of time, and is an important baseline (Kapitány and Kapitány 2005, 8). The functions of objects can be reviewed from various viewpoints whose psychological

and sociological aspects also need to be considered independently from their usage in religious practice (Hernádi 1982, 27). Sacral objects are, first of all, the means through which religious communities believe they have contact with the supernatural; therefore, their shape, material, and usage is fixed and regulated. Another common characteristic feature of these objects is that they represent supernatural powers through their role in sacral sign relations; thus, they embody special religious values—this is reinforced by the specific and unique nature of their material and shape. Scholars typically classify them as "art" or "applied art" due to their elaborate design, the ambition to utilise the full potential of the material, and to achieve formal perfection. However, as functioning parts of religious culture, they are the products of the pre-art period (Belting 1993, xxi). Based on recent approaches of design theory, Márton Szentpéteri defines the historical research of design as interdisciplinary or post-disciplinary cultural history where art history and aesthetics do not have a distinguished role (Szentpéteri 2012, 164). In my opinion, this statement is definitely relevant to semiotic analysis of sacral objects. The pragmatic dimension of design semiotics can only be authentically revealed from the perspective of religious studies of sacral objects, but cultural studies is indispensable for the semantic approach.

Beyond their instrumental nature in religious practice, these objects have an important role in forming and strengthening social structure, as well as acquiring prestige and expressing social status (Kapitány and Kapitány 2005, 11; Hernádi 1982, 28). The examination of the psychological function, in turn, begins with the possibility of an emotional relation to the objects, which particularly applies to sacral instruments. Although touching sacral objects may have an important role in religious practice, their visual appearance is of primary importance. They express their meaning mainly through visual sign vehicles, that is, their formal elements—their material, their colour, their facture, and their pattern. Meanings and categories of values related to the material of the object also correlate with its nature, physical and chemical characteristics, and all this also affects how an object is formed (Kapitány and Kapitány 2005, 18; Zalavári 2008, 26). Physical and chemical properties of materials both establish and limit the possibilities of shaping and forming objects.

The plastic form aligns with the function, however, it also represents meanings as a whole or through its constituents. The ornamentation and decoration of an object has a sign amplifying function; thus, the form and the ornamentation must create an inseparable unity (Géczy 2019, 154–55). Ornamental components are organised into a system of signs, and their meanings and syntactic system of relations convey religious doctrines visually. These objects reinforce a designer's way of thinking where communication of religious ideas and narratives is

manifested through the establishment of the aesthetic form, as well as the practical application of the material, structure, usage, and technological possibilities. As a result, the sacral object functions as a special semiotic instrument during religious practices: it becomes a sign vehicle for transcendent ideas and values.

3 DESIGN SEMIOTIC ANALYSIS

The two sacral objects I have chosen for analysis highlight the significance of the culture forms and the material. Both are elaborately designed functional objects endowed with manifold meanings, having played a distinguished role in the culture that created them. Their semiotic aspect is exceptionally rich—they contain several signs and interconnected signs, the syntactic and pragmatic aspects of which, in addition to the semantic ones, can also be analysed.

The first object included in my design semiotic analysis is the Lakota ceremonial pipe of the New Jersey State Museum, a sacral instrument of a hunter-gatherer nomadic people using stone-age technology. The other is the Sainte-Foy reliquary of Conques, a sacral object of a Middle-Age European culture skilled in the technology of metals and goldsmith art. My design semiotic analysis of both objects is focused on their sacral function as a signifier, as well as the meanings of formal components and materials, which can be well reconstructed from historical sources. Although these objects cannot be associated with specific artists, they still embody the efforts, design, and creative activities of several preceding generations that strived to create the perfect sacral object, and they therefore represent a kind of design synthesis.

3.1 Lakota red-stone ceremonial pipe

The Lakota pipe was made in the second half of the nineteenth century and is a typical example of the major ceremonial instrument of the Lakota tribes (Takacs 2016, fig. 1). The material of the 70–80 cm pipe's

FIGURE 1. *Lakota Pipe, 19th century, collected by Charles A. Philhower. Gift of Rutgers University. Special Collections AE2010.11.118 A & B. Courtesy of New Jersey State Museum, Bureau of Archaeology.*

bowl is a red stone called catlinite after George Catlin that came from the Pipestone Quarry, a unique geological formation of the prairie in Western Minnesota. Researchers claim that twenty-three tribes of the plains, including the Lakota, are known to be culturally connected to the red stone quarry, and archaeological research has confirmed several thousand years of usage (Catton and Krahe 2016, 22). The Lakota, as part of the Sioux people, the most famous prairie Indians, still lived in their original tribal culture when the pipe was made, a culture that lasted until the Indian wars started in the last third of the century (Utley 2004). The religious ceremonies connected to their nomadic buffalo-hunting lifestyle show numerous archaic, shaman-type elements (Hultkrantz 1979). The traditional ceremonies included elaborately ornamented pipes developed for ceremonial tobacco use (that also expressed social prestige), and they were accompanied by a set of instruments with refined ornamentation (leather pipe cases and tobacco cases). From a pragmatic perspective, Lakota society pipes were objects of exceptional importance and belonged to several sign systems, the visual motifs of which, as well as the ritual acts associated with them, were determined by tradition. Their use was connected to important events both in individual and social lifestyles, a sign of their status (Turnbaugh 2017). The ornamented pipes can also be analysed from a semantic perspective since their motifs and ornamental elements are sign vehicles. The meaning of the pipe is carried by the unity of sign components and sign patterns, therefore, a syntactic approach is also relevant.

Pipes made of red stone convey complex meanings, and are believed to enable the user to connect to transcendent powers. The pipe was used for smoking and drawing tobacco and other dried plant materials, and served as an indispensable physical instrument of communal or religious ceremonies and ritual events (Turnbaugh 2017). Several sources document the use and religious significance of pipes, how they connect people with the Great Spirit (Wakan-Tanka). According to Chief Ota K'Te: "The pipe was a tangible, visible link that joined man to Wakan Tanka and every puff of smoke that ascended in prayer unfailingly reached His presence" (Catton and Krahe 2016, 19). The major sacral functions of the pipes were also recorded in Joseph E. Brown and Black Elk's *The Sacred Pipe* ([1953] 1989), in which the seven ceremonies of the Lakota are described on the basis of Black Elk's narrative:[2] "it represents our prayers and is the path leading from earth to heaven"; "Wakan-Tanka, we are about to send a voice through our pipe to You" (76, 119). The source also describes the most widely held version of the pipe's mythic origin, according to which the original red-stone pipe was donated to the Lakota by a mysterious and sacred women, White Buffalo Woman.[3]

[2] *The texts describing the rites were recorded by American anthropologist Joseph E. Brown (Indiana University) in 1947. Black Elk (c. 1862–1950) actively participated in the religious culture of the Lakota-Oglala tribe in his childhood and youth, and also became an acknowledged connoisseur of sacral traditions. As Brown emphasises: "It was certainly due to this pervasive sense of mission that Black Elk wished to make this book, explaining the major rites of the Oglala Sioux, in the hope that in this manner his own people, as well as the white men, would gain a better understanding of the truths of their Indian traditions." (Brown and Black Elk [1953] 1989, xv)*

[3] *Holding the pipe up with its stem to the heavens, she said: "With this sacred pipe you will walk upon the Earth; for the Earth is your Grandmother and Mother, and She is sacred. Every step that is taken upon Her should be as a prayer. The bowl of this pipe is of red stone; it is the Earth. Carved in the stone and facing the center is this buffalo calf who represents all the four-leggeds who live upon your Mother. The stem of the pipe is of wood, and this represents all that grows upon the Earth. And these twelve feathers which hang here where the stem fits into the bowl are from Wanbli Galeshka, the Spotted Eagle, and they represent the eagle and all the wingeds of the air. All these peoples, and all the things of the universe, are joined to you who smoke the pipe all send their voices to Wakan-Tanka, the Great Spirit. When you pray with this pipe, you pray for and with everything." (Brown and Black Elk [1953] 1989, 6)*

The ritual use of pipes is typically a community ceremony. Based on his research, James Walker, who knew Lakota culture profoundly, summarised this as follows: "the potency of the pipe may harmonise all those communing" (Walker 1917, 70). In the early twentieth century, Walker's Lakota data providers described communal pipe smoking: "We have smoked together as friends, and the spirit of the pipe has gone up to the Great Spirit" (129). The pipe was a crucial instrument in the connection of sacrality and communal existence. "The pipe is used because the smoke from the pipe smoked in communion has the potency of the feminine god [i.e. White Buffalo Woman] who mediates between godkind and mankind, and propitiates the godkind." (156)

Numerous versions of the myth have been recorded in oral tradition about the origin of the pipe stone, and the stone—a symbol of high iconicity—may signify the blood or flesh of ancestors or buffalos, or even the Earth. In the mid-1830's, Catlin recorded Lakota tradition: "The Great Spirit at an ancient period, here called the Indian nations together, and standing on the precipice of the red pipe stonerock, broke from its wall a piece, and made a huge pipe by turning it in his hand, which he smoked over them, and to the north, the south, the east, and the west, and told them that this stone was red—that it was their flesh—that they must use it for their pipes of peace" (Catlin [1841] 1989, 429).

The ceremonial pipes were considered replicas of the original Sacred Pipe (Utley 2004, 54). The horizontal and vertical cylindrical shape of the carved stone pipe bowl follows the design of the original indexic "holy pipe." The wooden pipe stem has carved ornamental motifs, and the Lakota pipe of the New Jersey State Museum has carved animal motifs as well. These are symbols that are rooted in the tribe's traditions: "Plains tribes associate the elk with strength, endurance, and bravery while the deer is associated with gentleness, caring, and kindness. […] Turtles are associated with long life, protection, and fertility" (Takacs 2016). The end of the stem has colourful ornamentation made with original, traditional technique that preceded bead sewing. "A portion of it is also wrapped in bird skin, as well as dyed porcupine quills whose colours of red, purple, yellow, and white closely resemble the ones used by the Lakota for the four cardinal directions (red, yellow, white, and black) which represent the earth" (Takacs 2016).

All the elements of the pipe—its materials, motifs, and colours—convey meanings: "Overall, these different aspects of the pipe stem and even the wood itself come together to represent all that grows upon the earth" (Takacs 2016). Materials and motifs form a system of syntactic relations that together determine a meaning. This Lakota pipe played a distinguished role in both social and sacral sign relations, and it was a determining instrument of communal and transcendental relations during its use due to its diverse meaning.

FIGURE 2. *Reliquary statue of Sainte-Foy. Gold and silver gilt over a wooden core, height 85 cm, 983-1013 Church Treasury, Conques, France. Photo: Holly Hayes. Used under CC BY-NC 2.0, slightly edited. https://www.flickr.com/photos/sacred_destinations/26*

3.2 Sainte-Foy's reliquary statue

The other example I have chosen for design semiotic analysis is a piece of goldsmith art made in Europe at the end of the ninth century, which served as a distinguished instrument of Christian religious practice during that period. Saint Foy's reliquary statue (fig. 2) is still at its original location in Conques in South-France, in the church named after the saint, a young girl from Gaul, allegedly martyred for her Christian faith around 300. Because of her legend, her skull and bones were preserved and worshipped as relics, and at the end of the tenth century they were partly placed into a precious reliquary (with the remaining parts built into the altar). Several medieval sources help us understand three things, namely the signs associated with the physical remains of a saint, the relic as an index, and the function of a sacrament as a celestial signifier. Saint Foy's legend of martyrdom and the cult associated with it is well-known, and there are also contemporary reports on the reliquary. Therefore, the object can be well analysed from pragmatic, semantic, and syntactic points of view.

Gábor Klaniczay describes the Western cult of martyrdom associated with the relic as follows: "the saint was still present on earth in these relics, while his or her immortal soul was already in heaven, at the right side of God. Heaven and Earth were united in the relics of saints—this was connected to the belief according to which martyrs had the power to intercede on behalf of the living if the latter requested such intercession at the site of their earthly remains" (Klaniczay 2014, 46). Following medieval regulations,[4] every altar had to contain relics, which consecrate the church, rendering it a sacral place, a point of encounter of heaven and earth (Brown 1993, 32). In the early Middle Ages "an extensive trade in relics emerged, and alongside the relics of renowned martyrs from Roman catacombs, relics of new 'martyrs' that were historically highly unlikely to have had any authenticity were placed on the market" (Klaniczay 2014, 50–51).

In the eleventh century, Bernard of Angers wrote the following about the relics: "it is a pious memorial, before which the faithful heart feels more easily and more strongly touched by solemnity, and implores more fervently the powerful intercession of the saint for its sins" (Boehm 2011).

The relic demonstrates the special power and effect of index-type signs. Since it is physically connected to its object, the relationship between the object and the sign vehicle is the most direct in the case

[4] *After the regulation of the Councils of Carthage in the early fifth century, every consecrated altar had to contain a holy relic; thus, the demand for relics became very intense in both Eastern (Byzantine) and Western Christendom. The same principle was followed during the Carolingian era—the cult of martyrs' relics played a significant role in the Western Christianity of the Middle Ages (Klaniczay 2014, 48–51).*

of this sign type; therefore, presence, uniqueness, and specificity are powerful in indexes (Szívós 2012, 187–88). Relics played an important role in religious practice; thus, their special sacral power reinforced the earthly power of ecclesiastic and secular rulers who possessed them. Guibert de Nogent's work *De sanctis et eorum pigneribus* (*On the Saints and Their Relics*), written in 1100, reveals the heightened cult of relics, as well as examples of superstitions, misbeliefs, and counterfeits in relation to them (Toman 2005, 12).

Goldsmithing is discussed in Part 3 of Theophilus Presbiter's tractate compiled in German territory around 1100, titled *De diversis artibus* (*On Various Arts*). He emphasises the value of the sacred ecclesiastical objects, "without which the divine mysteries and service of the Offices cannot continue" (Gearhart 2010, 70). Georges Duby highlights that in the early Middle Ages, the relic inserted into the goldsmith's work of art (box or reliquary statue) was placed in the church, at the "heart of arts in the Romanesque age," which in turn served as the housing of the relic (Duby 1984, 272). The treasures placed around the reliquary, as well as the offerings, provided material resources for the construction, ornamentation, and prosperity of pilgrimage churches in the Roman age (Duby 1984, 52; Toman 2005, 11). Containers of relics were made from metal or wood covered with metal and ornamented with gemstones, precious materials and had rich ornamentation. They did not only certify the bones and other physical remains but were also worthy of the sacred content (Boehm 2011). Thus, as determining elements of the cult of saints, they were characterised by elaborate design and forms that correspond to religious practice, and also by a semantic richness.

The material of the reliquaries represents sacrality. Gold and precious stones are the signs of heaven. The semantic content of this originates in the Bible—in the Old Testament, a prescription attributed to Yahweh applies to ceremonial objects and pontifical vestments, as well as their elements ornamented with precious stones and gold (Ex. 25, 28, 35, 39). The New Testament description of Celestial Jerusalem built from crystal and ornamented with gold and precious stones inspired the medieval representation of sacrality (Rev. 4:10–21). In the middle of the twelfth century, Abbot Suger of the Benedictine monastery of Saint-Denis evaluated the significance of these precious materials: "In order to perfect such a holy ornament, we added, not only these, but a great number of other expensive gems. […] To me, I confess, it always has seemed right that the most expensive things should be used above all for the administration of the holy eucharist" (Suger). Regarding the objects of religious practice ornamented with gold and precious stones, Suger also elaborates on the significance of these objects as sign vehicles, as well as the sacral meaning and function of the sign objects of goldsmith art associated with them. Suger's writing is a testimony about tradition, emotional

motivation, and awareness of the how the materials for objects used in religious practice were selected.

Thus sometimes when, because of my delight in the beauty of the house of God, the multicolour loveliness of the gems has called me away from external cares, and worthy meditation, transporting me from material to immaterial things, has persuaded me to examine the diversity of holy virtues, then I seem to see myself existing on some level, as it were, beyond our earthly one, neither completely in the slime of earth nor completely in the purity of heaven. By the gift of God I can be transported in an anagogical manner from this inferior level to that superior one. (Suger)

The Sainte-Foy reliquary statue is one of the most significant examples of sacral meaning formation connected to noble metals and precious stones. The reliquary containing the skull is an outstanding goldsmith work of the period, a wooden figure with silver and gold gilt, with rich ornamentation made of precious and semi-precious stones, beads, crystals, and the antique cameos. In the opinion of researchers, the head of the reliquary was formed from a Roman sculpture.[5] As part of the cult of martyrs, some of the treasures and jewels offered by pilgrims were used for the ornamentation of the reliquary. The precious materials form a sequence of signs in the object's composition, their syntactic relation conveys a united meaning, visualising heaven and redemption. As a signifier in religious practice, the martyr's bone represents a transcendent and celestial relation through the astonishing and glistering reliquary. The shining, glittering materials and precious stones point to the description of the Heavenly Jerusalem (Rev. 21:19), which was repeated in many theological treatises in the Middle Ages. The following statement by Amy Remensnyder particularly applies to Sainte-Foy's reliquary statue:

While reliquaries gained their significance through the relics they contained, these containers also determined and interpreted their contents. The precious materials from which reliquaries were typically constructed symbolically made visible what was hidden, and transformed it. The actual relic was a bodily fragment, something identifiably human. The gold, silver, and precious stones of the reliquary interpreted that fragment and revealed to the viewer what could not be seen were the relic visible: the other and true nature of the saintly body, intact and glorified in heaven, reigning with Christ. (Remensnyder 1996, 889–90)

Thanks to Sainte-Foy's relics, the monastery of Conques has become the major southern station of the pilgrimage to Santiago de Compostela (Racaniello 2017, 15). The astonishing appearance of the

[5] *"The use of spolia, or the repurposing of Roman artifacts, connects the statue to Rome, the seat of Christianity, and its riches." (Skyler n.d.)*

reliquary and its ability to attract crowds were described by Bernard, master of the Angers episcopal school in 1013, in his manuscript entitled *Liber miraculorum sancte Fidis (Book of the Miracles of Saint Faith)* (Duby 1984, 272–73; Boehm 2011).

The function of the relics of Conques is embedded in Christian religious practice: believers have attributed to it celestial help and support, as well as the power to heal eye diseases and blindness. This pragmatic dimension established the sign relation in which the martyr girl's remains (her skull, as an index sign) represented celestial intercession and communion with Christ. The 85 cm tall reliquary forms a human being with a crown, holding her arms up, wearing an ornamented dress, which is the "effigy" of the saint in its function as an icon. Besides the spectacle of the glowing gold and precious stones, the effect is achieved by the wide-open and steady look, which Bernard of Angers describes: "When they saw it for the first time, all in gold and sparkling with precious stones and looking like a human face, the majority of the peasants thought that the statue was really looking at them and answering their prayers with her eyes" (Skyler). On the left base of the throne, the symbol of Christ, a lamb in a medallion can be observed, a scene from the crucifixion in the right, and four crystal spheres frame the top of the throne. These typical motifs of Christian iconography confirm the martyr girl's connection with Christ and the celestial sphere; thus, her role of intermission for the believers.

4 SUMMARY

Semiotic analysis has revealed that the basic proposition of design, according to which design is strongly related to everyday life and culture, equally applies to the two sacral objects discussed here, even though they are instruments of religious practice from different cultures. Both the ceremonial pipe and the reliquary statue are works of art created according to the religious life, myths, and religious practices of the communities in which they were designed and created. Both the materials and the ornamentation represent an awareness of form corresponding to function, semantic abundance, and the syntactic harmony of signs and sign patterns. The semiotic analysis of their visual information content can reveal not only semantic and syntactic aspects of these objects as signs and the sign patterns placed on them, but also pragmatic dimensions of meaning formation and sign usage in light of historical sources. Based on the design semiotic analysis, it can be stated that these objects were organic parts of the sacral communication of the societies that created and used them; therefore, they can be considered material impressions of their religious cultures and systems of values.

REFERENCES

Belting, Hans. 1993. *Likeness and Presence: A History of the Image before the Era of Art*. Translated by Edmund Jephcott. Chicago: Chicago University Press.

Boehm, Barbara D. 2011. "Relics and Reliquaries in Medieval Christianity." *Heilbrunn Timeline of Art History*. https://www.metmuseum.org/toah/hd/relc/hd_relc.htm

Brown, Joseph E., and Black Elk. (1953) 1989. *The Sacred Pipe: Black Elk's Account of the Seven Rites of the Oglala Sioux*. Oklahoma: University of Oklahoma Press.

Brown, Peter. 1993. *A szentkultusz kialakulása és szerepe a kereszténységben*. Translated by Marianne Sághy. Budapest: Atlantisz.

Catlin, George. (1841) 1989. *North American Indians: Letters and Notes on Their Manners, Customs, and Conditions, Written During Eight Years' Travel Amongst the Wildest Tribes of Indians in North America, 1832–1839*. New York: Penguin Group.

Catton, Theodore, and Diane L. Krahe. 2016. *The Blood of the People. Historic Resource Study. Pipestone National Monument*, Minnesota: National Park Service U.S. Department of the Interior. http://www.npshistory.com/publications/pipe/hrs.pdf

Fiell, Charlotte, and Peter Fiell. 2007. *Design kézikönyv. Fogalmak, anyagok, stílusok*. Translated by Júlia Kada. Budapest: Taschen – Vince.

Gearhart, Heidi. 2010. "Theophilus' *On Diverse Arts*: The Persona of the Artist and the Production of Art in the Twelfth Century." PhD dissertation, The University of Michigan. https://arhpee.typepad.com/Theophile%20par%20Gearhart.pdf

Géczy, Nóra. 2019. *Design. Tér- és formakultúra*. Budapest: Scolar.

Hernádi, Miklós. 1982. *Tárgyak a társadalomban*. Budapest: Kozmosz.

Hultkrantz, Åke. 1979. "The Traditional Symbolism of the Sun Dance Lodge among the Wind River Shoshoni." *Scripta Instituti Donneriani Aboensis*, 10: 70–95. https://doi.org/10.30674/SCRIPTA.67119

Kapitány, Ágnes, and Kapitány, Gábor. 2005. *Tárgyak szimbolikája*. Budapest: Új Mandátum.

Klaniczay, Gábor. 2014. *Az ereklyék kultusza a középkorban/Cult of Relics in the Middle Ages*. In *Kép és kereszténység: Vizuális médiumok a középkorban/ Image and Christianity/Visual Media in the Middle Ages*, edited by Péter Bokody, 46–65. Pannonhalma: Pannonhalmi Főapátság.

Kubler, George. 1962. *The Shape of Time: Remarks on the History of Things*. New Haven: Yale University Press.

Moholy-Nagy, László. (1946) 1971. "Industrial Design." In *Moholy-Nagy*, edited by Richard Kostelanetz, 90–93. London: The Penguin Press.

Morris, Charles W. 1938. *Foundations of the Theory of Signs*. International Encyclopedia of Unified Sciences 1 (2). Chicago: University of Chicago Press.

Peirce, Charles Sanders 1998. *The Essential Peirce. Selected Philosophical Writings*. Vol. 2. (1893–1913), edited by the Peirce Edition Project. Bloomington: Indiana University Press.

Racaniello, France Kristen N. 2017. "The Shrine System: Votive Culture and Cult Sculpture, Enshrining Space in 11th to 13th Century." Master's thesis, City University of New York. https://academicworks.cuny.edu/hc_sas_etds/148/

Remensnyder, Amy. 1996. "Legendary Treasure at Conques: Relics and Imaginative Memory." *Speculum* 71 (4): 884–906. https://www.jstor.org/stable/2865723

Skyler, Leslie. n.d. "Gold in Christian Reliquaries." http://projects.leadr.msu.edu/medievalart/exhibits/show/gold-in-christian-reliquaries/curatorial-essay (accessed April 18, 2022)

Suger, Abbot. *On What was Done in His Administration*. Translated by David Burr. Medieval Sourcebook (website). https://sourcebooks.fordham.edu/source/sugar.asp

Szentpéteri, Márton. 2012. "Mítoszok a designkultúrában." *Replika* (3): 159–68. http://www.replika.hu/system/files/archivum/replika_80-15_szentpeteri_1.pdf

Szívós, Mihály. 2012. *A jeltől a kódig. Rendszeres szemiotika*. Budapest: Loisir.

Szőnyi, György Endre. 2004. *Pictura & Scriptura. Hagyományalapú kulturális reprezentációk huszadik századi elméletei*. Vol. 10 *of Ikonológia és műértelmezés*, edited by Endre György Szőnyi and Attila Kiss. Szeged: JATEPress.

Takacs, Tatiana. 2016. "Lakota Pipe." *New Jersey Archeology* (blog). August 3, https://newjerseyarchaeology.wordpress.com/2016/08/03/lakota-pipe/

Toman, Rolf. 2005. *Román stílus. Építészet – szobrászat – festészet*. Translated by Lujza Havas and Ágnes Körber. Budapest: Vince.

Turnbaugh, William A. 2017. "Native American Red Stone Pipes." *Journal of Antiques and Collectibles*. https://journalofantiques.com/features/native-american-red-stone-pipes/

Utley, Robert M. 2004. "A lándzsa és a pajzs. Ülő Bika élete és kora." In *Robert M. Utley: A lándzsa és a pajzs. Ülő Bika élete és kora; Joseph E. Brown: A szent pipa*, series edited by Zoltán Fejős and Mihály Sárkány and translated by Péter Hahner and Teodóra Bökönyi, 9–456. Budapest: Osiris

Walker, James R. 1917. "The Sun Dance and Other Ceremonies of the Oglala Division of the Teton Dakota." Vol. 16, part 2 of *Anthropological Papers of the American Museum of Natural History*. AMNT Digital Repository. https://digitallibrary.amnh.org/handle/2246/201

Zalavári, József. 2008. *A forma tervezése. Designökológia*. Budapest: Scolar.

TEMPLATES OF AGENCY:
OBJECTS OF A SOCIAL DESIGN PROGRAM FOR DISADVANTAGED GIRLS

Janka Csernák

ABSTRACT

Compared to the aesthetic- and market-oriented mindset associated with mainstream design approaches, social design is traditionally considered to be a field that focuses more strongly on the human perspective and community-specific insight (Kimbell 2011; Manzini 2015). It is also a field that pays particular attention to the cultural and anthropological specificities of communities and takes these specificities into account throughout its processes of research and design. This paper presents a social design project, FRUSKA, and examines it from a semiotic and educational point of view. FRUSKA is a design program for disadvantaged girls aged 10–18, aiming at skill building, raising self-awareness and building agency, in order to advance the participants' life prospects. In an attempt to understand the community better, several objects were designed by the author and her students, based on preliminary research and inquiries conducted with the target group. Building on the premises of social semiotics (Hodge and Kress 1988; van Leeuwen 2005), these objects were specifically designed for the participants to build and customise during co-creation workshops: the participants could disassemble and personalise these objects in a way that is closer to their own aesthetics, filling them up with meaning as a means to practice agency. The design process, its application during workshops and the feedback from participants are analysed through the lens of intersectional theory (Crenshaw 1989), in order to understand the effects of differences in class, age, ethnicity and identity. The author concludes by discussing whether design can be meaningfully used as a language through co-creation.

#social design, #co-design, #social semiotics, #disadvantaged youth, #intersectional theory

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INTRODUCTION

The field of social design focuses on understanding complex phenomena in a holistic way, and thus, draws inspiration from neighbouring scientific fields as well, like social sciences, psychology, ecology, or philosophy. Social semiotics strives to be a critical, self-reflexive theory that investigates the dynamics of social meaning-making practices in specific social and cultural circumstances with the aim of explaining the processes of meaning-making (Thibault 1991, 6–7). From a design perspective, it is a field that enquires into different representation typologies and the relation between things and interpretations people have about them, which can be multiple and different as people read and comprehend designed objects in different ways (Grilo 2017). If we presume that semiotics can provide tools for designers to understand and shape said interpretations (Grilo 2017), this connection can also be observed between social semiotics and social design. Van Leeuwen's definition of social semiotics highlights key similarities with the methodological approach of social design: "the 'social' in 'social semiotics' […] can only come into its own when social semiotics fully engages with social theory. This kind of interdisciplinarity is an absolutely essential feature of social semiotics." (2005, 14) According to Van Leeuwen, social semiotics can be characterised as shifting the focus from the "sign" to the way people use semiotic "resources" both to produce communicative artefacts and events and to interpret them in the context of specific social situations and practices. Van Leeuwen argues that semiotic resources are not restricted to speech, writing and images, which expands the possibilities for the articulation of different social and cultural meanings. In the case described below, material artefacts can also constitute a semiotic resource, where it becomes possible to describe its semiotic potential as its potential for making meaning—on the one hand, meaning-making *about* the maker, and on the other hand, and more importantly, by the maker of a marginalised position, whose voice is rarely heard.

This study analyses the products of a series of workshops created specifically to address the empowerment of disadvantaged girl groups. These workshops were designed and conducted on the basis of intersectional feminist theory (Crenshaw 1989) and social and participatory design methods, and they aimed at empowerment of the participants through

agency-building, self-reflection practices, problem-solving, designing, and building, all based on systematic self-evaluation and self-assessment. The design process embedded in the program features a collection of template-based objects in the form of blueprints. The customised design process that girl participants go through provides them with the opportunity of meaning-making through their own cultural and personal experiences, by manifesting their knowledge of the world through creating objects. The relatively simple structure of the objects allows for ergonomic and stylistic modifications according to the participants' preferences, and they can be further personalised with colour and decoration.

This study presents a variety of the objects created during a series of FRUSKA workshops, and the objects are analysed through the lens of social semiotics in order to identify collective and individual patterns of meaning-making and embodied knowledge.

THE TARGET GROUP[1]

[1] *This section and the following one ("The User Group of the FRUSKA Method") are partially taken from* FRUSKA Handbook / FRUSKA Kézikönyv *by Janka Csernák, Rita Szerencsés, Lili Horváth, and Fanni Dés (Csernák et al. 2023).*

It seems more important than ever to address the increasingly pressing issue of intersecting inequities underprivileged girls face. While the developing world has been a central focus of worldwide development work carried out by global initiatives, the gender gap has not been closed despite earlier incentives (United Nations 2011, 2015).

Unpacking the distinctions by which we define groups as underprivileged, it is both important to look at the global context and see local and cultural specificities too. In the global context, the following factors play a key role: living in low-income households, ill-equipped housing conditions, employment activity of the household, education level of household members as well as cultural factors like ethnicity, race, or caste. Based on information about basic needs collected from fifteen low-income countries, the World Bank defines the extremely poor as those living on less than $1.90 a day. However, because more people today live in poverty in middle income countries than in low-income countries, higher poverty lines are used.

In a more local context, especially in Central-Eastern Europe, besides the difficult socioeconomic settings of an individual, one cannot overlook the historically ingrained bias against ethnicities.

When looking at the current socioeconomic circumstances in Hungary, the global economic crisis of 2008 had effects on Hungarian society earlier than in other countries (usually between 2009 and 2012) and therefore increased the extent of income poverty as well as income inequalities and severe material deprivation (Siposné Nándori 2020). According to data, housing inequalities, ethnic origin, and having a large family are usually closely related, creating overlapping disadvantages. Furthermore, the Roma population, which makes up about 6–7% of the total Hungarian population, is considered the most exposed to poverty.

The level of education and employment are both very low, leading to severe poverty in these groups (Siposné Nándori 2020). A survey conducted in 2012 revealed that while 12% of the total Hungarian population lives below 60% of the median equivalised income, the rate among the Roma population is 76% (Gábos, Szivós and Tátrai 2013).

According to a 2015 study on Hungary, deprivation can be further broken down into three indicators: the proportion of people living in relative income poverty, the proportion of people living in severe material deprivation, and the proportion of people living in a very low job-intensity household (employment poverty). The groups defined by relevant indicators overlap, amounting to 1.9 % of the total population of Hungary. Additionally, poverty and social exclusion further threaten the following groups: children under eighteen, single-parent households, the low-educated, unemployed, or Roma people (in which case the above risk is three times the average) (Központi Statisztikai Hivatal 2015).

With the transition to a market economy, the length of childcare benefits has increased while the number of childcare institutions has decreased. This has led to women being increasingly forced to take care of their children, elderly relatives, and relatives living with disabilities in the household. Which has in turn resulted in the feminisation of poverty as a dominant phenomenon in the country (Einhorn 1993, Gregor and Kováts 2019). Considering additional, gender-based inequalities, Romani women are the region's most vulnerable, facing constant, multiple discrimination based on race, class, and gender (Schultz 2012). Furthermore, (mostly Roma) girls are not only marginalised within the category of children as females but also within the category of women as minors. (Taefi 2009). Addressing poverty as a gendered problem helps us further understand the obstacles underprivileged females face. The two strongest barriers are the duty of childcare (which falls disproportionately on mothers instead of fathers) and the impediment they experience in the job market (Czibere 2012).

In low-income, vulnerable communities, the lack of perspective and job prospects can have debilitating effects on youth groups. Girls are often the most vulnerable in this sense, as early (childhood) marriage, a domestic career and the role of the caregiver is the only visible option for them. It is especially true in more traditional or ethnic communities, since the family serves as both the sole economic and social support system for individuals.

This set of circumstances often results in not only early childbearing and leaving the education system too early, but several other psychological factors that further hold back individuals from breaking out of their barriers. The lack of support in the education system (especially in rural segregated schools) further deepens the abandonment young girls might experience and these difficulties might result in a lack of motivation, goal setting, confidence, and agency.

In many cases, these interconnected phenomena contribute to a conflict between the world of the family (which considers a girl an adult from early adolescence) and the world of school, which still treats them as children in need of discipline. Therefore, in the following methodology, the age of adolescence is taken as ten to eighteen, but for more accurate methodical choices and appropriate tools, it is further broken down into two categories (ten to thirteen and fourteen to eighteen), when referring to assessment tools.

THE USER GROUP OF THE FRUSKA METHOD

The FRUSKA method book aims to find and identify patterns of diverse challenges underprivileged adolescent girls face, the psychological effects these challenges cause, and to link them to effective creative tools. The method aims to define creative and design-based practices that enhance the life experience of underprivileged girls through gaining skills such as self-confidence, problem-solving, and a sense of agency. As such, it is a useful tool for practitioners, community-leaders or educators to enrich the developmental work with the target group of disadvantaged girls aged ten to eighteen. The method and workbook can be applied in scenarios when the developmental work carried out with the target group calls for out-of-the box or creative tools, as both the age specificities of adolescent girls and their position in educational or non-educational settings can prove challenging. In order to address girls in a meaningful way, it can be helpful to apply participatory, customisable activities such as the ones proposed below.

The adolescent phase in the psychosocial theory of development is concerned with identity formation versus role diffusion (Erikson 1968), as well as agency manifestation. Considering adolescents' construction of identity—which underprivileged youths often miss out on—as part of an ongoing formation of relationships, institutions, culture, and family rather than seeing them as passive reactors to a static system produces accurate and detailed observations (Cooper 1999).

Moreover, it helps to overcome the misconception of seeing educational difficulties of low-income or minority students as a result of "cultural mismatch," and to recognise how institutions might lack the knowledge to guide them, if they still choose to continue with their academic advancement beyond the compulsory age (Havas and Liskó 2005, 94–95). In addition, it is important to mention that according to surveys, traumatic experiences within the family appear more frequently than in other secure social settings (loss of family members, separation, loss of employment, housing crises, and violence, etc.).

Previous studies indicate that adolescents of low socio-economic status report lower self-esteem in comparison to their peers of higher socio-economic status (Veselska et al. 2009). Addressing and improving

low self-esteem is a key factor in working with at-risk adolescent girls as low self-esteem is widely documented as a correlative factor in depression and anxiety (Veselska et al. 2009), lower health-related quality of life (Mikkelsen et al. 2020), criminal behaviour, drug and alcohol abuse, and teen pregnancy (Hartz and Thick 2005). Confidence and satisfaction with oneself (self-esteem) can be influenced by peer and parental relationships, different intellectual and physical abilities, appearance, competence, as well as identification with a reference group (either positively or negatively) (Ibid., 71).

These factors impact girls more significantly than boys, especially through adolescence, as gender-role expectations impose limits at a higher scale on females. Previous studies show that self-efficacy and self-esteem might act as a buffer for negative psychosocial factors in adolescents (Mikkelsen et al. 2020). Promotion of self-efficacy might contribute to reducing emotional symptoms among all socioeconomic groups and thus to reducing social inequalities in emotional symptoms (Meilstrup et al. 2016). Increasing self-awareness helps girls identify personal preferences, values, and life purpose and create a realistic appreciation of personal strengths and weaknesses, therefore setting more realistic goals.

METHODOLOGY

We can state that underprivileged girls are a particularly vulnerable social group both economically and ecologically, resulting in the lack of tools for exerting control over their future. The FRUSKA methodology proposed by the author aims to consciously counterbalance this, and instead ensure freedom of expression to participants while maintaining a safe space for sharing difficult life experiences, granting them "partnership and active participation" (Froese and Kóczé 2012).

The workshop program aims to find and identify patterns of diverse challenges underprivileged adolescent girls face, and the psychological effects these challenges cause, in order to link them to effective creative tools. The method aims to define creative and design-based practices that enhance the life experience of the target group by helping them gain skills such as self-confidence and problem-solving, and a sense of agency. The methodology is based on the parallelism between simple maker assignments and self-knowledge tools, rooted in social design, participatory action research (Aziz, Shams, and Khan 2011), feminist group advocacy (hooks 1994) and art therapy (Hartz and Thick 2005). Based on widely used social design methods, a participatory, co-creation-based approach (Kimbell and Julier 2012; Manzini 2015; Kimbell 2020) is applied in order to support the participants in practicing autonomy during sessions. The small group format and elements of shaping the group dynamic as a safe space (i.e., establishing

common rules in the beginning, valuing all opinions, providing space for all expressions, and maintaining respect for each other) are based on the theory of bell hooks (1984) regarding educational settings targeting underprivileged females. Hartz and Thick (2005) suggest that art therapy and psychotherapy tools in artistic activities result in increased self-worth, connectedness and motivation in participants.

The questionnaires for measuring the effectiveness of the FRUSKA method were based on a questionnaire designed by Hartz and Thick (2005), which aimed at measuring changes in self-esteem as a Self-Perception Profile. Similar to the data presented by Hartz and Thick (2005), FRUSKA participants reported increased feelings of mastery, connection, and self-approval. Comparing the seven-step questionnaires administered pre- and post-workshops, most participants showed an increase in global self-worth, based on notions such as perception of peer acceptance, freedom of self-expression, feeling of competence and goal-orientedness and positive feelings associated with the act of creation[2]. Baer's observations (1998) on gender differences in creativity show that middle school girls' motivation and creativity are lowered by the expectation of evaluation and rewards, therefore no metrics were used during reflections and only self-evaluation was applied. While the recorded answers showed a pattern of general improvement in self-image and competence, several answers indicated the development of more realistic goal setting and more accurate judgment of the creative process. Even though numerical data collection is still ongoing in order to arrive at a wider pattern and more nuanced conclusion as a longitudinal study, and therefore it is not shared in detail here, one significant result of the data collection process is the expertise the participants gained in self-evaluation itself, as it is a rather underdeveloped skillset of the target group despite its significant role in a balanced self-image.

The evidence for the parallelism between maker assignments and self-knowledge tools is supported by numerous studies conducted on STEM- and STEAM-based education and maker initiatives, where participants had self-assessed as more confident and empowered as a result of participation (Clapp and Jimenez 2016). Unfortunately, disadvantaged youth, especially girls, are not the basic target audience of such programs, which made it even more urgent for the current methodology to focus on these groups. Even though a majority of humanitarian creative tools are based on collaborative work processes (i.e., The HCD Toolkit by IDEO 2009; DIY Toolkit by NESTA 2014), they do not necessarily focus on the intersectional interpretation of inequalities they aim to address. Such collaborative practices are typically based on an egalitarian and democratic setup, where the designer only acts as a facilitator. In the case of the specific target group FRUSKA addresses, it has proven difficult for the author to embody the facilitator mindset for two reasons: firstly, the target group is not used to non-frontal

[2] *Sharing the numerical data results of the ongoing data collection is beyond the scope of the current article, as it focuses on the semiotic aspect and general patterns of attitude change in participants.*

educational settings (i.e. a student-centred, cooperative learning environment) and expressing their needs and opinions during creative workflows; and secondly, as elaborated upon earlier, the majority of participants have experienced multiple layers of disenfranchisement through their life and their girlhood presents a necessity for the creation of a safe space in order to encourage expression and creativity.

According to Christian Voigt, Elisabeth Unterfrauner and Ronald Stelzer, the maker movement already has a strong political agenda that aims at bridging the gap between a few producing and many consuming stakeholders, helping consumers to gain access to production. Frugal innovations and a circular economy mindset are concepts for empowering those with less "fabrication power" and makerspaces are important venues for the creation of opportunities as they enable low-cost entrepreneurship, but their exclusionist and western-centric nature often shuts out the very groups who would benefit from these opportunities (Voigt, Unterfrauner, and Stelzer 2017). The methodology described here does not aim directly at empowering participants in a capitalist, market-based sense, but rather helps them gain access to deeper self-knowledge and identify their inherited or gained barriers through design tools, which can result in improved prospects. Numerous studies and practice-based research confirm the positive long-term effect of the use of creative methodologies among underprivileged youth, especially girls (Dietrich, Trischler, Schuster, and Rundle-Thiele 2017; Tan and Barton 2018; Pilloton and Bingaman-Burt 2020; Hughes 2020), acknowledging that building or making things "is a way […] to have a voice, to exercise power, to be a free and independent woman, and to play an active role in the physical world." (Pilloton and Bingaman-Burt 2020, 15) Shaping this space that surrounds participants (by participants and peer mentors themselves or by the mediation of facilitators) does emphasise the parallelism with shaping the narrative of the social space that they inhibit as a catalyst for change (Pilloton and Bingaman-Burt2020, 11), and during FRUSKA workshops and talks the participants were actively encouraged to challenge not just the templates and language around making that are given to them, but to question the larger, societal context as well.

Besides supporting girls on a creative learning journey, a wider goal of FRUSKA workshops is to help participants discover interests and skills they might not acquire otherwise or get access to, grow their personal and professional network, widen their vocabulary (emphasising the power of language and competent use of accurate terminology), and to facilitate their geographical and social mobility by participating in a knowledge transfer as mentors. Furthermore, developing psychological, coping and communication skills can support girls in other areas of life and strengthen their resilience and agency. All these skills and gains contribute to a wider sense of empowerment of participants. According to some feminist advocacy groups, empowerment is a loosely defined,

"fuzzy" word that cannot be clearly articulated, let alone measured (Kabeer 1999). In order to gain some clarity on what empowerment might be and how to achieve it, it is necessary to think about power in terms of the ability to make choices: to be disempowered, therefore, implies being denied choice. As Kabeer remarks, "[empowerment] is inescapably bound up with the condition of disempowerment and refers to the processes by which those who have been denied the ability to make choices acquire such an ability." (Kabeer 1999, 437) Consequently, empowerment entails a change in power dynamics: an expansion in people's ability to make strategic first- and second-order life choices in a context where this ability was previously denied to them. However, it is important to look at possible inequalities in people's capacity to make choices (derived partly from their social status) rather than at differences in the choices they make (Kabeer 1999, 439). This decision-making process is modelled and exercised during FRUSKA workshops, specifically keeping the perspective of the individual participants in sight, and thus creating a realistic set of expectations that one can work towards.

There are no available studies known to the author on a comparative analysis of a wide range of international creative initiatives and the long-term effects of maker practices on underprivileged girls. However, comparative studies on participatory processes (Hussain 2010; Whittle 2014; Shepers et al. 2018) mostly from the field of digital design point towards the participants' development of self-esteem, learning-by-doing, and broadening their horizons, which can contribute to their empowerment. Furthermore, studies focusing on gender differences in maker practices (Vossoughi, Hopper, and Escudé 2016; Eckhardt et al. 2021) point out that dedicated attention to educational injustices is crucial to developing a pedagogical sensitivity within making environments, and broadening the definition of making could further contribute to overcoming gendered stereotypes within society and to create a more diverse environment in the maker community.

Participants in the case elaborated below were students from a Tanoda program in Budapest (an after-school community program, as previously mentioned), aged thirteen to fourteen, based in a district with complex social problems and increasing gentrification. Even though the participants described here are from an urban background and their network and infrastructure access is considerably wider, we can still observe similar patterns regarding lack of trust towards education and a lack of perspective and motivation, as well as a deficit of agency and empowerment. The deficiency of tools for visual and tactile expression and creative processes is also an experience that is shared among rural segregated schools and inner-city schools with a diverse studentship. While elaborating on the specifics of Tanoda programs in Hungary would go beyond the scope of the current study, it is worth mentioning that the Tanoda network plays an important part in working toward closing

the gap between Roma and non-Roma students and their educational prospects. A program based on one-on-one tutoring, extracurricular activities and strong interpersonal bonds helps the participants raise their motivation and dedication to education; however, there are limitations to the effectiveness of such programs without strong support and encouragement from the participants' families. As in several cases of minority-focused developmental programs, the Tanoda aims at compensating disadvantages and ultimately pushing participants towards independence while teaching them the necessary skills.

FIGURE 1. *Objects created during the 2022 spring FRUSKA workshops. Photo: Noémi Szécsi*

ANALYSIS OF THE DESIGN PROCESS

Designed objects can be observed on three levels through the lens of semiotics: on the pragmatic, the semantic and the syntactic level (Morris 1938). The pragmatic level enquires into *why* the object exists, the semantic level explores *what* kind of subjective attitudes people have towards it, and the syntactic level investigates *how* it was made. In the case analysed below, the participants were co-designing a structurally preconceived template, accordingly, in the analysis the author only focuses on the additional design features created by the participants. The reliance on templates is necessitated by the short timeframe of the conducted workshops and the specificities of the target group (i.e., the lack of confidence in visual expression, the intimidating aspect of a detailed design process and the need for a unified design journey that grants a certain amount of freedom to participants and to the community as well). The current investigation does not address co-design processes that are applied from scratch. From a (design) semiotics point of view, the latter case would raise fascinating questions about authorship and the manifestation of agency for non-professional designers, but that inquiry is beyond the scope of the current study.

The objects created throughout the series of workshops are statements by the participants, and thus, can be read through the lens of social semiotics. As mentioned above, in this specific context, the author stresses the importance of meaning-making *by* the participants, and therefore focuses on this aspect of semiotics and semantics. The template-based objects (in the case analysed here, a stool) are designed in order to create a blank canvas for the participants, as well as to overcome several technological and creative barriers. Rather than granting them a fully detailed design education course, the program focuses on taking smaller steps and aims at a success-oriented, affirmative process. The collection of objects designed specifically for the program include a mobile paper structure (reflecting on the interpersonal relationships of the participants), a small standing mirror featuring a pin board, a lightbox object (that can be customised with participants' personal features), a swinging stool (that can be personalised and equipped with additional storage), and a ladder shelf (which is designed to refer to the vanity desk as a prefiguration, but instead of featuring a mirror for beautification, it offers personal storage as an identity-building act). During the workshop series presented here, the stool was chosen from the above collection as the one item reflecting the group's needs in the most meaningful way. These needs were defined and articulated by the participants during the third workshop session in a spatial visualisation and mapping exercise, focusing on their immediate home environments and their positives and pain points. The stool was chosen based on the shared demand of this given group for personal placemaking within the home and shared domestic spaces (literally "a seat at the table," as one participant put it). In the case of other workshops, lightbox objects and storage shelves were also created based on the questions raised in those specific scenarios, bringing similar results in self-evaluation, which could indicate that the subjects of workshops show a lesser significance than the process of creation itself, but might be important for keeping up the motivation in participants through its relevance in their lives. In the context of the research, several design blueprints were created, such as storage items, chandeliers or an outdoor throwing game, but they have not been applied in the context of a FRUSKA workshop so far due to the lack of an appropriate age group or circumstances, but each of these blueprints represents a different complexity, functional specificity, or level of affordance for individual customisation.

Affordances, as Gibson defines them (1979), stem directly from observable properties of objects (or other phenomena). In the given female-centred context, these observable qualities of objects can differ from the ones registered in a different context: a "female gaze" on the environment and its furnishings is inherently different from the "male gaze" (i.e., a gaze with a western-centric, white, patriarchal set of values). The question of whether the objects described below fit into a design

canon (corresponding to a certain aesthetic or market position) can uncover the presence of othering and reinforcing existing stereotypes (Kóczé and Sardelic 2016). Contemporary western societies still produce a textual and discursive canon that determines the performance of Roma women, who are still considered a threat in most European societies (Kóczé and Sardelic 2016; Jovanović 2014; Matkowska 2021). As Kóczé and Sardelic state, "In some respects, the discourse on the Roma woman as unpredictable, transgressive and dangerous, or even as [an] evil witch, reflects on her perceived transcendent power over men." (Kóczé and Sardelic 2016) This stereotypical narrative also reflects the discourse that attempts to justify the delegitimisation and marginalisation of Roma women in their everyday lives. If we consider participants as actors or "bodies in space" (Hodge and Kress 1988, 52), their everyday life and acts should be considered as a baseline for the participatory design process in order to truly reflect on their actual needs. Consequently, several affordances can be observed in the given case. The template of the stool was selected based on a placemaking act, stemming from the participants' need to have dedicated, flexible spatial features in their crowded, loud, cohabited domestic spaces. The template offers the opportunity of a swinging motion that can be considered radical for an act of a Roma teenage girl. The stool offers the chance to create a swinging motion, but only one participant felt curious and playful enough to apply a rounded shape to the legs of the object (most of the participants declined this option due to the extra work it meant during fabrication and possibly due to the feeling of uncertainty it brought to the object's usage.) This playfulness is a significant element of the template design that addresses adolescence as the ambivalence and transition between childhood and adulthood. Since the target group is traditionally considered to display early maturation in their womanhood due to social expectations to perform adult behaviour and labour at home (Durst 2001), the chance to still embody the girl child without adult expectations is a significant act of rebellion.

The size and weight of the object afford easy transitions of function and spatial-territorial usage; it can be used individually or in a community. The way that the sitting surface transforms into a canvas for the self-expression of participants is radical in itself, bordering on minimalist maximalist design principles, a folk tradition and a contemporary manifestation of popular culture and personal accounts of social life. The presence of Roma girls and women, and traditional Roma images in public space have continuously challenged the concept of "respectability," as described above (Skeggs 2001, 17). Respectability is a central mechanism through which the concept of class has emerged and functioned as a gatekeeping mechanism ever since (Skeggs 2001, 2). The dilemma of whether it is possible for underprivileged female maker groups to attain respectability (and thus validation and canon-

isation) is present in the art and design world as well. There is strong policing in ideology and in the construction of gender expressions as well. According to Hodge and Kress, "gender messages can be installed by rules of etiquette […] The rule of verbal language is important but ancillary to the physical. Styles of dress, appearance and behaviour are overt enough to be strictly policed so that the ideological meanings they carry can be obligatory and ubiquitous." (Hodge and Kress 1988, 64)

During the workshops, participants demonstrated a certain amount of initiative and susceptibility to novelty, but understandably, they were also hesitant to make too many alterations to the given template. Despite being encouraged to feel free to change the shape of the stool radically, they tended to take small steps and gravitate towards rounding out edges and designing cut-out shapes instead of redrawing the entire structure. According to participants' oral feedback provided during the positional dialogues and feedback sessions, this was a conscious decision stemming from their social position where conditioning leads them to adapt and linger. The cut-out shapes used for gripping the stool were a significant territory of meaning-making for participants, as they were not only asked to draw these shapes, but cut them out with a handsaw as well, which requires serious dedication to their decisions of design. One participant cut out a heart-shape and the other three cut out rectangles, even though a simple round hole would have been the simplest solution.

Participants reported that these shapes represented important cultural symbols (heart) and shapes they are comfortable with, signifying the house or home (square). These symbols are both strongly connected to traditional female roles and representation, and can be interpreted in terms of Roma girls' life goals. As mentioned above, love, marriage and sexuality play a key part in the target groups' life narrative, as one of the most important opportunities for self-actualisation and creating "symbolic capital" (Durst 2001; Kovai 2018).

The colours used throughout the objects are red, green and yellow, which are often used in Roma pictorial tradition and clothing. The relatively small amount of data produced by the co-creation activity does not establish the causal connection between Roma traditions and the participants' design choices, but it is interesting to note that during the workshops, the girls talked about the specificities of their families and their own personal clothing and how different traditional wear is from their or their peers' clothing. Using traditional visual elements such as heart-shapes or floral ornaments as semiotic tools can be seen as a primal decorative tendency of adolescent's visual expression. On the other hand, the use of strong contrasts and geometric symbols instead of figures (animal or human) can rather be the result of a decorative, but visually not highly skilled education received in the common education system (Hortoványi 2018).

Another noteworthy feature displayed by one of the objects is the appearance of text. Van Leeuwen categorises this type of text usage as integration, when text and picture occupy the same space—"either the text is integrated in (for example, superimposed on) the pictorial space, or the picture in the textual space." (Van Leeuwen 2005, 14) In this specific case, one participant wrote her initials and the word "slave girl" on the sitting surface of the stool. This text, while poetically and politically very strong, is a direct reference to a Hungarian pop song from 2004 by L.L. Junior, a popular ragga/hip-hop musician of Roma origin. The citation of this particular song underlines very traditional gender roles and the structure of a heavily patriarchal family, while also suggesting the possibility of free will of the woman represented in the song. Additionally, it references the strong cultural significance of music in Roma traditions, a "racialisation" of musical traditions (Piotrowska 2013). Survey data show that in Eastern Europe, majority group members typically regard Roma musicality as a distinctive and positive attribute, and music tends to be an area of pride and positive representation among Roma youth (Kende, Hadarics, and Lášticová 2017). During workshop sessions, participants shared segments of their daily life as well as love life, and suggested similar tendencies as those described in the cited song. Therefore, the shapes and colouration used on the stool are further enriched with meanings from a culturally very significant musical inspiration. When reading the layered meaning behind this specific pop culture reference, we might consider it a metaphor for the participant's existential position. Hodge and Kress suggest that terms of speech are often called metaphors, "but what they express is a basic equation between the ordering of bodies and physical space and the relationships between persons and social space." (Hodge and Kress, 52) It is important to point out that creating simple pieces of furniture or homeware objects does not grant participants the skills for mastery in woodworking, nor is the program focused on technological achievement or professional design skills. Instead, the process and the objects created within reflect on the Beuysian potential of social transformation, focusing a creative practice "not on the static object with realised goals, but rather on actions and demonstrations that showed a readiness and adaptability to change." (Jordan 2013, 148) This means that the participants' creation and customisation of the objects manufactured during the process is an act of place-making and meaning-making, through which participants can experience what it means to plan, manifest and follow through with their intentions in a relatively structured way that grants them freedom of expression. Moreover, participants have gained skills that they can employ in other contexts as well: manual skills, technological skills, fine motoric skills, and appropriate language (of technology and of self-reflection), which can help them inhabit the world with more self-confidence.

CONCLUSION

Disenfranchised or marginalised groups can experience difficulties of proper representation, meaning making, or being recognised as bearers of knowledge. Social design has the ability to provide tools for these groups to shift said narratives and power dynamics, and gaining skills and building channels of communication through adequate creative processes can provide tools for growing agency.

Social semiotics is a field that highlights the importance of signifiers which are not restricted to speech, writing, and images, and which, by widening the media of expression, allows the articulation of different social and cultural meanings that might be more adequate to certain social groups whose voice is rarely heard.

The FRUSKA methodology presented in this essay attempts to provide tools for disadvantaged girl groups aged ten to eighteen for practicing and growing their agency through participatory, co-creation workshops based on social design principles (Kimbell 2011). The current study does not focus on the impact measurement aspect of the proposed methodology and therefore the effects of the workshop series are not presented here, and the effectiveness of the workshop's activities needs to be measured on an ongoing basis in the context of a longitudinal study. However, an outline of positive changes that were measured during participation is provided and a rather significant outcome is discussed, which is the meaning-making processes participants are engaged in. Through the participants' meaning making and their opportunity to practice control over their narratives, noteworthy observations can be made from a social semiotics angle. The design choices participants have made regarding the template objects are a direct blueprint of how they intended to shape their narrative and how they gained the tools to do so. Objects created during FRUSKA workshops were analysed through the lens of social semiotics considering gender and power relations, affordances (spatial and functional as well), textual elements and their additional layers, shapes and colours as tools for meaning making, as well as the general significance of decision-making through a design and manufacturing process.

The complex analysis of the FRUSKA workshop program, regarding both a methodological perspective and impact, requires a longitudinal study and analysis, which goes beyond the scope of current study, and is elaborated elsewhere. However, from a methodological perspective, social semiotics can be a valuable source of new approaches within design in general and particularly in social design, especially during participatory initiatives, as the viewpoints it provides are interdisciplinary and fully engage with different cultural meanings rather than a mainstream narrative.

REFERENCES

Aziz, Ayesha, Meenaz Shams, and Kausar S. Khan. 2011. "Participatory Action Research as the Approach for Women's Empowerment." *Action Research* 9 (3): 303–23.

Baer, John. 1998. "Gender Differences in the Effects of Extrinsic Motivation on Creativity." *Journal of Creative Behavior* 32 (1): 18–37. https://doi.org/10.1002/j.2162-6057.1998.tb00804.x

Clapp, Edward P., and Raquel L. Jimenez. 2016. "Implementing STEAM in Maker-Centered Learning." *Psychology of Aesthetics, Creativity, and the Arts* 10 (4): 481–91.

Cooper, Catherine R. 1999. "Multiple Selves, Multiple Worlds: Cultural Perspectives on Individuality and Connectedness in Adolescent Development." In *Cultural Processes in Child Development*, edited by Ann S. Masten, 25–27. Mahwah: Lawrence Erlbaum Associates Publishers.

Crenshaw, Kimberlé. 1989. "Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine, Feminist Theory and Antiracist Policies." *University of Chicago Legal Forum* 1 (8): 139–67.

Csernák, Janka, Rita Szerencsés, Lili Horváth, and Fanni Dés. 2023. *FRUSKA Handbook / FRUSKA Kézikönyv*, Budapest: MOME. https://api.mome.hu/uploads/MOME_IC_FRUSKA_Handbook_HU_91cc970a53.pdf

Czibere, Ibolya. 2012. *Nők mélyszegénységben. Személyes életvilágok és cselekvési perspektívák a mélyszegénységben élő nők mindennapjaiban*. Budapest: L'Harmattan.

Dietrich, Timo, Jakob Trischler, Lisa Schuster, and Sharyn Rundle-Thiele. 2017. "Co-designing Services with Vulnerable Consumers." *Journal of Service Theory and Practice* 27 (3): 663–88. https://doi.org/10.1108/JSTP-02-2016-0036

Durst, Judit. 2001. "»Nekem ez az élet, a gyerekek«: Gyermekvállalási szokások változása egy kisfalusi cigány közösségben." *Századvég* 22: 72–92.

Eckhardt, Jennifer, Christoph Kaletka, Bastian Pelka, Elisabeth Unterfrauner, Christian Voigt, and Marthe Zirngiebl. 2021. "Gender in the Making: An Empirical Approach to Understand Gender Relations in the Maker Movement." *International Journal of Human-Computer Studies* 145: 102548. https://doi.org/10.1016/j.ijhcs.2020.102548

Einhorn, Barbara. 1993. *Cinderella Goes to Market: Citizenship, Gender and Women's Movements in East Central Europe*. London: Verso.

Erikson, Erik H. 1968. *Identity: Youth and Crisis*. New York: W.W. Norton.

Gábos, András, Péter Szivós, and Annamária Tátrai. 2013. "Szegénység és társadalmi kirekesztés Magyarországon, 2000–2012." In *Egyenlőtlenség és polarizálódás a magyar társadalomban*. TÁRKI Monitor Jelentések 2012, edited by Péter Szivós and István György Tóth, 37-60. Budapest: TÁRKI. http://www.tarki.hu/hu/research/hm/monitor2012_teljes.pdf

Gibson, James J. 1979. "The Theory of Affordances." In James J. Gibson. *The Ecological Approach to Visual Perception*, 119–37. Boulder: Taylor & Francis.

Gregor, Anikó, and Eszter Kováts. 2019. "Work–Life: Balance? Tensions between Care and Paid Work in the Lives of Hungarian Women. *Social Science Review*, Special Issue in English, 7: 91–115. https://doi.org/10.18030/socio.hu.2019en.91

Grilo, André. 2017. "Why Semiotics Matters in Product Design." *Medium* (blog). July 3. https://andregrilo.medium.com/why-semiotics-matters-in-product-design-43ec49d11d04

Hartz, Liz, and Lynette Thick. 2005. "Art Therapy Strategies to Raise Self-Esteem in Female Juvenile Offenders: a Comparison of Art Psychotherapy and Art as Therapy Approaches." *Art Therapy Journal of the American Art Therapy Association* 22 (2): 70–80.

Havas, Gábor, and Ilona Liskó. 2005. *Szegregáció a roma tanulók általános iskolai oktatásában. Kutatás Közben 266.* Budapest: Oktatáskutató Intézet.

Hodge, Bob, and Gunther R. Kress. 1988. *Social Semiotics*. Cambridge: Polity.

hooks, bell. 1984. *Feminist Theory: From Margin to Center.* Boston: South End.

hooks, bell. 1994. "Feminizmus mint transzformációs politika." In *Férfiuralom: Írások nőkről, férfiakról, feminizmusról*, edited by Miklós Hadas, 98–105. Budapest: Replika Kör.

Hortoványi, Judit. 2018. "Cigány/roma és nem roma kamaszok 5-szimbólum rajzfeladatának összehasonlító elemzése." PhD dissertation, ELTE. https://edit.elte.hu/xmlui/bitstream/handle/10831/40650/Hortovanyi_Judit_disszertacio.pdf

Hughes, Katie. 2020. *Girls Who Build: Inspiring Curiosity and Confidence to Make Anything Possible.* New York: Black Dog & Leventhal.

Hussain, Sofia. 2010. "Empowering Marginalised Children in Developing Countries through Participatory Design Processes." *CoDesign* 6 (2): 99–117. https://doi.org/10.1080/15710882.2010.499467

IDEO. 2015. The Field Guide to Human-Centered Design. https://design-kit-production.s3.us-west-1.amazonaws.com/Field_Guides/Field+Guide+to+Human-Centered+Design_IDEOorg_English.pdf

Jordan, Cara. 2013. "The Evolution of Social Sculpture in the United States: Joseph Beuys and the Work of Suzanne Lacy and Rick Lowe." *Public Art Dialogue* 3 (2): 144–67. https://doi.org/10.1080/21502552.2013.818430

Jovanović, Jelena. 2014. "Romani Women's Identities Real and Imagined. Media Discourse Analysis of "I'm a European Roma Woman" campaign." Master's thesis. Central European University. https://eige.europa.eu/docs/84_HU.pdf

Junior, L.L. 2004. "Rabszolgalány."
Track 3 on *Az én világom*. Skyforce. https://open.spotify.com/track/6z31fzgwnCH0g9t35EA6RL?si=dac990f5f9654dz

Kabeer, Naila. 1999. "Resources, Agency, Achievements: Reflections on the Measurement of Women's Empowerment." *Development and Change* 30 (3): 435–64. Oxford: Blackwell.

Kende, Anna, and Anikó Illés. 2011. "Hátrányos helyzetű gyerekek jelen- és jövőképe." *Esély* 20 (4): 72–92.

Kende, Anna, Márton Hadarics, and Barbara Lášticová. 2017. "Anti-Roma Attitudes as Expressions of Dominant Social Norms in Eastern Europe." *International Journal of Intercultural Relations* 60: 12–27. https://doi.org/10.1016/j.ijintrel.2017.06.002

Kimbell, Lucy. 2011. "Rethinking Design Thinking: Part I." *Design and Culture* 3 (3): 285–306.

Kimbell, Lucy. 2020. "Double-Loop Social Design: An Introduction to Social Design and Design for Sustainability." University of the Arts London, Social Design Institute. https://www.arts.ac.uk/__data/assets/pdf_file/0028/265672/SDI_KImbell_4.3_tagged.pdf

Kimbell, Lucy, and Joe Julier. 2012. "The Social Design Methods Menu." http://www.lucykimbell.com/stuff/Fieldstudio_SocialDesignMethodsMenu.pdf

Kóczé, Angéla. 2012. "Research Subjects Should be Partners and Active Participants." Interview by Ursula Froese. OSCE (website). September 24. https://www.osce.org/secretariat/104271

Kóczé, Angéla, and Julija Sardelić. 2016. "Contesting Myths and Struggling Realities. Dangerous Women." https://dangerouswomenproject.org/2016/06/05/romani-women/

Kovai, Cecília. 2018. *A cigány–magyar különbségtétel és a rokonság*. Budapest: L'Harmattan.

Központi Statisztikai Hivatal. 2015. "A háztartások életszínvonala." https://www.ksh.hu/docs/hun/xftp/idoszaki/hazteletszinv/hazteletszinv15.pdf

Manzini, Ezio. 2015. *Design, When Everybody Designs: An Introduction to Design for Social Innovation*. Cambridge: The MIT Press.

Matkowska, Justyna. 2021. "Representations of Romani Women in Contemporary Polish and Romani Literature." *Critical Romani Studies* 4 (1): 56–73. https://doi.org/10.29098/crs.v4i1.98

Meilstrup, Charlotte, Lau Caspar Thygesen, Line Nielsen, Vibeke Koushede, Donna Cross, and Bjørn Evald Holstein. 2016. Does Self-Efficacy Mediate the Association Between Socioeconomic Background and Emotional Symptoms among Schoolchildren?. *International Journal of Public Health*, 61 (4): 505–12.

Mikkelsen, Hilde Timenes, Kristin Haraldstad, Sølvi Helseth, Siv Skarstein, Milada Cvancarova Småstuen, and Gudrun Rohde. 2020. "Health-Related Quality of Life Is Strongly Associated with Self-Efficacy, Self-Esteem, Loneliness, and Stress in 14–15-Year-Old Adolescents: A Cross-Sectional Study. *Health and Quality of Life Outcomes*, 18 (1): 1–17.

Morris, Charles W. 1938. *Foundations of the Theory of Signs*. Chicago: University of Chicago Press.

NESTA. 2014. "Development, Impact & You: DIY Toolkit: Practical Tools to Trigger and Support Social Innovation." https://diytoolkit.org/media/DIY-Toolkit-Full-Download-A4-Size.pdf

Pilloton, Emily, and Kate Bingaman-Burt. 2020. *Girls Garage: How to Use Any Tool, Tackle Any Project, and Build the World You Want to See*. San Francisco: Chronicle Books.

Piotrowska, Anna G. 2013. "'Gypsy Music' as Music of the Other in European Culture." *Patterns of Prejudice* 47 (4–5): 395–408. https://doi.org/10.1080/0031322X.2013.846615

Schultz, Debra. 2012. "Translating Intersectionality Theory into Practice: a Tale of Romani-Gadže Feminist Alliance." *Signs* 38 (1): 37–43.

Shusterman, Richard. 2012. "Pragmatism's Embodied Philosophy: From Immediate Experience to Somaesthetics." In *Routledge Handbook of Body Studies*, edited by Bryan S. Turner, 34–48. London: Routledge.

Siposné Nándori, Eszter. 2020. "Novel Solutions in Poverty Alleviation in Hungary, with Special Regard to Regional Differences." *Theory Methodology Practice: Club of Economics in Miskolc*,16 (1): 41–52.

Skeggs, Beverley. 1997. *Formations of Class and Gender: Becoming Respectable*. London: Sage.

Taefi, Nura. 2009. "The Synthesis of Age and Gender: Intersectionality, International Human Rights Law and the Marginalisation of the Girl-Child." *International Journal of Children's Rights* 17: 345–76.

Tan, Edna, and Angela C. Barton. 2018. "Towards Critical Justice: Exploring Intersectionality in Community-based STEM-rich Making with Youth from Non-dominant Communities." *Equity & Excellence in Education* 51 (1): 48–61. https://doi.org/10.1080/10665684.2018.1439786

Thibault, Paul. 1991. *Social Semiotics as Praxis: Text, Social Meaning Making, and Nabokov's Ada*. Minneapolis: University of Minnesota Press.

United Nations. 2011. *Millennium Development Goals Report*. https://www.refworld.org/docid/4e42118b2.html

United Nations. 2015. *Transforming our world: the 2030 Agenda for Sustainable Development*. (General Assemby resolution A/RES/70/1.) https://www.refworld.org/docid/57b6e3e44.html

Van Leeuwen, Theo. 2005. *Introducing Social Semiotics: An Introductory Textbook*. London: Routledge.

Veselska, Zuzana, Andrea Madarasova Geckova, Beata Gajdosova, Olga Orosova, Jitse P. van Dijk, and Sijmen A. Reijneveld. 2010. "Socio-economic differences in self-esteem of adolescents influenced by personality, mental health and social support." *European Journal of Public Health*, 20 (6): 647–52.

Voigt, Christian, Elisabeth Unterfrauner and Ronald Stelzer. 2017. "Diversity in FabLabs: Culture, Role Models and the Gendering of Making." In *Internet Science*, edited by Ioannis Kompatsiaris et al., 52–68. Cham: Springer.

Vossoughi, Shirin, Paula Hooper, and Meg Escudé. 2016. "Making Through the Lens of Culture and Power: Toward Transformative Visions for Educational Equity." *Harvard Educational Review* 86 (2): 206–32. https://doi.org/10.17763/0017-8055.86.2.206

Whittle, Jon. 2014. "How Much Participation is Enough?: A Comparison of Six Participatory Design Projects in Terms of Outcomes." In *PDC '14: Proceedings of the 13th Participatory Design Conference: Research Papers–Volume 1*, 121–30.

EVERYDAY OBJECTS IN TRAUMA THERAPY:

EXAMINING THE MATERIAL CULTURE OF YOUNG REFUGEES WITH THE AIM OF TRAUMA PROCESSING

Erzsébet Hosszu

ABSTRACT

Objects help us to integrate, socialise, learn, and mirror our past and self. They also represent our home, as we can take them with us when moving. What happens to our objects when this move is accompanied by the trauma of forced migration? The aim of this paper is to understand the significance of the object, the smallest physical unit of the home, in the recovery processes of trauma caused by forced migration. In parallel with a literature review, this research relies on in-depth interviews and the author's ten years of field experience in refugee communities in Hungary, Switzerland, Belgium and Palestine. The literature review explores the importance of objects in the context of migration, highlighting the roles of them in the process of socialising with others, learning new skills, developing our own self, transforming our home and surviving a challenge. According to the literature, objects can create a safe and well known environment, they can materialise the past and culture, therefore they can help to recall memories and they can also have a significant role in reconnecting us to life, since they integrate us into new communities. According to the interviews, the coping strategies have more to do with activity and social connections and less with everyday objects due to the trauma of forced migration. Taking advantage of the general nature of objects, the coping mechanism of forced migrants and loose object attachment, objects can become a neutral tool of trauma therapy. From the results, a design therapy toolkit will be created for professionals, educators and therapists, which can support processing trauma by developing place and object attachment.

#loss of space, #boundary objects, #object attachment, #forced migration, #design therapy

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INTRODUCTION

"The surrounding material world matches human needs of an invisible type and number, well or badly, and conversely, countless human needs can be objectified in an infinite type and amount of things." (Dúll 2009, 138) Objects help us to integrate, socialise, learn, and mirror our past and self. They also represent our home, as we can take them with us when moving.

To consider forced migration as a traumatising event (Silove et al. 1997), it is necessary to understand the essential nature of trauma. In response to a threat, a complex reaction system arises, which affects both the body and the mind. As the adrenaline level increases, a state of readiness sets in: full attention is directed to the threatening situation, changes occur in the usual modes of perception (we do not feel hunger, fatigue, pain). These changes mobilise the threatened person to be able to take persistent action: either to fight or to flee. A traumatic reaction occurs when action is ineffective (Herman 2015). Neither fighting nor fleeing helps, so the self-defence system is overloaded, and its functioning is disrupted (Herman 2015). Besides that, "loss of control is traumatising in itself." (Dúll 2009, 233) The traumatic events of forced migration are not only the push factors (war, persecution, disaster) but also the experience of multiple losses (of loved ones, home, possessions, and existence) and the inevitable transformation of one's culture upon arriving in a new environment (Hautzinger, Hegedüs, and Klenner 2014).

Restoring the self-structure and control of the traumatised person are the primary goals of a recovery process (Herman 2015). The victim's self-structure and control can only be restored in the way it was originally formed: through connection with others (Herman 2015). The three stages of recovery are: (1) the creation of security, (2) the restoration of memories and grief of loss, and (3) the reconnection to everyday life (Herman 2015). The importance of attachment to relevant objects appears in Hungarian (Dúll 2009, Wilhelm 2014b) and international literature (Belk 1992, Csíkszentmihályi and Halton 2011). In the context of migration, material culture and object attachment has particular importance because they make the home moveable, so they can maintain its sense of

continuity (Dúll 2009), and also because they support developing new social connections by helping us to express our identity to others (Kapitány and Kapitány 2010), learn social norms (Csíkszentmihályi and Halton 2011), and connect to people with different cultural backgrounds with "boundary" objects (Wilhelm 2014b). In the place called home, the individual is able to experience the highest level of control and security, this is the place where the individual recharges upon returning, and then sets off again and explores the world with confidence (Dúll 2009).

The review of the relevant literature will establish the context, including the psychology of migration and the nature of trauma, material culture and cultural anthropology, symbolism and environmental psychology. In addition to the literature review, in-depth interviews were conducted with nineteen forced young migrants, a population that has been repeatedly traumatised and had to leave its homeland behind. They allow insight into how material culture can become part of their coping strategy to create a new home in a foreign country. Existing studies (Korac 2009, Dudley 2010, Guevara González 2022) have mostly examined the object culture of refugees in refugee camps and in the transitional areas of the borders. In contrast, this study examines a population that already has a residence permit, official education, and a permanent job, so their experiences are not framed by the limitations of illegality and refugee camps.

Since January 2013, the author has been working with young refugees and asylum seekers as a volunteer for a Hungarian association called Útilapu Hálózat, where she founded the Open Doors working group with her graphic designer partner, Ágnes Jekli. Open Doors was created with the aim of using the methodology of participatory design to improve the integration opportunities of young refugees and to support intercultural dialogue.Over the past ten years, the author has facilitated countless creative workshops, placemaking projects and seven to fourteen-day design camps with young refugees, immigrants and their disadvantaged Hungarian peers. The author compares her field experiences of the past ten years with literature and in-depth interview research to understand how architecture and design can support the development of forced migrants' sense of home and the processing of their trauma caused by the loss of place and objects.

The purpose of this study is to focus on material culture and understand the importance of the smallest physical unit of the home—our everyday objects—in the recovery processes of the trauma caused by the loss of space. The results of the research will be manifested in a prospective design therapy toolkit, which is intended to support the processing of the trauma of the loss of place and the rebuilding

of place attachment: a collection of creative workshops that develop safety, memory, and reconnection to the community.

METHOD

The research process relies on two methods. The first is in-depth interviews with young adult forced migrants living in Hungary. The second is the author's ten-year fieldwork experience, including creative workshops and projects with refugees, as well as consultations and discussions with professionals working with refugees. The interviews are analysed and completed with the experiences of the fieldwork in the results section.

This paper interprets the results of the interviews through the frame of the central question of "What everyday objects are forced migrants in Hungary attached to and what do those objects mean to them?" The interview questions focused on two main topics: (1) what old belongings they have from their homeland, and (2) if they undertook another big journey, what objects would they take with them. With the interviews, the aim was to get to know the interviewees' coping strategy through the stories of their everyday objects. Understanding their relationship with material culture told us if they built (and if so, how) a new physical and mental home, community and other attachments in Hungary.

The in-depth interviews were conducted with nineteen people, selected according to five conditions. The first condition was that all the interviewees must consider themselves forced migrants. This means that their migration happened due to push factors (war, torture, persecution, poverty, hunger, environmental disasters, unemployment, lack of educational opportunities, underdevelopment of the health care system or social instability) (Hautzinger, Hegedüs, and Klenner 2014) and their life was in danger. The second condition was that the interviewees had to be between the ages of eighteen and forty. Making interviews with people under eighteen was excluded for legal reasons connected to the child protection system. The cut-off age was forty, reflecting the higher potential in younger individuals to integrate more fully with local communities. The third condition was that all the interviewees must have been born outside Europe. This means that all the interviewees experienced an extreme culture change. The fourth condition was that they had already been living in Europe for at least two years, including at least one year in Budapest (or close to Budapest). This condition is important because it means that all the interviewees already had general experiences in Europe and knowledge of everyday life in Budapest. The fifth condition was that all the interviewees possess a residence permit and/or have recognised refugee status. It means that their protection is legally

guaranteed and official, there is "light at the end of the tunnel": they can start settling down (or have already started to). It also means that none of the interviewees live in a refugee camp anymore but in a rented flat or room.

During the interviews, an interactive model was followed (Cres well and Creswell 2018) to adapt to the language barriers and to respect the fact that the examined population is traumatised by war, torture, and leaving home behind. With the interactive method, the goal was to help the interviewees express themselves, and to avoid the confusion of one-sided conversations. The interviews were supported by visual games and tasks (pictures, maps, and drawings). The interviewees are assumed to have negative feelings towards being interviewed: the author became part of the conversation to avoid recalling the traumatising memories connected to the one-sided interviews of the asylum process. Through dialogue and visual games, an informal and deep conversation could develop.[1]

The research also relies on the author's field experience, which she gained in the home of unaccompanied minor refugees and asylum seekers in the Childcare Centre of Fót, in other adult detention centres and refugee camps in Hungary, as well as international study visits to Switzerland, Belgium, and Palestine. During these years, she facilitated short (half- to one-day) creative workshops, and long (one-week to three-month) design themed camps, international youth exchanges and projects. At these activities, the target community found a common design challenge, then developed and implemented solutions to it. The short programs included workshops such as textile silk printing, bookbinding, furniture renovation, and mural painting. During the long-term projects, several indoor and outdoor public spaces were designed and renovated, and media (photo, video) training, placemaking design camp, and interactive message board development were implemented. Regardless of whether we are talking about a short workshop or a long project, the goal is always to involve young people in the design and implementation process so that they can make their own decisions, acquire new competencies and develop their creative problem-solving skills. Besides these, the indirect result of the activities is the development of the community, given that these are never individual sessions and that the participants have to find a common agreement and cooperate in order to succeed. The experiences gained in the field are complemented by ongoing consultations and discussions with professionals working with refugees (psychologists, teachers, social workers, and project coordinators). The experience and results of the ten years were documented in the form of photos, videos and diary entries (Sztompka 2009).

[1] *All interviewees were fully informed about the purpose of the interview, the research, and the use of the results. They were also informed that after the interview they could still request to withdraw what they said from the research. Since the research project preserves the anonymity of all participants, ethical requirements are respected.*

THE DIVERSE ROLE OF OBJECTS IN THE CONTEXT OF MIGRATION

Before presenting the results of the interviews, a literature review of material culture in the context of migration and trauma processing is necessary. There is a complex interrelationship and transaction between the material environment and human behaviour, which is also marked, characteristic, and extremely stable: every object and material environment typically triggers and maintains persistent patterns of behaviour over a long period of time, even though the given people change in the environment (Dúll 2009). Because of the ongoing interaction between the people and their objects, it is more reasonable to understand the combined phenomenon of them than to try to examine them separately (Wilhelm 2014b, 24). In the following section, different phenomena of interaction will be explained, highlighting the possible relevance of migration and trauma processing (the creation of security, the restoration of memories and grief of loss, and the reconnection to everyday life).

First it is important to understand the individual's attachment to objects in general. The empirical research of Ágnes and Gábor Kapitány can help with this comprehensive examination. In their research, the majority of respondents answered that objects are "important," followed by those for whom "only certain objects are important," and the option "not important" was chosen the least (Kapitány and Kapitány 2005, 126). According to Belk, attachment to property can have a negative effect if the attachment is so strong that it negatively affects the relationship with other people or if the attachment is so extreme that the loss (or damage) of the object puts the self itself in danger (1992, quoted by Dúll 2009).

Objects can symbolise social integration or differentiation. (Csíkszentmihályi and Halton 2011) The object can embody the power and knowledge of its owner, it can make its social affiliation visible, and it also embodies belonging to a segregated community. Community can give meaning to distinguishing ourselves, but at the same time it can also mean social separation (the cross or the flag, for example) (Kapitány, Kapitány 2021). Integration and connection can be strengthened by the exchange of objects: interpersonal relationships are strengthened by the fact that a person gives a piece of himself and receives a piece from the other. Objects thus act as the "material embodiment of social relations in our environment" (Wilhelm 2014b, 35). It is a general cultural phenomenon to treat gifts differently: they are protected and kept in a special place (Wilhelm 2014b).

Connecting to social integration and connection, Gábor Wilhelm draws attention to the importance of "boundary objects." In this

sense, boundary objects can mediate and thus create a connection between different people and groups, because the given object can be related to all members of the group (Wilhelm 2014a). Although the interpretation of these objects may be different for different individuals and groups, they are still able to become a starting point for interaction. "Boundary objects are therefore suitable for coordinating groups, individuals, actions, communications, and creating collaborations without assuming a kind of common knowledge or culture between them." (Wilhelm 2014b, 42) However, it is important to keep in mind that while boundary objects can serve as a tool for starting a dialogue between different cultures, they can also be the source of misunderstandings and confusion, since the parties do not necessarily recognise that their perception and thus their connection is in two different worlds (Hall 1975, 29). This means that different groups decode these objects and symbols differently, so they can even be a source of conflict (for example, in the socialism of the sixties and eighties, jeans were a status symbol for those who wanted to westernise, yet a symbol of value confusion from the perspective of popular conservatism) (Kapitány, Kapitány 2005, 12).

Objects offer the opportunity to learn (Csíkszentmihályi and Halton 2011). Whether it is about fitting into social norms, our own personal development, or the environment that supports our learning. Objects influence how we organise our lives (Kapitány, Kapitány 2016).

The everyday objects of our home can help us gain the flow experience. (Csíkszentmihályi and Halton 2011). The presence of our well-known objects can create a familiar, supportive, and inspiring environment, so the owner's identity can be strengthened again. Due to familiarity, the number of things that can distract attention decreases, so the individual can create with focused concentration and thus develop (Csíkszentmihályi and Halton 2011, 268).

Objects also have importance in terms of the development of the self (Kapitány, Kapitány 2021). According to Sartre, objects are integrated into our self-identity through use. Sartre also groups these identity-building objects according to how they can become part of the self: "(1) through craft knowledge, (2) in connection with the creation of the object and (3) through getting to know the object." (1943, quoted in Dúll 2009, 147) Belk's addition was also that even the simple presence of the object can provide an emotional basis through a common "shared" fate (1991, quoted in Dúll 2009, 147). Objects that we possess (psychologically or physically) ensure control over the environment, strengthen our concept of self, increase self-confidence, provide a sense of security, and allow us to present our identity to ourselves and others (Dúll 2009, 141). Different objects convey different messages about us: about our daily life, occupation, values, beliefs, and cultural habits. (Kapitány and Kapitány 2010) With objects, we create our own

cultural environment, so an object can become a "carrier and copier of the cultural order." (Csíkszentmihályi and Halton 2011, 159) Also, the status of the process of cultural change can be read from the migrants' everyday objects (Wilhelm 2014a).

According to environmental psychology, lifeless objects very actively influence personal behaviour connecting to the place called home (Dúll 2009, 139). Without our objects we would not be able to inhabit our environment, with them we are able to furnish and rearrange our home: by this adaptation process the person and the environment gradually "fit together" (Dúll 2009, 142). We can move and recreate our home by taking the "things" such as furniture and household items with us, and by this "the usual behaviour and experience patterns can be re-formed." (Dúll 2009, 144) One of the bases of attachment is "the feeling of real or psychological ownership," and ownership is an essential factor in building and maintaining a home (Dúll 2009, 146).

Csíkszentmihályi and Halton examined the difference between active and contemplative objects. Referring to Hannah Arendt, they present the difference between these two groups, according to which the first (active) cultivates the personality through individual action, while the second (contemplative) cultivates the individual's personality through conscious thought and reflection. The preference between the two object types changes with age and typically also differs between genders (Arendt 1958, quoted in Csíkszentmihályi and Halton 2011, 147).

In the case of forced migration, we lose control over a significant part of our life, and decisions must be made quickly (Hautzinger, Hegedüs, and Klenner 2014), therefore rescued and lost objects, just like objects that help survival, need to be examined as well. In-depth interviews examined the 1993 flood victims in the USA. (Schwarz 1996, quoted in Dúll 2009) The main focus of the interviews was to find out which objects were saved by the victims and why. Five groups of objects were identified from the answers: (1) objects of sentimental attachment, (2) objects that reflect and shape the owner's self, (3) objects of "invested sweat," (4) objects with cultural meaning, and (5) survival symbols (Schwarz 1996, quoted in Dúll 2009, 155). In the empirical research of Ágnes and Gábor Kapitány between 2002 and 2004, a separate section was devoted to the investigation of lost and destroyed objects. In many cases the respondents mention emotionally charged objects, so in the majority of cases they lose a piece of their personality (Kapitány and Kapitány 2005, 69). We must also take into consideration that migrants do not take certain things with them in physical form, however these things continue to function as references in the new place, where the migrants somehow reflect on their abandoned home (Wilhelm 2014b, 25). In the same empirical

research, in response to the question "If you could take three objects with you to a desert island, what would they be?" in addition to survival and communication tools, most responses included objects that reduce loneliness, remind you of loved ones, and talismans that play a protective role (Kapitány, Kapitány 2005, 141–44).

Connected to lost and missing objects, it is also worth including Turner's concept of liminality in the context of migration. According to Turner, during the rite of passage, the liminal person is the one who has nothing, who is represented practically naked as a participant in the rites, and from this "nothingness" he must rebuild and endow himself with the new role, status, and objects (Turner 1969, 108). Moving on from this, Turner interprets the concept of communitas, the social grouping of liminal persons, where structure and rank are lacking, and thus the most basic "space of collective life" unfolds as a result of a shared fate and a shared life event (Turner 1969).

Through this literature review we can therefore see we should not underestimate the role of objects in processing trauma. We stated before that the primary goal of the recovery process is restoring the self-structure and control of the victim and it can only happen through connection with others. This recovery process happens in 3 stages: (1) the creation of security, (2) the restoration of memories and grief of loss, and (3) the reconnection to everyday life. Through the presence of our well known objects, we experience a familiar and safe environment, so the owner's identity can be developed again. Objects materialise our past, our culture and identity, therefore they can help to recall memories. In addition, attachment to objects can be formed through memory. Objects have a significant role in reconnecting us to life, since they integrate us into new communities, they teach us social norms, support our education and development, and boundary objects can represent a bridge between people with different cultural backgrounds. If we start from the assumption that "objects imbued with emotional attachment (i.e., things)" actively contribute not only to the already mentioned teaching, integration and the "personal, social and cultural construction of our self, but also to the creation, maintenance and eventual restructuring of the experience of continuity" (Dúll 2009, 156), then objects can have a significant role in the recovery processes of migrants.

RESULTS OF THE INTERVIEWS AND FIELDWORK

At the intersection of forced migration and material culture, studies mostly examined the material culture of refugees in refugee camps and in the transitional areas of the borders. The main focus of Sandra H. Dudley's research is to understand the material, object-related, and emotional dimensions of being a refugee. Analysing the camp

life of Karenni refugees, she revealed the everyday, civil, and religious objects that surround them, and how they practise their daily routine through their objects and thus create their reinterpreted "home." Dudley also examines how the object and the process of making it contributes to the experience of home and the personification of space. She particularly focused on clothes and textiles, which, according to research results, can form a bridge between the refugees' past, present and future, especially if these clothes are made by the refugees themselves after arriving in the refugee camp (Dudley 2010, 126). Maja Korac examined the integration of refugees settled in Rome and Amsterdam. Like Dudley, she examined the residents of an asylum centre. Clothing was a key value here as well, and in addition to that, toiletries, money, and pen drives were important items. Korac also emphasises the importance of clothes: the fact that refugees themselves sew, repair, wash, and protect these items is important in addition to the purchase of them (Korac 2009, 344). Korac's research determined that the refugee's taking back control over their own life largely depends on how the person faces the sudden loss of their basic material resources and social status (Korac 2009, 39).

Both researchers attached particular importance to textiles and clothing from the point of view of the refugees' possessions and attachments. Within the framework of Open Doors, I was able to experience myself how a canvas bag, which a few hours earlier could be described as impersonal and a mass product, can become a self-representative object. Bag painting and silk printing workshops are often organised for young refugees and immigrants, where the participants can shape the textiles into their own image. During the workshops, the young people get to know the techniques of colour mixing and silk printing, and they work deeply on their own ideas. They are also inspired by each other, they help each other in the process of silk printing, and the end result is an object of their own, which they are proud to wear (figs. 1–2).

FIGURE 1–2. *Screen printing workshop in the MiraDoor intercultural community space.*

In contrast to Dudley's and Korac's study, this research examines a population that already has a residence permit, official education, and a permanent job, so their experiences are not framed to the limitations of illegality and refugee camps. The interviewees of this paper live in their own rented room or flat and they manage their own everyday life with their own rules and decisions.

The purpose of the interviews was to explore what everyday objects forced migrants in Hungary are attached to, and what those objects mean to them. The questions were focused on two main topics: (1) what old belongings they own from their homeland, and (2) if they undertook another big journey, what objects they would take with them. Besides the fact that little significant consensus was found between the individual answers, three clear differences between the objects of the past and objects of the future were identified.

The most significant consensus among all nineteen interviewees was that the first reaction of all the interviewees during the conversation indicated that they do not keep any objects from their homeland, and that they are not attached to any new objects, so they would not take anything in particular with them if they undertook another big journey. The most frequent justifications for the lack of objects from the homeland were sudden decision-making, tragic life situations, and practical reasons.

I didn't think about bringing anything with me, everything was difficult, I didn't even think about it, it wasn't important. You know, it wouldn't have been comfortable. You can find everything here anyway.
22-year-old Afghan man. Personal interview. Budapest, March 15, 2021.

It is also important to mention that the objects of the past are not necessarily missing for merely practical reasons. In the first half of the study, we clarified that objects have a prominent role in relocating our home and by this creating the sense of continuity and reconstruction (Dúll 2009). This sense of continuity is unquestionably and markedly interrupted by the fact that the refugees hardly keep any objects from their past. Trauma poses a threat to place and object attachment by fundamentally damaging it (Dúll 2009, 154), so it can also be assumed that people who have experienced multiple traumas do not necessarily want (or are not yet ready) to recreate their past home. Later this gap cannot be filled with authentic objects from the homeland when the refugee is ready for it, but it can be bridged with creativity. An Afghan member of the Open Doors community represents an example of this creative bridging. He does not have any objects from his past (so the continuity of his attachment to objects has been broken) but thanks to the progress of his integration and recovery, he today regularly facilitates creative

workshops. During these workshops he teaches the participants how to make and fly an Afghan kite. It means that he reconstructs his own cultural heritage and knowledge from locally found materials and passes it on to the new, inclusive culture, while he himself recreates it (fig. 3).

FIGURE 3. *Flying Afghan kites from rooftops on a weekend in Pakistan.*

Another important similarity in the answers was that in the progress of the conversation, nine of the nineteen interviewees found at least one object from their past hiding with them and all nineteen interviewees realised that they have belongings that they would take with themselves on a new journey. Their objects from the past are family photographs and jewellery (to preserve the memory of the family), a spoon (because it is practical), a book (because it preserves culture), paper money from home (which was accidentally left in a pocket, but apparently means nothing), and a tie (which is more like a memory). Their objects for the future are cooking equipment (to share culture), shisha and guitar (to spend time together), a sewing machine and a big bed (to be able to help a friend who is in need), study books, professional degrees and portfolios, and pictures and a globe (as memories).

In addition to the objects of the past, belongings lost during the journey were also mentioned. Passports were mentioned the most, and two interviewees recalled losing their shoes. When mentioning lost objects, the personal attachments and the lack of practicality are divided in the case of both types of objects: one person remembered his passport as an object symbolising his country (and thus losing it together with the passport), while in one case the shoes were highlighted due to the need for use, but in the other they symbolised the country and life left behind:

I loved that boot… really, just shoes, you know. But sometimes basic stuff makes some connection even with your soul… When I was in the boat to cross Turkey to Greece. It's kind of a plastic boat, pumping, you know. I had all of my stuff and my boot closed inside my backpack because the sea weather can hurt the leather. I put in the plastic then in another plastic, then into my backpack and my backpack was in the other plastic [laughs]. *Some money and I don't know, my phone was there, and so I had everything put in there. And when we were in the sea, our boat get some problem, so we had to jump in the sea and it was night, nothing you know, everywhere was dark, really dark. It was really scary actually. I tried to keep my big* [laughs] *backpack with me but it was really scary, I was stressed and the sea was waving and it just take some seconds, it came up and it came down. And my backpack just take some metres far from me. And it was for me like: "Woo, no, don't go away!" I was trying. There was a boy and he told us try to stay with each other hand or whatever, because the wave is coming and if you just go with the wave, that's it. So it was kind of like my backpack was on the water* [laughs], *and I said "C'mon this is just two metres from here, I can go and take it and back." And then the boy was just trying to catch me: "Let's stay together!" Life is like in a second, you can lose anything in a second, really. I don't know, it was for me very strange time. Anyway, my shoe was my last thing.*
24-year-old Afghan man. Personal interview. Budapest, March 7, 2021.

The first clear difference between the past and the future objects was quantity: ten interviewees had no belongings from the past while all of them had something for the future. This means the nakedness of the liminal persons (Turner 1969) is represented by the lack of the objects from the past. Owning nothing and leaving everything behind: Gábor Wilhelm explains this phenomenon by saying that we can only mobilise our environment to a limited extent, we ourselves are much more mobile. We don't always know and don't always want to take our objects with us (Wilhelm 2014b, 25). This kind of nakedness significantly dissolves when looking to the future, however, it cannot be ignored that those who have been living in Hungary for several years and have recognised refugee status still believe at first thought: they would take nothing (or nothing important) with them on another big journey. The nakedness characteristic of liminality therefore persists for many years and dissolves only slowly. Related to this, we can conclude that the interviewed forced migrants are mostly free of close ties to their objects. Based on the empirical research presented by Ágnes and Gábor Kapitány, in a more detailed statement we can assume that the relationship of forced migrants to objects is significantly limited. For them objects are primarily "not important," and secondarily "some objects may be important" (Kapitány and Kapitány

FIGURE 4. *Future objects of 25-year-old Gazan man (memories from friends, sweater from Open Doors, bank card).*

2005, 126). There is an important change in this, as the nudity of the past has visibly changed, and the number of the objects has increased over the years (fig. 4).

The second characteristic difference is that the contemplative objects of the past (photographs, jewellery) are replaced by active objects of the future. The objects of the past mostly preserve memories and are only marginally practical, this ratio is reversed in the case of the future objects. Among the objects of the past, there are functional objects (a tie, a spoon, slippers), but they are also present in the refugees' lives more as memories than as objects of use. The touch of a household object can remain a painful memory and because of this, objects might be removed from their original use, and can be transformed into pieces of a collection (Földessy 2014). The active objects of the future are also objects that aid survival: objects that support or symbolise employment and profession. Considering the fact that according to the interviews, looking to the future calls objects into action, also the process of building a new identity can be read from these active objects. Recalling Sartre's grouping, objects become part of the self almost exclusively through mastery or masterly control in the case of the interviewees. Also, two of the respondents referred to the creation of the object (portfolios). According to my field experience it can be also stated that self-created objects might have the same importance in carrying identity as objects of masterly control if the individuals have the chance to create and personalise their own objects. During our workshops at Open Doors, the participants personalised ready-made objects with their own inscriptions, drawings, and flags, also they renovated their own furniture, bound their own notebooks and sewed their own bags (figs. 5–8).

The third significant difference is that the objects of the past connect only the narrow circle of the family, while the future objects are largely connected to friends and to an even wider community: to society. The objects of the past are accompanied with fear and lost

FIGURE 5. *Creating paper decoration at the refugee centre of Red Cross Natoye, Belgium.*

FIGURE 6. *Creating community flag decoration at the refugee centre of Red Cross Natoye, Belgium.*

and painful memories. In contrast, most of the objects to be taken in the future are connected and serve the narrower (bed, shisha, cooking equipment, sewing machine, instrument) or wider (degrees of profession, work tools, portfolios) community. Considering that the development of social networks is essential for not only processing trauma (Herman 2015) but also for new place attachment (Dúll 2009), boundary objects have particular importance, as they can form a bridge between the foreigner and the native. According to my field experiences, practically anything can become a boundary object: at the Open Doors workshops, I witnessed how a photograph, a pair of shoes, a piece of clothing, a bicycle, a camera, or even a ball became a boundary object. On the basis of the in-depth interviews, books, cooking equipment, but also objects representing acquired knowledge such as a musical instrument and the shisha, can be considered boundary objects.

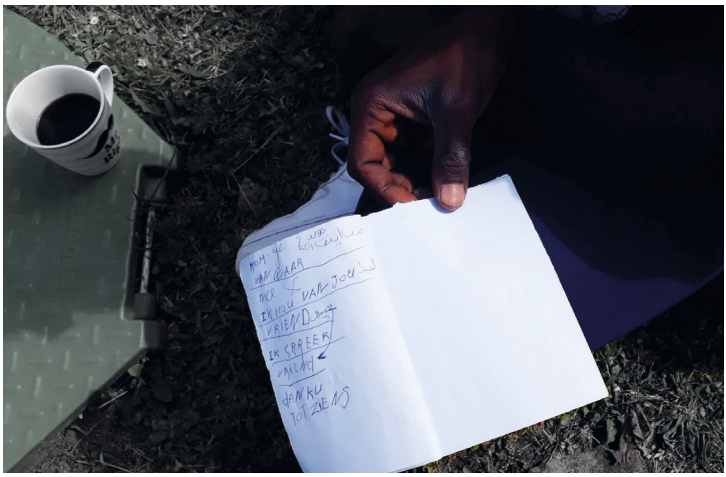

FIGURE 7. *Handmade notebook at the refugee centre of Red Cross Natoye, Belgium.*

FIGURE 8. *Creating outdoor furniture at the refugee centre of Red Cross Natoye, Belgium.*

According to the interviewees, even years after their arrival to Hungary, they still find it difficult to call their Hungarian accommodation "home," most of them even confess that they will never feel "at home" here. It is important to include this detail, because due to this, the relationship of refugees to objects compared to the place called home is much less painful and they consider objects much less important. It also means they set much less emotional expectations for their favourite objects, compared with a place that can be called "home." Taking advantage of this, we can consider objects as neutral tools in processing trauma: objects can become a tool for a less painful methodology, which does not force the artificial development of a sense of home on the target group. The personal experience below illustrates how objects can contribute to creating a home in a traumatised community without violating their personal space.

We started going to Fót with the Open Doors volunteer team only a few weeks ago, when we were still only getting to know each other with the Afghan boys. We decided together to renovate their community room: this choice was justified on our part because it was the most neutral location, and also because we didn't want to barge into their rooms uninvited. We reupholstered the old chairs in the dining room, everyone could choose from the textiles they brought, and each boy got a chair. The following week, when we arrived, we immediately noticed that the newly upholstered chairs had disappeared from the dining room and were replaced by old, worn chairs. Annoyed, we asked where the nice new chairs went, to which the Afghan boys replied: "We took them into our rooms and brought out the old ones."
Personal experience. Károlyi István Childcare Centre, Fót, February, 2013.

All three changes (increased number of objects, replacement of contemplative objects by active ones, replacement of individuality by collective action) testify that refugee youths gradually regain control over their lives and environment, and are able to join society not as passive sufferers, but as active members.

I don't know, I think... I think I've changed. Budapest has changed me a lot. Compared to what was important five or six years ago, it is completely different for me. I just laugh at how much I don't know anything about life, I still have a lot to learn. I see everything differently now.
24-year-old Afghan man. Personal interview. Budapest, March 7, 2021.

CONCLUSIONS – COLLECTIVE ACTIONS

The intent of this article was to explore how material culture can support the processing of trauma. The author compared her field experiences of the past ten years working with young refugees and asylum seekers with literature and in-depth interview research. Migration is a significant chapter of an individual's life, due to unexpected losses and challenges. Migration is considered an "accidental crisis, and the processing of it is an important task of the individual." (Hautzinger, Hegedüs, and Klenner 2014, 69)

The already existing literature proves that objects can play an important role in processing trauma at all three stages of the recovery process (the creation of security, the restoration of memories and grief of loss, the reconnection to everyday life). To support the development of a sense of security, objects create a safe and well-known environment. Objects materialise the past and culture, therefore they can help to recall memories. Objects have a significant role in reconnecting us to life, since they integrate us into new communities, they teach us to the social norms, and also support our education and development.

According to the summarised answers of the in-depth interviews, it seems that everyday objects can support processing the trauma of forced migration. The coping strategy of the interviewees is associated with activity and social connections: the individual memories of their past are replaced by the collective actions of their future. By collective actions it is possible to achieve the two main goals of trauma processing: the individual is not only restoring the lost control of their life but also the individual does it in a community." [S]tarting a new life is only possible if we leave everything behind and do not take with us our faithful 'companions' and 'servants', i.e., our dear objects collected during our old life, because 'the old life takes off' from them, and so starting a new one remains impossible." (Szentpéteri 2013, 91) This is how Szentpéteri summarises Sándor Lénárd's thoughts, who had to leave Vienna and his family because of the Anschluss. Lénárd's thoughts point to the strongest contrast that seems to emerge from the interviews between voluntary and forced migration: starting with nothing or almost nothing in the hope of a new life and escaping with nothing or almost nothing from the past. According to the interviews, forced migrants are not strongly attached to their everyday objects because of the trauma of forced migration and multiple losses. Taking advantage of the general nature of objects, the coping mechanism of forced migrants and loose object attachment, objects can become a tool of trauma therapy by creating a less painful methodology which serves security, memory, and reconnection.

The author is working on a design therapy toolkit in the frames of a research. Her goal is to collect those active tools (workshops, training) that can be associated with the design process and architecture to serve the therapeutic process of forced migrants and other populations who experienced the loss of place and home (children in state care, homeless people, prisoners etc.). The target group of the design therapy toolkit will be professionals (social workers, therapists, educators, youth workers, NGOs) working with refugees, immigrants or other populations who experienced the loss of place and home.

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REFERENCES

Creswell, John W., and J. David Creswell. 2018. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Thousand Oaks: SAGE Publications Inc.

Csíkszentmihályi, Mihály, and Eugene Halton. 2011. *Tárgyaink tükrében: Az vagy, amit használsz*. Budapest: Libri Kiadó.

Dudley, Sandra. 2010. *Materializing Exile: Material Culture and Embodied Experience among Karenni Refugees in Thailand*. New York: Berghahn Books.

Dúll, Andrea. 2009. *A környezetpszichológia alapkérdései: Helyek, tárgyak, viselkedés*. Budapest: L'Harmattan.

Földessy, Edina. 2014. "Az otthon érintése: Egyiptomi és közel-keleti bevándorlók tárgyai az emlékezet és a tapintás összefüggésében." In *Vándorló tárgyak. Bevándorlók kultúrája Magyarországon*, Tabula könyvek 12, edited by Zsuzsa Árendás and György Szelják, 12: 260–79.

Guevara González, Yaatsil. 2022. "Place-Making in the Transient: Things that Matter in the Everyday Lives of Honduran Refugees at the La 72 Shelter." In *Material Culture and (Forced) Migration*, edited by Friedemann Yi-Neumann, Andrea Lauser, Antonie Fuhse and Peter J. Bräunlein, 329–47. London: UCL Press.

Hall, Edward T. 1975. *Rejtett dimenziók*. Budapest: Gondolat.

Hautzinger, Zoltán, Judit Hegedüs, and Zoltán Klenner. 2014. *A migráció elmélete*. Budapest: Nemzeti Közszolgálati Egyetem, Rendészettudományi Kar.

Herman, Judith Lewis. 2015. *Trauma and Recovery. The Aftermath of Violence –From Domestic Abuse to Political Terror.* New York: Perseus Books.

Kapitány, Ágnes, and Gábor Kapitány. 2005. *Tárgyak szimbolikája*. Budapest: Új Mandátum Könyvkiadó.

Kapitány, Ágnes, and Gábor Kapitány. 2010. *Beszélő házak: Lakásaink szimbolikája, Magyarország, 1990-es évek*. Budapest: Kossuth Kiadó.

Kapitány, Ágnes and Gábor Kapitány. 2016. *Lakásmód-változások az ezredfordulón: a lakásmód és az utcakép, mint a társadalmi-kulturális folyamatok szimbolikus tükre*. F-book. Budapest: epíteszforum.hu. https://drive.google.com/file/d/0B5_XYCDC-yoESmhsaFMxWFp2RGs/

Kapitány, Ágnes, and Gábor Kapitány. 2021. *A szimbolizáció: Hogyan cselekszünk szimbólumokkal?* Budapest: Ventus Commerce.

Korac, Maja. 2009. *Remaking Home: Reconstructing Life, Place and Identity in Rome and Amsterdam*. New York: Berghahn publications.

Silove, Derrick, Ingrid Sinnerbrink, Annette Field, Vijaya Manicavasagar, and Zachary Steel. 1997. "Anxiety, depression and PTSD in asylum-seekers: Associations with Pre-migration Trauma and Post-migration Stressors." *The British Journal of Psychiatry* 170 (4): 351–7. DOI: 10.1192/bjp.170.4.351

Szentpéteri, Márton. 2013. "A tervezett tárgyak életrajza." *Helikon* 2013 (1): 91–121.

Sztompka, Piotr. 2009. *Vizuális szociológia. A fényképezés mint kutatási módszer.* Budapest: Gondolat.

Turner, Victor. 1969. *The Ritual Process: Structure and Antistructure*. Ithaca: Cornell University Press.

Wilhelm, Gábor. 2014a. "Kelet- és délkelet-ázsiai migránsok tárgyi kultúrája Budapesten." In *Vándorló tárgyak. Bevándorlók kultúrája Magyarországon*, Tabula könyvek 12, edited by Zsuzsa Árendás and György Szelják, 148–71. Budapest: Néprajzi Múzeum.

Wilhelm, Gábor. 2014b. "Migránsok és tárgyi kultúra: Elméleti és módszertani megjegyzések." In *Vándorló tárgyak. Bevándorlók kultúrája Magyarországon*, Tabula könyvek 12, edited by Zsuzsa Árendás and György Szelják, 23–61.

BEYOND BIONTOLOGY?
BRINGING ELIZABETH A. POVINELLI'S GEONTOLOGIES *TO LIFE-CENTRED DESIGN*

Joana Meroz

ABSTRACT

The concept of "design for life" has been rapidly picking up steam in the last few years. While the discourse around life-centred design leaves the concept of "life" unproblematised, it uses this term to signify an expansion of the sites and stakeholders of design beyond the human. I therefore define life-centred design as mobilising more-than-human approaches with the explicit aim of intervening in (the debate about) what planetary life is and should become. What purposes might life-centred design fulfil by differentiating between life/nonlife and favouring only the former? This article explores how Elizabeth A. Povinelli's magisterial Geontologies: A Requiem to Late Liberalism *(2016) can contribute to thinking through the ethical implications of life-centred design. I start by discussing three of* Geontologies' *key concepts: the carbon imaginary, geontopower, and geontology. I then briefly experiment with activating those concepts to think about how three life-centred design practices configure life/nonlife and how those configurations might be involved in tactics of control. I then discuss how life-centred design tends to reproduce a modern Western belief in biontology (the equivalence of life with being) and as such risks teproducing (neo-)colonial practices of control. In conclusion, I both consider some of the ethical implications of life-centred design and speculate on those of a hypothetical post-biontological life-centred design.*

#life-centred design, #Elizabeth A. Povinelli, #geontology, #geontopower, #more-than-human design

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INTRODUCTION[1]

While the concept of "design for life" is not new, it has certainly been gaining traction. As far as one canonical design history goes, design practice and theory have been product-centred and market-oriented for much of their trajectories. From around the 1960s onwards, movements such as "participatory design" began integrating users into project development processes (Asaro 2000), making way for what became known as "user-centred design" (Norman 2013). "Service design" then developed a more holistic approach to problems by expanding the notion of "user" to encompass all stakeholders involved with a particular system (Irwin 2015; Kimbell 2010, 230). In turn, "human-centred design" repositioned the user as human in order to develop less commercial, more empathetic approaches to the design of products and experiences (Chmela-Jones 2017; Friess 2010).[2]

However, a number of critics have pointed out that this "human-first" approach has largely failed to engage with urgent global problems such as climate change and systemic social injustice, and has instead tended to indulge individual human desires for "convenience and short-term gain over appropriate solutions that deliver systemic long-term prosperity" (Näsholm 2020, 7; Norman 2005; Wilmot 2009, 6). Accordingly, in the past decade or so, a number of practitioners and commentators have called upon designers to replace "the human" as the measure of design with "life." Design theorist John Thackara, often credited for coining the term "life-centred design," argues that "the world needs a new kind of design based on an ethical framework in which life is the ultimate source of value" (2011).

But what does "life" mean here? Despite the centrality of this concept, I have yet to encounter an attempt at definition in life-centred design debates.[3] This lack of clarity might stem from the fact that life-centred design (or "design for life") has received scant academic attention;[4] it is a term that, to date, has been predominantly discussed in popular, professional, and business literatures in an ad hoc manner.[5] Nevertheless, in the context of these discussions, authors have consistently used "life" as a tool to diffuse the spotlight from humans and illuminate their interdependent relations with all other worldly entities (bacteria, plants, animals, the entire biosphere). This diffusion takes place on two inter-

[1] *Unless otherwise indicated, all translations are the author's.*

[2] *Stefanie di Russo (2016, 29–35) provides a detailed, informative account of the transformations between product-, user-, service-, and human-centred design. However, I would argue that rather than following a strict succession or even a dialectical unfolding, these approaches (including life-centred design) have coexisted in different configurations, and relative intensities across time and space.*

[3] *In fact, as Dutch philosopher Jan Warndorff (2017; 2021) points out, there is a generalised difficulty in defining life even in philosophy, including in treatises specifically focused on the concept.*

[4] *Although still in its infancy, for academic literature discussing life-centred design see Escobar (2018a), Leong and Clark (2003), Näsholm (2020), and Tomitsch (2020). Bio-design, which I understand as one orientation within life-centred design, is an exception with abundant academic literature, whose review is beyond the scope of this article.*

[5] *For popular literature on life-centred design see Hess (2020), Owens (2019), Robinson (2018), and Selin (2020); professional literature includes Thackara (2018) and Wilmot (2009).*

related but different levels. On the one hand, it implies an expansion of sites where design takes place, since life-centred design attends to the role not only of humans, their discourses, and institutions but also of nonhuman existents in bringing design into being. On the other hand, it implies an expansion of the definition of the beneficiaries of design since life-centred design believes that more-than-human design should serve more-than-human needs. In sum, life-centred design can be understood as practices that use the concept of "life" as a tool to position all worldly existents as its primary stakeholders with the goal of allowing them all— including but no longer privileging the human—to thrive (Thackara 2021).

To this end, many such practices have engaged with what is variously called posthuman and non-anthropocentric theories such as those developed by Science and Technology Studies (STS), Actor-Network-Theory (ANT), object-oriented ontology (OOO), Donna Haraway, and Tim Ingold, among others. Furthermore, numerous design approaches including but not limited to biodesign, autonomous design, GeoDesign, design for degrowth, and transition design have been employing more-than-human approaches to develop long-term visions of flourishing symbioses between the so-called natural and social worlds. I will use the term "more-than-human" to collectively refer to approaches that decentre humans to also account for nonhumans in their analyses of design.[6]

While conceding that such a conceptualisation of life is porous, I argue that what sets life-centred design practices apart is their mobilisation of more-than-human approaches with the explicit aim of intervening in what planetary life is and should become. So rather than a radically new movement, I see life-centred design as a constellation of practices coalescing around a concern for life (however "life" may be substantially defined) that transverses various design traditions in time and space.

While such a commitment to life might seem unquestionable, we need to think carefully and ask questions. What purposes might life-centred design achieve by differentiating between life/nonlife and favouring only the former? Who or what might be disadvantaged from drawing this line in the sand?

To tease out such ambiguities, I turn to anthropologist and critical theorist Elizabeth A. Povinelli's brilliant and complex *Geontologies: A Requiem to Late Liberalism* (2016). Grounded in her ethnographic work of over thirty years with the Indigenous Belyuen community of northern Australia, Povinelli argues that the demarcation between life/nonlife is intimately entangled with political and economic power. By developing a range of new concepts—such as geontopower, the carbon imaginary, geontology and its figures (the Animist, the Desert, and the Virus)—the author argues that whether we understand something as alive or not has less to do with any essential characteristics of things in themselves and everything to do with particular power formations that benefit from

[6] *For an early discussion of decentring humans in design, see DiSalvo and Lukens (2011). For a more recent review, see Forlano (2017).*

defining some things as "lively" and others as "inert" (Povinelli 2016, 5). While these concepts arose from Povinelli's engagement with the specific perspectives of her Indigenous friends and colleagues, I concur with those who argue that their analytic potential invites their translation into other contexts. While readings of *Geontologies* are often found in studies of late settler liberalism, I am drawn to the potential of its concepts to probe into the ethical implications of life-centred design's commitment to "life."

What follows is an experiment in mobilising *Geontologies*' site-specific conceptual apparatus (Jensen 2021, 99–100) to think through the ethical implications of life-centred design's configuration of life/nonlife. I will start by presenting the backdrop Povinelli sketches to develop her argument; namely, Foucault's concept of biopower. Without attempting to comprehensively cover the complexities of *Geontologies*, I move on to discuss three of its key concepts, namely the carbon imaginary, geontopower, and geontology. The purpose of this exposition is to familiarise the reader with this work and its potential to think critically about life-centred design rather than to critique it. The remainder of the article illustrates how an analysis of life-centred design through the lens of the carbon imaginary, geontology, and geontopower might proceed. In conclusion, I propose that if life-centred design is to confront its entanglements with geontopower, it needs to address its universalising and univocal biontological conceptualisation of life.

BIOPOWER

I will start by outlining philosopher Michel Foucault's concept of biopower, since Povinelli opens *Geontologies* in dialogue with it.

The first modality of power that Foucault identifies is *sovereign power*. As Povinelli (2016, 1) reminds us, sovereign power is exercised through "the spectacular, public performance of the right to kill, to subtract life, and, in moments of regal generosity, to let live." In the seventeenth century, Foucault ([1975] 1977) argues, power also started becoming exerted through *disciplinary power*. While sovereign power is power over death, disciplinary power is power over life through the management of living bodies. In turn, *biopower* (Foucault [1976] 1990) refers to the administration and optimisation of the life of entire human populations. Povinelli sums up biopower as the "set of mechanisms through which the basic biological features of the human species became the object of a political strategy, of a general strategy of power" (2016, 1).

We have become so enamoured by the notion of biopower, Povinelli (2016, 4) argues, that we have become blind to the fact that biopower itself rests upon another, more fundamental belief: that life/nonlife are categorically distinct. To unpack the distinction between life/nonlife and how it differs from the dichotomy between life and death, I will now turn to Povinelli's concept of "the carbon imaginary."

THE CARBON IMAGINARY

Povinelli (2016, 9) maintains that the West has assumed the following: life is fundamentally distinct from nonlife; what distinguishes life from nonlife is the presence or absence of metabolic processes, which she defines as "the full range of chemical and mechanical processes that all organisms (all life) use to grow, reproduce, and maintain their integrity" (ibid., 39); the ultimate goal of all organisms undergoing metabolic processes is to create, sustain, and reproduce a version of themselves; and that existents that undergo metabolic processes are biological (in other words, alive) and existents that do not undergo metabolic processes are not biological but geological, meteorological, etc. (non-living) (Simão de Freitas 2019, 13). Existents that do not undergo metabolic processes were never alive and thus will never die; they are nonlife. What Povinelli refers to as "the carbon imaginary" is the belief that life/nonlife are fundamentally distinct and that in the distinction of life/death and life/nonlife the former is a subset of the latter: "Life (Life {the carbon cycle [birth, growth, reproduction]} v. Death) v. Nonlife" (Povinelli 2016, 9).

Povinelli (2016, 21) believes it is the concept of the Anthropocene that has allowed us to recognise the carbon imaginary. The Anthropocene refers to the epoch when humans (life) acquired geological (nonlife) capacities to fundamentally alter the planet. As such, the concept of the Anthropocene is not so much a reference to the radical *growth* of human influence on Earth but indicates rather a *transformation of the type of force* that humans can exert on Earth. In other words, the term emphasises the idea that humans have progressed from "mere" biological beings into a geological force of nature,[7] acquiring powers that go as far as potentially shifting the Earth's axis and tilting its rotation (Adhikari and Ivins 2016; Deng et al. 2021). The concept of the Anthropocene thus indicates that what we still call "humanity," rather than standing outside of what we can no longer call "nature," exists in interdependent, but not always mutually beneficial, relations with it. So rather than simply asserting that humans affect their environment, the concept of the Anthropocene instead indicates the collapse of the modern episteme and its distinctions between humans/nonhumans, humanity/nature, nature/culture (Danowski and Viveiros de Castro 2017, 14–15). This is to say that the concept of the Anthropocene fundamentally disrupts distinctions between biological (life) and the geological/meteorological (nonlife).

This now manifest ontological instability between life/nonlife makes it clear to Western critical thought that insisting upon their categorical difference is a matter of ideology. To Povinelli (2016, 14), this newfound awareness of the ontological instability upon which Western culture is premised explains the recent proliferation of approaches exploring the entanglements between life/nonlife, such as posthumanist, more-

[7] *Déborah Danowski and Eduardo Viveiros de Castro agree with Dipesh Chakrabarty (2009) in describing this "as the transformation of our species from a mere biological agent into a geological force" (Danowski and Viveiros de Castro 2017, 14, emphases removed).*

than-human, multispecies and new materialist theories—including life-centred approaches to design, I would add.

What does the Anthropocene's destabilisation of the carbon imaginary mean for our understanding of how power is exercised today? Biopower is concerned with the biological features and processes of human populations. As such, Povinelli argues, it is an inadequate concept with respect to analysing power strategies that are very much concerned with the management of the so-called non-living (such as gas, oil, land, water, minerals, etc.). Accordingly, Povinelli elaborates two new concepts to theorise how power is exercised not only over the living and the dead, but also over the living and the non-living: geontopower and geontology.

GEONTOPOWER

Povinelli (2016, 4, 9) introduces the neologism "geontopower" to describe power that works by differentiating between life and nonlife—a distinction that encompasses the differentiation between life and death just as the concept of geontopower encompasses the concept of biopower.[8] In *Geontologies*, she examines Australian governance since the 1960s and '70s as a form of geontopower. She developed the concept of geontopower in the context of three decades of fieldwork with the Indigenous Belyuen community of northern Australia, during which she analysed the tactics of power and control used by the Australian government from the perspective of her Indigenous colleagues.[9]

Povinelli refers to the specific form of colonial governmentality that attempts to replace Indigenous peoples with settler populations through the management of markets and cultural diversity as "settler late liberalism" (as also practiced by Australian governance in this period). In late liberalism, a period that Povinelli defines as "stretching from the 1950s into the loosely defined present" (2021, 8–9), national governments overtly acknowledge Indigenous peoples' accusations of racism by instituting multicultural policies that do not, however, actually provide any substantive measure of Indigenous self-determination. *Settler* late liberalism refers to these dynamics taking place in settler societies, such as Australia and Canada (ibid., 9).

A representative example of geontopower at work in the Belyuen community concerns the desecration of a rock known as Two Women Sitting Down (Povinelli 2016, 30–56). This is a rock formation sacred to the Belyuen, who attribute to it both sensory abilities (hearing and smelling) and a capacity to respond to humans. Whereas it might seem that the Belyuen believe this rock is animated and cannot be classified as nonlife, more accurately it means that they do not live by the carbon imaginary; so rather than viewing Two Women Sitting Down as a nonlife rock that happens to have some qualities of life, the Belyuen do not

[8] *As Jean-Thomas Tremblay (2018) notes, since the term "geontopower" denotes power obtained from the ontologisation of life and nonlife, the term "bio-geo-onto-power" might be more accurate, if more cumbersome.*

[9] *Povinelli: "my academic life has primarily consisted not of producing ethnographic texts that explain their [Belyuen] culture and society to others but of helping to analyse how late liberal power appears when encountered from their lives. My object of analysis, in other words, is not them, but settler late liberalism" (2016, 22–23).*

make the differentiation between life/nonlife in the first place (ibid., 33).[10] However, Two Women Sitting Down contains valuable manganese that state-backed industrial capital wants to mine. As Povinelli argues, the Australian state and industry thus need the carbon imaginary to be universally recognised as a neutral and objective "fact" to legitimise the desecration of Two Women Sitting Down.

To clarify, Povinelli is not arguing that the Australian state is the first to question whether what a modern Western categorisation labels as geological formations can sense, nor that the carbon imaginary is a prerequisite for evicting Indigenous populations from their lands—the history of European colonialism from the fifteenth century onwards is rife with brutal examples that show otherwise. What the author *is* arguing is that in the Australian context of settler late liberalism, the carbon imaginary came to function as a seemingly "neutral" tool that allows the state to continue privileging the historical settler population rather than address social and economic injustices by facilitating extractive capitalism without recourse to *explicit* violence against Indigenous populations.

The case of Two Women Sitting Down, then, exemplifies the workings of control tactics premised not on biopower but on geontopower whereby the Australian government successively: posits the carbon imaginary as a universal truth; categorises the rock formation Two Women Sitting Down as nonlife and hence as unable to hear, smell or respond to humans; concludes that Two Women Sitting Down can be mined and destroyed; and construes the Belyuen as "backward" animists (Povinelli 2016, 173) for considering inert matter as lively, or in other words, for not understanding the distinction between life/nonlife (ibid., 5).

This is what Povinelli means by geontopower: it is a tactic to control both populations and territories exercised by differentiating between life/nonlife and by controlling who gets to decide what life/nonlife is and how they should be differentiated. The concept of geontopower thus allows us to perceive that the labelling of something as life or nonlife is never objective or innocent but a form of power dynamics that can reinforce deep social inequalities.

GEONTOLOGIES

To recapitulate, the Anthropocene and the reformulation of the exchange of capacities between living and non-living entities (humans having geological capacities and geological entities having agency to change human history) has opened Western thought to the realisation that it rests on the life/nonlife binary and that this binary is no longer stable. Povinelli (2016, 15) calls "geontology" the attempt by Western thought to imagine how life/nonlife might be related now that the carbon imaginary is dissolving.[11] She identifies three figures of geontology: the Animist, the Desert, and the Virus.

[10] *Povinelli's point is not about the superiority of the Belyuen's worldview but rather that the modern Western belief in the carbon imaginary is used to suppress the Belyuen lifeworld.*

[11] *Other commentators interpret the concept of geontology differently. However, following Povinelli (2016, especially 5–6, 16), I understand geontology as symptoms of the different ways that late liberal governance has been trying to make sense of and remain in control of the crumbling self-evidence of the difference between life/nonlife.*

- The *Animist* overcomes the carbon imaginary by erasing the difference between life/nonlife and imbuing everything—people, animals, rivers, mountains, plains, plants, spirits, ancestors, communities—with vital force. "At the heart of the figure of the Animist lies the imaginary of the Indigene […] The Animist is, in other words, all those who see an equivalence between all forms of life or who can see life where others would see the lack of life." (Povinelli 2016, 17–18)

- The *Desert* is a vision of life driven primarily by the terror of the possible extinction of life and imagines the future as non-living. The Desert, Povinelli explains, "does not refer in any literal way to the ecosystem that, for lack of water, is hostile to life" (2016, 17). Instead, it "stands for all things perceived and conceived as denuded of life—and, by implication, all things that could, with the correct deployment of technological expertise or proper stewardship, be (re)made hospitable to life. The Desert, in other words, holds on to the distinction between Life and Nonlife and dramatises the possibility that Life is always at threat from the creeping, desiccating sands of Nonlife. The Desert is the space where life was, is not now, but could again be if knowledge, techniques and resources were properly managed." (16)

- The *Virus* is a figure of self-interested appropriation (utilising disruption and reordering) of the difference between life/nonlife (Povinelli 2016, 18–19). It is neither concerned with nor defined by the life/nonlife distinction—not because all is lively (as for the Animist) or because all is inert (as for the Desert) but because viruses are neither alive nor inert. A virus is a piece of genetic code that is programmed to replicate itself, but cannot do so on its own: it needs to infect a host cell and force that cell to create copies of its DNA, after which each of those copies infects other cells in order to create more copies.

Before proceeding, it is important to emphasise that these are three different configurations of geontology, not of geontopower. Geontopower works by negotiating the life/nonlife distinction and who is entitled to participate in that negotiation, while the three figures of geontology reveal how that distinction is imagined in the case at hand. Given that today there are different ways of imagining the life/nonlife distinction, identifying the geontology of a particular case will also provide insights into the specific tactic of geontopower at work.

GEONTOLOGIES IN LIFE-CENTRED DESIGN

How does *Geontologies*' conceptual apparatus help us to identify how life-centred design practices configure distinctions and relations between life/nonlife and how these practices might be related to tactics of control? I will speculate on these questions by using three examples of life-centred design practices: Arturo Escobar's autonomous design, John Thackara's bioregioning, and Karl Chu's biomimetic genetic architecture. Entering

into the subtleties of each is beyond the scope of the present study; indeed, my aim here is not to comprehensively review these practices but instead to conceptually experiment with the geontological figures of the Animist, the Desert, and the Virus to subsequently speculate on how these practices might be interrelated with geontopower.

The Animist Imaginary of Autonomous Design

Arturo Escobar considers his proposal for "autonomous design," which he developed most fully in his 2018 book *Designs for the Pluriverse*, as "life-centred design" (2018b, 75). Autonomous design refers to work that disrupts design's rationalist, capitalist, extractivist, colonial heritage to support Indigenous cultures.[12] By Indigenous, Escobar means societies whose cosmologies are fundamentally relational and nondualist, hence radically different from modern, scientific, dualist ones. Beginning with a relational, nondualist ontology, autonomous design considers agency as distributed amongst the human and nonhuman (ibid., 194), viewing everything as interrelated, interdependent, and equally vital in its potential to enable Indigenous life-worlds to thrive. Accordingly, the goal of autonomous design is to effectively weave those existents together in an autopoietic "praxis for living" (ibid., 200) that contributes to the fullest realisation of communities "as the kinds of entities they are" (ibid., 184). In approaching everything as potentially possessing some animating spirit, autonomous design appears to not differentiate between life/nonlife. More specifically, autonomous design can be said to view life as having primary value and then extending its attributes to nonlife, thereby eliminating the latter by incorporating it into the former. In this generalisation of vitalism, autonomous design can be interpreted as an expression of the Animist.

The Desert Imaginary of Bioregioning

In a series of publications, lectures, and podcasts, John Thackara has developed the idea of "bioregioning" as an example of life-centred design. Bioregioning, or the design of bioregions, are projects that attempt to respond to the threat of total extinction due to anthropogenic climate disaster and the demise of industrial civilisation by returning to the local. A "bioregion" is a "life-place" (Thayer 2003), a territory demarcated by such elements as geology, meteorology, hydrology, and biology rather than by cultural, political, or economic boundaries. However, while primarily defined by their so-called natural qualities, bioregions also take into account human (urban) communities, along with the latter's energy, water, food, and informational systems (Thackara 2019, 28–33). Thackara states that the design of bioregions entails the stewardship of living systems by drawing "connections between places, communities, and nature" (ibid., 16) with the aim of improving "the health and carrying capacity of the land" as well as

[12] *Echoing other commentators, Escobar holds that Western modernity has played a leading role in creating contemporary socio-political and environmental crises (2018b, 52). He defines Western modernity as fundamentally premised on what he calls a Cartesian, logocentric, rationalist, objectivistic, anthropocentric—in short, "dualist ontology." Design, Escobar argues, is both a product and reproducer of this dualist ontology. By saying this, Escobar is affirming that "design is ontological," which is the idea that our artificial world is ontological in that it is not only shaped by humans but also that design comes to define what reality is for humans (about the notion of "ontological design," see Winograd and Flores 1986; Willis 2006; Fry 2011; Fry and Kalantidou 2014; Fry and Willis 2017). Nevertheless, Escobar believes that design, duly modified, can be instrumental in providing a way out of our catastrophic times by supporting rather than suppressing the flourishing of multiple lifeworlds of historically subordinated groups. In other words, if all design is ontological, Escobar argues, the challenge is to strip design of its in-built dualist ontology and of its problematic universalist propensities and redirect it towards supporting rather than suppressing extra-modern lifeworlds.*

"the resilience of communities" (ibid., 19). Bioregioning is thus a form of design practice that is symptomatic of the imaginary of the Desert: not only does it dramatise the difference between life/nonlife, it also upholds life as the ultimate source of value and meaning.

[13] *Mathews (2011) offers an in-depth consideration of the philosophical tenets of variations in biodesign.*

The Virus Imaginary of Biomimicry

Biological design, also called biodesign, is a well-established form of life-centred design.[13] I follow Freya Mathews (2011) in broadly defining it as design of, with, or from life with the goal of integrating human production systems with larger ecosystems. She reports on how certain biodesign theorists (e.g., Benyus 2002 (1997); Hawken, Lovins, and Hunter Lovins 1999; William McDonough 2002) argue that to achieve bio-inclusive sustainability we should focus not on decreasing human production and consumption but rather on remodelling them based on so-called natural systems to render them generative of life. An extreme proposal of biodesign is Karl Chu's biomimetic genetic architecture. Mathews' description of it is worth quoting at length:

> Armed with technologies of morphogenesis derived from genetics, information theory and computational theory, these theorists prefigure an "autonomous" architecture which self-constellates and self-replicates in adaptation to its environment. The structures emanating from such an architectural practice would be genuinely organic, built from the inside out in accordance with the morphogenetic principles of life itself. They would accordingly be sensitive to context and co-adaptive and in this sense internally synergistic—and therefore in principle as sustainable as the life world. There is thus no reason why an entire global urban-industrial civilisation designed in accordance with such principles should not usurp the "parliament of thirty million species" altogether, and replace it with a "new nature," a simulated but fully sustainable "nature" exclusively human in its provenance and constituency. (Mathews 2011, 381–82)

Chu's proposal, in short, is to replace the current biosphere with a synthetic replica of ecological systems that theoretically could foster and support life, for example, through solar cities that replace forests, or industrial plants that purify water and substitute wetlands. In the words of Danowski and Viveiros de Castro (2017, 62), "the world will have been transubstantiated and absorbed by humankind as the triumphant species that re-transcends itself, through ingenious feats of anthropo-engineering, into a sublime posthuman entity." Arguably, self-generating genetic architecture is indifferent to any actual life/nonlife distinction yet takes advantage of the "ethical commitment to the community of species that currently constitute the biosphere" (ibid., 382) to diminish, render superfluous, or altogether extinguish biological life by replacing it with a zombie-like nonlife that imitates life. It is therefore a design practice that can be said to configure life/nonlife in terms of the Virus.

GEONTOPOWER IN LIFE-CENTRED DESIGN

How might these life-centred design practices, through their different imaginations of life/nonlife, be related to geontopower? Bioregioning seeks to overcome nonlife through socio-technological innovationsand appropriate stewardship. Biomimetic genetic architecture proposes to preserve the conditions for life by substituting the biosphere with a synthetic counterpart. More ambiguously, autonomous design can be said to eliminate nonlife "by simply enfolding it within life and eclipsing the conditions of Nonlife—inaction, inertness, finitude" (Johnson et al. 2019, 1321). Life-centred design can thus be said to be caught up in the "biontology" of the carbon imaginary. This is to say, these practices are not only predicated upon the distinction between life and nonlife; they are also biontological in that they equate ontology, being itself, with only one form of existence—life—to the exclusion of nonlife (Povinelli 2016, 16–17, 52).

To recall, geontopower works not only by steering the life/nonlife distinction but also by establishing who is entitled to participate in that negotiation. The disregard for extramodern modes of existence is obvious in biomimetic genetic architecture's proposal to replace the planetary biosphere with a synthetic one designed according to a single and universalising, if troubled and troubling, vision of life. In the case of bioregioning, issues about whose territory, delineated according to which principles, governed under whose authority, and for whose benefit are open questions still being developed (Thackara 2017, 32). However, the case is much less straightforward in autonomous design. As discussed above, the very point of autonomous design is to support the flourishing of Indigenous communities "as the kinds of entities they are" (Escobar 2018b, 184). Advancing from the premise that a central feature of such communities is a relational ontology, autonomous design posits the right to existence of all existents and worlds in principle. An important question, which as far as I can tell is not explicitly addressed in *Designs for the Pluriverse*, is whether exis tents' right to exist is intrinsic or instrumental, which is to say, on account of the roles they play in the continuation of life.[15] The latter would raise the question whether autonomous design does not surreptitiously reintroduce a biontological carbon imaginary of life even while seeking to counter ethnocentric and Eurocentric definitions of design. Escobar's ethical and political commitments to the causes of Indigenous communities are beyond question and not at stake here. Rather, the point that requires further exploration in the case of autonomous design is whether its current conceptualisation of life may not ultimately contradict extramodern worlds, such as the Belyuen's, that are not biontological.

The considerations above expose a troublesome ambiguity at the heart of life-centred design. Life-centred design in the grips of

[14] *Escobar acknowledges that one of the problems of universalising relationality is being confronted with worlds that refuse it, such as "in the world of […] of all the patriarchs and gurus, the techno-patriarchs of technology too" (2020, n.p.).*

biontology can be said to be implicated in the universalisation of a modern Western understanding of life and ontology. Thus, despite the best intentions, designing for life according to a univocal and universalising biontological inclination actually runs the risk of suppressing extramodern worlds by "reiterating rather than challenging the discourse and strategy of geontopower" (Povinelli 2016, 55). This is problematic because, as we have discussed above, geontopower is deeply implicated in (neo-)colonial forms of domination (to recall: whereby historical settler populations are privileged and extractive capitalism facilitated without recourse to explicit violence against Indigenous populations).

CONCLUSION: LIFE-CENTRED DESIGN BEYOND BIONTOLOGY?

The discussion above raises the broader question regarding whether it is appropriate to aspire to connect design, including life-centred design, and extramodern worlds in the first place. However, this question might actually be misleading since it suggests that the relationship between design practices and extramodern worlds is optional, or in other words, that it is possible for design practices to not have anything to do with extramodern worlds.

As so-called "grounded globalisation" scholarship has shown, one of the consequences of globalisation is that "the interaction between the human and nonhuman world is less and less locally determined" (Gille 2014, 162). As Povinelli observes:

right when we think we have a location—these versus those—our focus must immediately extend over and outward. The global nature of climate change, capital, toxicity, and discursivity immediately demands we look elsewhere than where we are standing. We have to follow the flows of the toxic industries whose by-products seep into foods, forests, and aquifers […] As we stretch the local across these seeping transits […] we cannot remain in the local. We can only remain hereish. (2016, 13)

This implies that design practices, regardless of their setting or target public, cannot be fully contained within their location (Meroz 2014; 2018; Meroz and Serulus 2019).

While this observation has been made to expose the imbroglios of design with the global flows of resource extraction, the point I wish to make here is that it also implies that life-centred design is not as far removed from extramodern worlds as it may seem. For example, a life-centred app designed to create independence from global food chains by connecting local urbanite food growers (Näsholm 2020, 7) still depends on the translocal infrastructure of data centres that require

vast quantities of electricity and toxic chemicals to power and cool. This "trajectory of power," Povinelli (2016, 164) reminds us, is "directly related to the increased heating up of the outside environment"—the consequences of which are most severe for vulnerable communities inhabiting ecologically sensitive areas, such as many Indigenous ones (Arora 2017).

We may now return to the question posed in the introduction: what are the ethical implications of life-centred design? In view of the above, the ethical challenges that *Geontologies* poses to life-centred design can be framed as: can life-centred design go *beyond* the carbon imaginary and *beyond* biontology? If not, can it develop practices that do not encroach upon multiple extramodern worlds for the sake of preserving a single, local if universalising Eurocentric configuration of life? And if it can, would that be desirable, or in other words, what would the ethical trade-offs be, and for whom? Life-centred design beyond biontology means a concept of design that neither differentiates between life and non-life nor equates being with life. Arguably, such practices might imply giving up comforts and privileges to safeguard so-called "non-living" existents, and curtailing (some) so-called "living" beings' claims and needs. These are major ethical considerations that require further and careful reflection and elaboration. In conclusion, I do not mean to suggest that embracing *Geontologies*' concepts and challenges can enable life-centred design to claim an ethical position beyond trade-offs. However, I think that they do help to identify some less apparent yet critical ethical dilemmas facing life-centred design, as discussed above.[15] In this sense, I agree with Costa (2016, 147–48), who concludes that "Povinelli's work inspires new reflections and approaches to the ecological question from a cosmopolitical perspective guided by a decolonising posture." Thus, while not providing solutions, *Geontologies* suggests that if life-centred design is to confront its entanglements with geontopower, it needs to address its universalising and univocal biontological conceptualisation of life and how its own use of so-called "resources" is deeply intertwined with extramodern worlds. To conclude with the words of Viveiros de Castro (2013, 274), "We must try to be very clear—if this is possible at all—about what we are trying to express when we cling to life as a sort of absolute horizon of our reflection."

[15] *Whether non-sentient matter can be the object of ethics, or whether ethical views ought to be formulated from the point of view of non-living existents are interesting and important questions, but they are not what is at stake in this article. After all, as Povinelli has shown, the living/non-living categories are not universal, nor is there universal consensus about the characteristics and capabilities of non-living existents. To recall, the Belyuen do attribute sensory abilities and a capacity to respond to humans to Two Women Sitting Down, but do not recognise its categorisation as either living or non-living because they do not differentiate between the two registers in the first place. Accordingly, and more precisely, I think that the question of the ethics of life-centred design concerns its relation to extramodern communities that might not distinguish between living and non-living and/or might attribute what "we" view as living capabilities and characteristics to non-living existents.*

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REFERENCES

Adhikari, Surendra, and Erik R. Ivins. 2016. "Climate-Driven Polar Motion: 2003–2015." *Science Advances* 2 (4): e1501693. https://doi.org/doi:10.1126/sciadv.1501693

Arora, Saurabh. 2017. *Defying Control: Aspects of Caring Engagement between Divergent Knowledge Practices*. STEPS Working Paper 90. Brighton: STEPS Centre.

Asaro, Peter. 2000. "Transforming Society by Transforming Technology: The Science and Politics of Participatory Design." *Accounting Management and Information Technologies* 10 (4): 257–90.

Benyus, Janine. 2002 (1997). *Biomimicry: Innovation Inspired by Nature*. New York: Harper Perennial.

Chakrabarty, Dipesh. 2009. "The Climate of History: Four Theses." *Critical Inquiry* 35 (2): 197–222.

Chmela-Jones, K. A. 2017. "Flourishing in Graphic Design Education: Incorporating Ubuntu as a Curricular Strategy." *The Design Journal* 20 (sup1): S1048-S1057. https://doi.org/10.1080/14606925.2017.1353048

Costa, Alyne. 2016. "Virada geo(nto)lógica: reflexões sobre vida e não-vida no antropoceno." *AnaLógos* 1: 140–50.

Danowski, Déborah, and Eduardo Viveiros de Castro. 2017. *The Ends of the World*. Translated by Rodrigo Nunes. Cambridge, UK: Polity.

Deng, S., S. Liu, X. Mo, L. Jiang, and P. Bauer-Gottwein. 2021. "Polar Drift in the 1990s Explained by Terrestrial Water Storage Changes." *Geophysical Research Letters* 48 (7): e2020GL092114. https://doi.org/10.1029/2020GL092114

Di Russo, Stefanie. 2016. "Understanding the Behaviour of Design Thinking in Complex Environments." PhD dissertation, Swinburne University.

DiSalvo, Carl, and Jonathan Lukens. 2011. "Nonanthropocentrism and the Nonhuman in Design: Possibilities for Designing New Forms of Engagement with and through Technology." In *From Social Butterfly to Engaged Citizen: Urban Informatics, Social Media, Ubiquitous Computing, and Mobile Technology to Support Citizen Engagement*, edited by Marcus Foth, Laura Forlano, Christine Satchell, and Martin Gibbs, 421–35. Cambridge: MIT Press.

Escobar, Arturo. 2018a. "Autonomous Design and the Emergent Transnational Critical Design Studies Field." *Strategic Design Research Journal* 11 (2): 139–46.

Escobar, Arturo. 2018b. *Designs for the Pluriverse: Radical Interdependence, Autonomy, and the Making of Worlds*. Durham: Duke University Press.

Escobar, Arturo. 2020. "Contra o terricídio." Lecture at the Participatory Design Conference, Universidad de Caldas, Manizales, Colombia, 19 June.

Forlano, Laura. 2017. "Posthumanism and Design." *She Ji* 3 (1): 16–29.

Foucault, Michel. 1977 (1975). *Discipline and Punish: The Birth of the Prison*. Translated by Alan Sheridan. London: Allen Lane/Penguin Books.

Foucault, Michel. 1990 (1976). *The History of Sexuality: Volume 1, An introduction*. Translated by Robert Hurley. New York: Vintage Books.

Friess, Erin. 2010. "The Sword of Data: Does Human-Centered Design Fulfill its Rhetorical Responsibility?" *Design Issues* 26 (3): 40–50.

Fry, Tony. 2011. *Design as Politics*. Oxford/New York: Berg.

Fry, Tony, and Eleni Kalantidou. 2014. "Design in the Borderlands: An Introduction." In *Design in the Borderlands*, edited by Eleni Kalantidou and Tony Fry, 1–11. London: Routledge.

Fry, Tony, and Anne-Marie Willis. 2017. "Design and the Global South." *Design Philosophy Papers* 15 (1): 1–2.

Gille, Zsuzsa. 2014. "Transnational Materiality." In *Framing the Global: Entry Points for Research*, edited by Hilary E. Kahn and Saskia Sassen, 157–181. Bloomington: Indiana University Press.

Hawken, Paul, Amory Lovins, and L. Hunter Lovins. 1999. *Natural Capitalism*. Snowmass Colorado: Rocky Mountains Institute.

Hess, Mirko. 2020. "Why Life-Centered Design is Vital for all Design Schools." *DMI Blog* (blog), *Lucerne University of Applied Sciences and Arts* (blog). April 20. https://blog.hslu.ch/designmanagementinternational/author/mirko/

Irwin, Terry. 2015. "Transition Design: A Proposal for a New Area of Design Practice, Study, and Research." *Design and Culture* 7 (2): 229–46. https://doi.org/10.1080/17547075.2015.1051829

Jensen, Casper. 2021. "Practical Ontologies Redux." *Berliner Blätter* 84: 93–104.

Johnson, Elizabeth, Garnet Kindervater, Zoe Todd, Yusoff Kathryn, Keith Woodward, and Elizabeth A. Povinelli. 2019. "Geontographies: On Elizabeth Povinelli's Geontologies: A Requiem for Late Liberalism." *Politics and Space* 37 (8): 1319–42.

Kimbell, Lucy. 2010. "From User-Centered Design to Designing for Services." Design Management Conference, London. http://www.lucykimbell.com/stuff/DMI2010_kimbell_draft.pdf

Leong, Benny Ding, and Hazel Clark. 2003. "Culture-Based Knowledge Towards New Design Thinking and Practice—A Dialogue." *Design Issues* 19 (3): 48–58.

Mathews, Freya. 2011. "Towards a Deeper Philosophy of Biomimicry." *Organization and Environment* 24 (4): 364–87.

McDonough, William 2002. *Cradle to Cradle: Remaking the Way We Make Things*. New York: North Point Press.

Meroz, Joana. 2014. "Autarchy: The Making of Dutch Design in Practice." In *A Matter of Design: Making Society through Science and Technology. Proceedings of the 5th STS Italia Conference 2014*, edited by Claudio Coletta, Sara Colombo, Paolo Magaudda, Alvise Mattozzi, Laura Lucia Parolin and Lucia Rampino, 901–19. Milan: STS Italia Publishing.

Meroz, Joana. 2018. "Transnational Material Politics: Constructions of Dutch Design, 1970–2012." Unpublished PhD dissertation, Vrije Universiteit Amsterdam.

Meroz, Joana, and Katarina Serulus. 2019. "A Theoretical Straddle: Locating Design Cultures Between National Structures and Transnational Networks." In *Design Culture: Object and Approach*, edited by Guy Julier, Mads Nygaard Folkmann, Niels Peter Skou, Hans-Christian Jensen and Anders V. Munch, 203-13. London: Bloomsbury.

Näsholm, Camilla. 2020. "Becoming Growers." MFA, Interaction Design, Umeå Institute of Design, Umeå University.

Norman, Don. 2005. "Human-Centered Design Considered Harmful." *Interactions*, 14-19.

Norman, Don. 2013. *The Design of Everyday Things (original title: The Psychology of Everyday Things)*. Revised and expanded ed. New York: Basic Books.

Owens, Johnathyn. 2019. "10 Principles of Life-Centered Design: How We May Begin to Design for a Future of Inclusivity." *Medium*. June 3. https://medium.com/the-sentient-files/10-principles-of-life-centered-design-3c5f543414f3

Povinelli, Elizabeth A. 2016. *Geontologies: A Requiem to Late Liberalism*. Durham: Duke University Press.

Povinelli, Elizabeth A. 2021. *Between Gaia and Ground: Four Axioms of Existence and the Ancestral Catastrophe of Late Liberalism*. Durham/London: Duke University Press.

Robinson, Cassie. 2018. "Beyond Human-Centred Design, To?" *Medium*. April 26. https://cassierobinson.medium.com/beyond-human-centred-design-to-501a994f3123

Selin. 2020. "Discover How You Can Incorporate Life-Centered Design into Your Values and What This Has to do with Mandarins." *DMI Blog Lucerne University of Applied Sciences and Arts* (blog). April 13. https://blog.hslu.ch/designmanagementinternational/2020/04/13/discover-how-you-can-incorporate-life-centered-design-into-your-values-and-what-this-has-to-do-with-mandarins/

Simão de Freitas, Alexandre. 2019. "Geontologia e as artes neoliberais de governo: educar os corpos para além do imaginário do carbono." *Pro-Posições* 30 (1): 1–21. https://doi.org/10.1590/1980-6248-2017-0136

Thackara, John. 2011. "How to Make Systems Thinking Sexy." June 14. http://thackara.com/most-read/how-to-make-systems-thinking-sexy/

Thackara, John. 2017. *How to Thrive in the Next Economy: Designing Tomorrow's World Today*. London: Thames & Hudson.

Thackara, John. 2018 "Designing for All of Life, Not Just Human Life." In *This is HCD - Human Centered Design Podcast*. https://www.thisishcd.com/episode/john-thackara-designing-for-all-of-life-not-just-human-life

Thackara, John. 2019. "Bioregioning: Pathways to Urban-Rural Reconnection." *She Ji* 5 (1): 15–28. https://doi.org/10.1016/j.sheji.2019.01.002

Thackara, John. 2021. "Cities as Lifeworlds: Green Infrastructure and Relational Design" Lecture at Politecnico di Milano, 15 February.

Thayer, Robert L. 2003. *LifePlace: Bioregional Thought and Practice*. Berkeley: University of California Press.

Tomitsch, Martin, ed. 2020. *Design. Think. Make. Break. Repeat: A Handbook of Methods*. Amsterdam: BIS.

Tremblay, Jean-Thomas. 2018. "Jean-Thomas Tremblay reviews Geontologies." *Critical Inquiry* (online). May 2. https://criticalinquiry.uchicago.edu/jean_thomas_tremblay_reviews_geontologies/

Viveiros de Castro, Eduardo. 2013. "Closing Remarks from the Conclusion of the Contested Ecologies Writing Workshop, September 2011." In *Contested Ecologies: Dialogues in the South on Nature and Knowledge*, edited by Lesley Green, 271–75. Cape Town: HSRC Press.

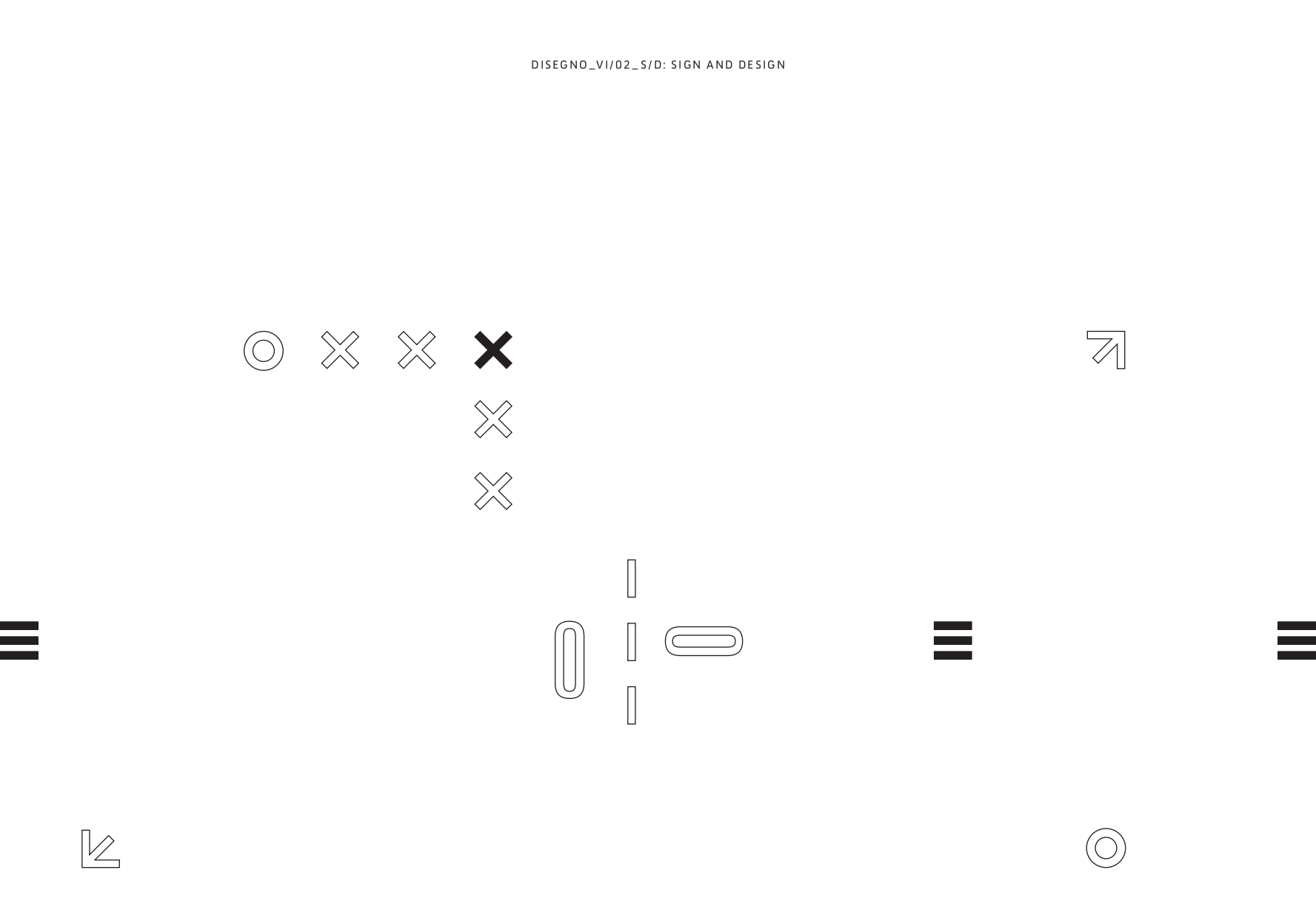
Warndorff, Jan. 2017. *Geen idee: Filosofie van het boerenverstand*. Rotterdam: Lemniscaat.

Warndorff, Jan. 2021. *Ik ben de wereld: Anders denken in de 21e eeuw*. Rotterdam: Lemniscaat.

Willis, Anne-Marie. 2006. "Ontological Designing." *Design Philosophy Papers* 4 (2): 1–18.

Wilmot, Eric. 2009. "Reframing our Consumer-Based Economy." *Catalyst* 2: 6–13.

Winograd, Terry, and Fernando Flores. 1986. *Understanding Computers and Cognition: A New Foundation for Design*. Norwood, NJ: Ablex.



+ OR –

A PROCESS-ORIENTED GUIDED INQUIRY LEARNING (POGIL) IN DESIGN EDUCATION USING SEMIOTICS AS A TOOL

Aditya Nambissan

ABSTRACT

This article takes its name from a semester 6 architectural design studio developed using semiotics as an approach to develop a design methodology / design thinking process. This involves exploring different interpretations of the symbols + and –, and their various applications to the field of architecture and design. We try to analyse, trace the course of problems/issues, and interpret ideas of subtractive processes (influenced by economic, cultural, and technological changes) involved in extracting resources from mother earth; and thereafter, the impacts of additive processes in the act of building and constructing. With the design project situated in the rich timber industrial heritage of the North Malabar region of Calicut, Kerala (India), this material is a crucial element associated with memories. The absorption of the relational aspects of timber in this region's cultural semiotics has led to interesting shifting in the built and unbuilt environments over the years. This has become the core inquiry of students' engagement in decoding signs and symbols through the mediums of photography, diagramming, and hybrid representation. These in turn inform them how to intervene using design and create an architectural project based on these findings.

#cultural memory, #architectural shapeshifting, #pragmatic design, #interpretative meanings, #material memory

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LEARNING AS A PROCESS AND PROCESS AS LEARNING

Critical thinking, the ability to reflect and respond, while also incorporating philosophies, theories, and histories, has always challenged how design education can be taught. Design thinking has been termed a mindset that lends faith to creative endeavours, a process that transforms challenges into opportunities for design (Brenner, Uebernickel, and Abrell 2016).

The multiplicities involved in design thinking and its processes were explored while I was practicing architecture independently and part-time teaching the sixth semester architectural design studio at Avani Institute of Design. Being associated with the Faculty of Architecture cohort involved in the monsoon semester studio (2022), I, along with six other faculty members—Soumini Raja, Ambili S, Sanjay Kumar, Gisny George, Satyajeet Sinha, Rajiv Babu—took up the challenge of exploring and testing an experimental semester 6 design studio brief. The studio project was titled Tectonic Ecologies—Reimagining the "minor" architecture of the Kallai (or Kallayi) region. By adding new methods and also improvising on the existing pedagogical framework of the institute and the University of Calicut, this new approach involved understanding and experimenting with various traditional and non-traditional methods of teaching/learning, and assessing their respective outcomes and feedback.

Having realised the importance of processes and critical thinking involved in arriving at design proposals (rather than setting a well packaged program with a very predetermined typological project for students to work on) the possibilities of new directions and fresh perspectives relating to the aims and objectives of semester 6 studio were investigated. The shift from a focus on a preconceived final output to one on a design studio project with an emphasis on formulation and articulation, helps students develop reasoning skills with a certain level of criticality. Once they have developed these reasoning skills, the ability to implement them—to create content in various mediums—helps them tackle the ever-changing challenges posed in the architectural design process. Meanwhile, "guided inquiry" helps in setting out certain common premises and frameworks with well-thought-out inquiries used as guidelines during design process-learning. While keeping

students engaged in the process, such an approach also tends to ease stress about the final output and the added pressures of submission deadlines and long lists of standard prescribed deliverables.

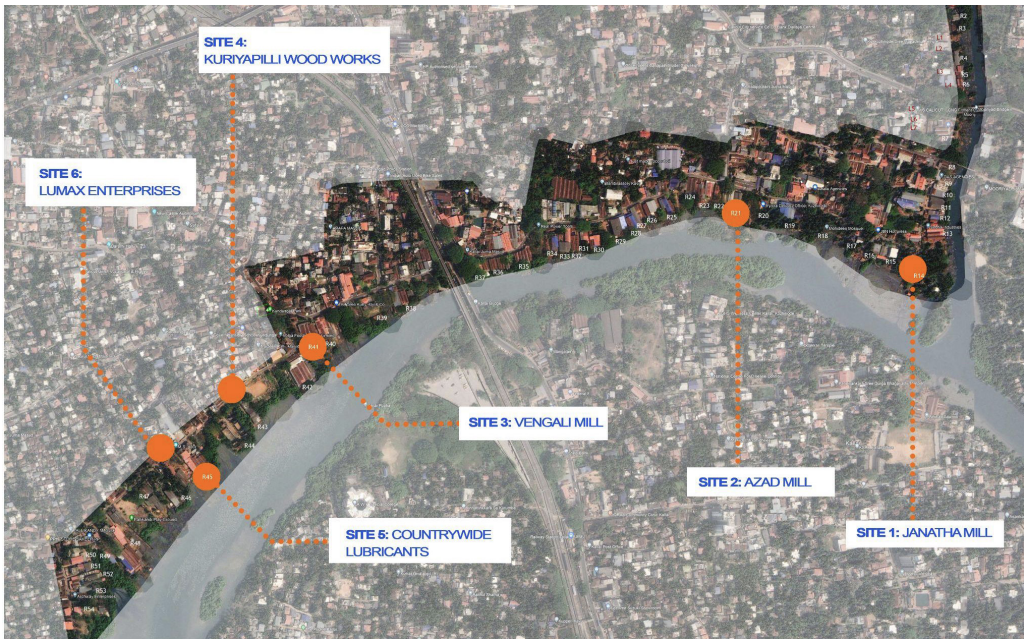
POGIL (Process-oriented guided-inquiry learning) with empirical evidence has proved that learning and retention of knowledge while receiving it through this inquiry method is far more successful compared to some other traditional and non-traditional methods. It has been extensively researched, tested and tried out in various fields such as chemistry, physiology, IT solution architecture, computer programming, software engineering (which involves essential designing and problem-solving skills for programming using certain system design patterns). "Process-oriented" methods of teaching and learning emphasise the process followed to create or achieve content, where content is considered a medium to refine and articulate reasoning skills rather than as a finished end product (Rumain and Geliebter 2020).

THE CONTEXT AND OVERALL STUDIO PREMISE

The Kallai river banks in the city of Calicut are renowned historically for timber industry-based trade links dating back to the fifteenth and sixteenth centuries. Up until the 1970s, more than 300 industries and 20,000 workers thrived on these banks. Today, the resultant vernacular architecture and its historically renowned timber industrial landscape remain in a state of decline along the ecologically fragile Kallai river. The community and the industries depended on the river for their livelihoods.

The changing environmental and economic policies, technological advancements, fragmentation of labour forces, and land policies have impacted the growth of the industry leading to its steady decline. Several timber industries have perished over the past three decades; the ones that remain are the only evidence of the utilitarian architecture of the past. A few of the ramshackle timber mills have been abandoned or pulled down. Some have been repaired and rented out as godowns for various goods.

The RSP (Related Study Program) is focused on sensitising students and faculty researchers alike to the industrial architectural heritage which has shaped the city of Calicut in many ways and how these industries have evolved into what it is now. The team of students and faculty members identified six of the oldest existing timber mills along the edge of the Kallai river for in-depth architectural documentation and the production of detailed measured drawings (fig. 1). This helped in understanding and making clear the different states of functional and programmatic alterations made to these industrial apparatuses, which have, over time, been transformed with respect to the built and unbuilt environments.



Industrial architecture in Kallai was a product of economic growth and development which flourished during the colonial period. The majority of architectural investment in this region went into the building of "sheds" for utilitarian, money-churning, and resource-mincing exploitative companies (figs. 2–3). The extractive nature of the colonial system during the Industrial Age ensured that natural resources were supplied to the world through trans-oceanic trade. This included the exchange of goods, including humans, which were processed to be sold in domestic and international markets. This concentration of power, money, and resources based on ideologies of industrialism, has stripped indigenous communities of their identities, and thereby impacted the region's cultural, economic, and ecological habitats in the long term.

FIGURE 1. *Selected sites for RSP documentation conducted by Semester 6 students of Avani Institute of Design. The study was part of the architectural design studio titled "Tectonic Ecologies—Reimagining the 'minor' architecture of Kallai."*

FIGURES 2–3. *One of the oldest existing timber mills of Kallai still operating with machines made in Belgium (Brenta bandsaw)*

The studio asks:

Can industrial typology be reimagined to play a pivotal role in reinstating the city's pre-colonial ecology and its identity? Such a re-imagination would consider this industrial ecology a responsive work environment offering resources to the city and would reclaim lost spaces for the citizens (figs. 4 –5).

Can industrial architecture become a catalyst for initiating a dialogue between the city and its citizens?

FIGURES 4 –5. *Images capturing local children playing football in an old dilapidated industry building with no roof and the fishing activities on the banks of the Kallai river.*

The studio expects:

Students to critically engage in reimagining the infrastructure possibilities of mills as a space of production within a given set of contextual constraints (figs. 6 –7).

FIGURES 6 –7. *Students documenting the existing infrastructure and mapping the conditions of old timber mills during the RSP (Related Study Program)*

THE APPROACH

The semester 6 studio

This monsoon semester of 2022 at Avani Institute of Design involved sixty-nine undergraduate students engaged in the atelier principle of teaching (Weaver 1999). A version of this way of teaching was developed at the Architectural Association School of Architecture in London in the

1970s under the brilliant chairmanship of Alvin Boyarsky. From there it spread to a few other architecture schools, where it took different forms according to institutional circumstances and academic aims. At our institute, the total number of students were equally divided into seven groups and were to operate as seven different ateliers with a common context and two sites on which to intervene. The seven ateliers had various topics of focus, such as eco-architecture, post-human architecture, convivial architecture, social architecture, public architecture, architectural prosthesis, and sustainable retrofitting; all of these were broadly classified into three approaches: ecosystem, social, and built heritage.

The atelier teachers were a mix of practising architects who teach part-time and full-time teachers who have research-based practises. While exploring seven different approaches to a semester 6 studio project following a common course outline formulated using the institute's academic framework, the atelier method created a link between the education and the professional realms of architecture and research; one in which the students do not work in an actual firm but in their classrooms along with practitioners and researchers acquiring a semi-professional environment within the studio.

ATELIER METHODOLOGY

To study associations and familiarities embedded in complex interwoven realms of a place that has undergone a series of events and remains in a constant state of flux, there is a need for certain processes. Processes which could help differentiate, investigate, and thereafter form new derivatives. The idea of using semiotics to decode various layers originated in the atelier involving myself and nine students. This deconstructing is vital to help students establish a certain degree of clarity and develop critical thinking and reasoning skills while conceptualising new "objects" of design and architecture.

"+ or –" became the anchoring title of the atelier I guided with nine students who were tasked with "thinking like an architect" by role-playing and considering the team as practising architects of an atelier. The team focused on a process driven approach to design, grounded in pragmatism while also exploring the possibilities of semiotics as a tool within the design process to understand, analyse, and decode certain layers which could help formulate architectural design proposals. Certain critical inquiries were discussed in the atelier which laid the foundation and served as a starting point from which multiple paths could be taken with diverse thought process and ideations.

As technology advances in all realms of life, and especially considering recent explorations in materials and even construction tech-

niques like using CLT (Cross Laminated Timber), can technology initiate a certain alternative or revival in the interdependent industries of timber and construction? As the world shifts from an industrial to a post-industrial society, the sustainability of these industries is also questioned. If so, what are the possible additions and subtractions (+ or -) to reinvent typologies which will have their basis in eco-socialism and eco-economics? Furthermore, to consider the idea of "sustainability" not only as protecting and sustaining nature, ecological systems, and non-human beings, but also as co-existing with and sustaining people's lives, economies, and cultures. These were some of the inquiries and lines of thoughts initiated while exploring ideas of sustainable retro-fitting, its potential for building a circular economy, and the relevance of material cultures.

Seminal texts like *Small is Beautiful: A Study of Economy as if People Mattered* by Ernst Friedrich Schumacher (1973) and *Toward a Minor Architecture* by Jill Stoner (2012) were shared as initial scholarly readings and discussed in the atelier to establish an axiom for the atelier's philosophy and a common thread for weaving multiple narratives. Being a facilitator and a mediator, the guidance given by me was then structured with experimental, rational, and pragmatic exercises while simultaneously giving room for students to explore and produce radical and original output/content. They were encouraged to experiment with multiple mediums and skill sets which they are equipped or interested in (sketching, painting, doodling, photography, collage, videography, and creative writing).

The studio sessions were mostly organised into three modules according to the available number of weeks (fig. 8). The first module (M-01) followed the design process which stimulated discoveries,

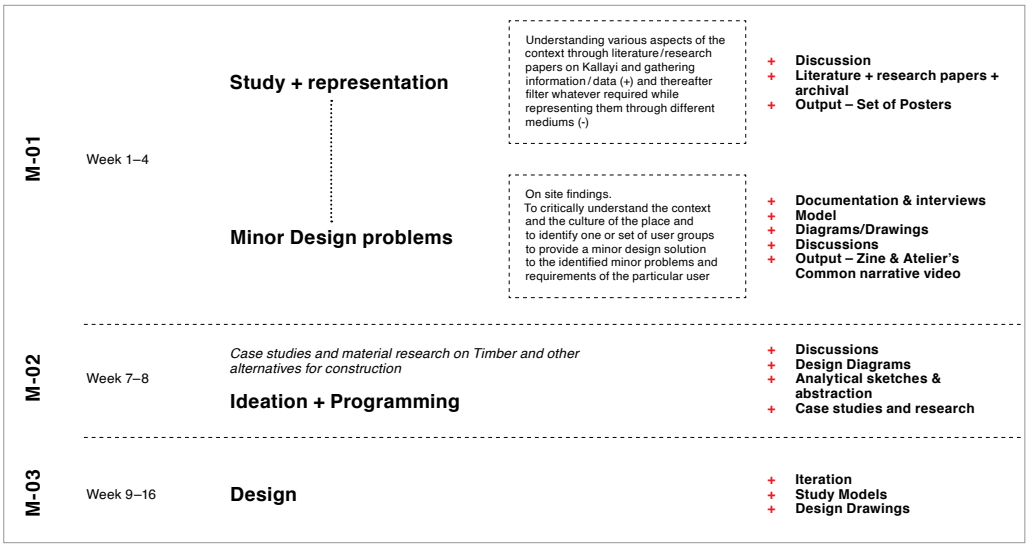


FIGURE 8. *Course structure developed for the Atelier's methodology.*

interpretations, ideation, experimentation, and evolution as discussed in the IDEO's much celebrated classic "Design thinking for Educators" (IDEO 2018). Interpretations of the symbols + and – were often explored, discussed, and even applied in various stages and processes of the design studio and in its operation itself. This stage involved the "additive" (+) process of knowledge building by collecting and gathering existing information using archival documents and research done on the history, socio-culture, the economy, and the importance of timber mills in Kallai. Research papers like "The Wood Legacy of Kallai: Lessons for The Future" (Kunhamu et al. 2011) were initially shared as readings, followed by an exercise to extract certain important information, such as words, numbers, sentences, expressions, or an idea which one could relate to. Subsequently, the students were required to turn the derived content from the reading exercise into a set of posters which visually and graphically reflected their discoveries and interpretations. This process could be interpreted as a "subtractive" (-) process or a reductionist approach of analysing and articulating a complex set of information into its fundamental constituents; in this case it was visually expressed through a set of typographical posters. (fig. 9)

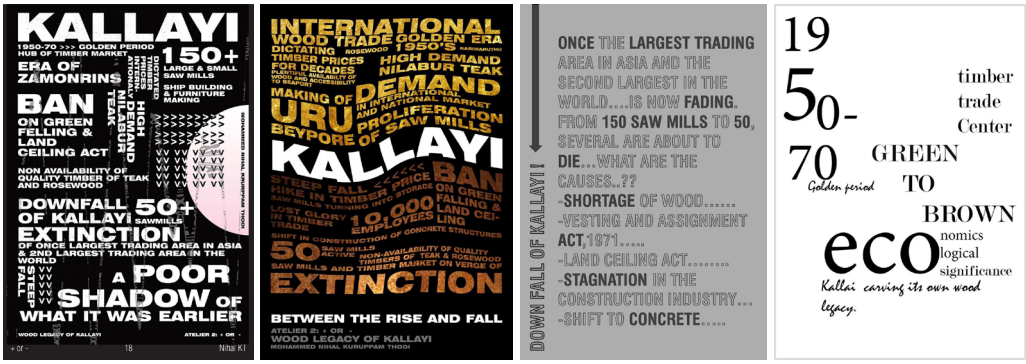


FIGURE 9. *Posters made by students (Nihal Lalu, Adila V, and Sneha Ajith).*

After exploring and refining information in the first part of the study acquired through literature and readings, the next step involved on-site learnings, recordings and collecting real-time data. This prompted students to put aside their textbook knowledge acquired from readings and research papers, and put on their thinking hats (The de Bono Group 2019), while experiencing the context of Kallai in real life and perceiving it sensorially as well as intellectually.[1] The multiple layering on the region's ingrained cultural patterns and the state of flux it is in, was observed and recorded while interviewing or having critical discussions with the local people.

As Umberto Eco proposes, "the whole of culture should be studied as a communicative phenomenon based on signification systems." ([1975]

[1] *"Six Thinking Hats" is a brainstorming and decision-making technique which involves wearing metaphorical "hats," each representing a different mode of thinking: blue: the process; white: facts; red: feelings; yellow: benefit; green: creativity, black: caution.*

1976, 22) Communication in the form of verbal, non-verbal, visual, and other sensorial aspects were explored in this stage. It was studied via different mediums such as photography, videos, sound recordings, hybrid cartographies, and pictorial diagramming, with an intent to spur mixed forms of outputs based on instincts and reasoning.

While trying to record and document different cultural, socio-economic, ecological, built-unbuilt relationships, and their impacts on the context, students were also asked to identify and observe all the actors and activities involved in this region at present. They were instructed to pick one actor or a group of actors and to acquire in depth knowledge and observations regarding their activities. After that, they were asked to conceptualise a minor design intervention for the considered functions and certain activities involved in the respective actor's life. To associate and familiarise themselves with the context by following processes which help in differentiating the actors and activities from a complex web of interlinked actors and activities, helps students to analyse, decode, and decipher; initially on a minor scale and gradually increasing in complexity by adding and linking more actors and activities.

To be able to observe, interpret, and derive critical responses before programming and conceptualising a project of a large scale, a smaller scale design output was experimented with (furniture design, product design, and pavilions etc.). Decoding patterns observed in behaviour, culture, and built-unbuilt environments, and to comprehend as well as articulate these through visual codes was the primary goal; an attempt to thoughtfully translate them into design projects in the further stages.

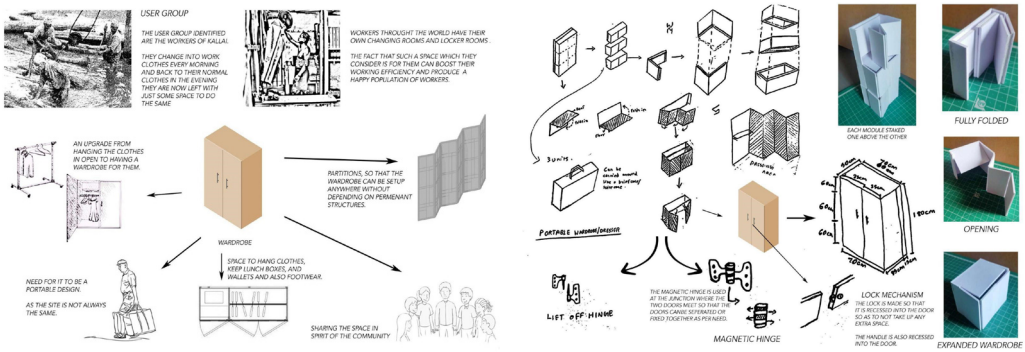


FIGURE 10. *Samples from the zine with student works (Jishnu K. R.). Source: https://issuu.com/adityaavani/docs/zine_ad*

The final output of this stage was a compiled set of original works by students in various mediums (sketches, diagrams, collage, montage, photos, video snippets, and texts) which was then printed as a zine (figs. 10 and 11). These works were reviewed openly among the team and assessed, while also guiding them further through discussions and healthy debates. Through multiple interpretations and constructive

criticism from peers, which gave scope for further refinements, values of shared learning and reasoning skills were developed to progress to the next stages of the studio.

FIGURE 11. *Samples from the zine (Aadila V, Nihal Lalu). Source: https://issuu.com/adityaavani/docs/zine_ad*

INTERPRETATIONS, DERIVATIONS, AND IMPLEMENTATIONS

After exploring several levels of studies which allowed students to freely express their understanding and intuitions through different experimental mediums of representation, the second and third modules (M-02 and M-03) were focused more on architectural application. They further explored a certain process of meaning-making while also making new meanings to formulate an architectural project.

Contrary to previous stages which involved group assignments and teamwork, students were encouraged to approach tasks individually, reflecting their own interpretations and learning outcomes from the previous processes. This was intended to achieve a diverse range of outputs and a palette of ideas from nine students in a single atelier. Noting down levels of codification and interpretations of the symbols + and – was done at multiple stages of the design process, to be analysed and conceptualised further. During the programmatic stages of the design process, a couple of students conceptualised partial subtractions of existing timber mill activities to add newer programs that responded to the present or to a speculative future. While few students add and diversify the production of the timber industries to sustain and uplift a dying industry, there were also proposals to entirely subtract the activities and the infrastructures related to the industrial typology and replace them with completely new architectural objects with newer visions. The students decided what degree of addition and

subtraction to adopt while retrofitting/reusing/deconstructing/reconstructing/replacing the built and unbuilt spaces. By exploring addition and subtraction with regards to activities, user groups, volumes, and spatial arrangements, students found themselves engaged in their own paths to meander further into an iterative design process.

The challenge was to apply their interpretative, meaning-making skills to understand the transformation of the architecture, to understand this transformation as a phenomenon interlinked with changes in various parameters, and furthermore to propose radical and rational solutions which could lead to a pragmatic design mixed with instincts and reasoning. The influence of cultural semiotics of the region on the architectural language and vice versa, was explored. Timber as a vital material associated with memories and its links to the historical, cultural, and economic aspects of this region was also not neglected during the design approach.

This phase embraced the multiplicities of thoughts and approaches taken by the students to explore and develop an architectural program. After this, they designed an architectural object/building, which involves several levels of additions and subtractions while formulating a design process and its articulation.

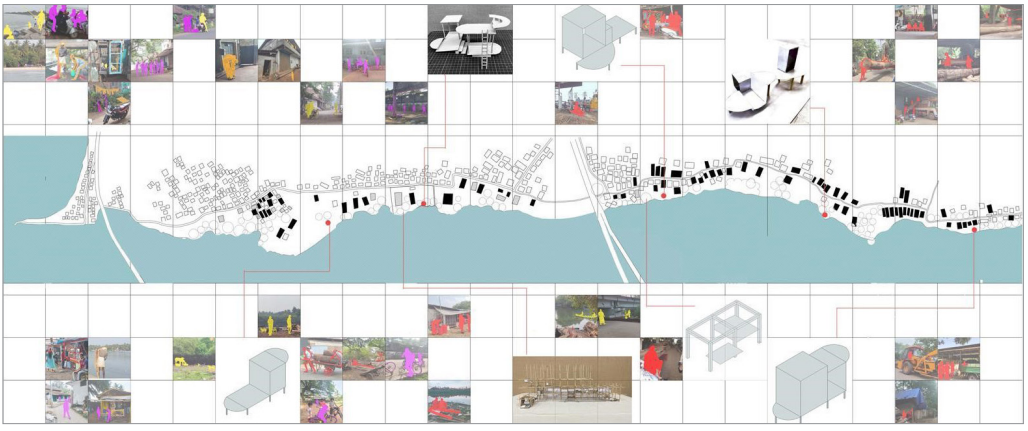


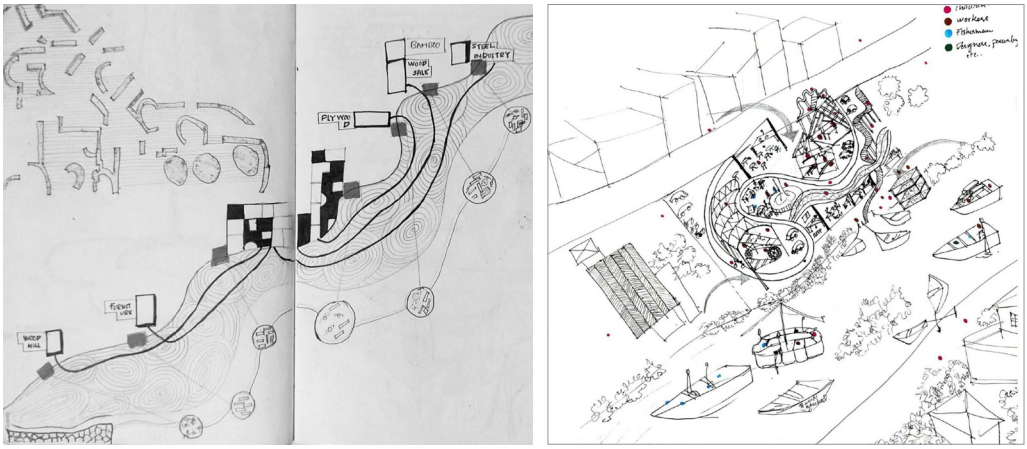
FIGURE 12. *Mapping activity + programming + intervention. Conceptual diagram by Aadila V.*

Figure 12 represents a student's interpretation of conceptualising an architecture of relations. As Umberto Eco frames it, "[s]ignificative forms, codes worked out on the strength of inferences from usages and proposed as structural models of given communicative relations, denotative and connotative meanings attached to the sign vehicles on the basis of the codes—this is the semiotic universe in which a reading of architecture as communication becomes viable." ([1973] 1997, 184–85) The student attempted to observe, analyse, and decode patterns of activities performed by different sets of users across this region, both visually and through oral communications. Interpreting and mediating a continuous flow of events which construct the social perceptions of

all the agencies involved in the existing and ever-changing cultures of this region. Decoding these agencies spatially while also generating pragmatic forms, becomes the responsive gesture of the designer (fig. 13).

By approaching the given two sites for intervention, as a "part" of the "whole" and understanding complex sets of various actors/actions contributing to the cultural semiotics of this "whole" region, this project attempts to explore various communicative possibilities of architecture. It tries to establish vital relationships of the part to whole and vice versa. By deducing certain activity patterns, architectural codes, and visual signs from various users contributing to the context of the Kallai, a relational matrix and its mapping helped the students to continue intervening at smaller scales (fig. 14). If these minor designs spread across the region respond to the inhabitants who are "part" of the "whole," could the major design be a re-creation of the "whole" inhabited by these "parts"? These were some of the inquiries undertaken by the students to conceive a critical approach to design which was conceptually rich.

FIGURE 13. *Conceptual ideation diagrams by Aadila V mapping different agencies, users and activities in the context.*



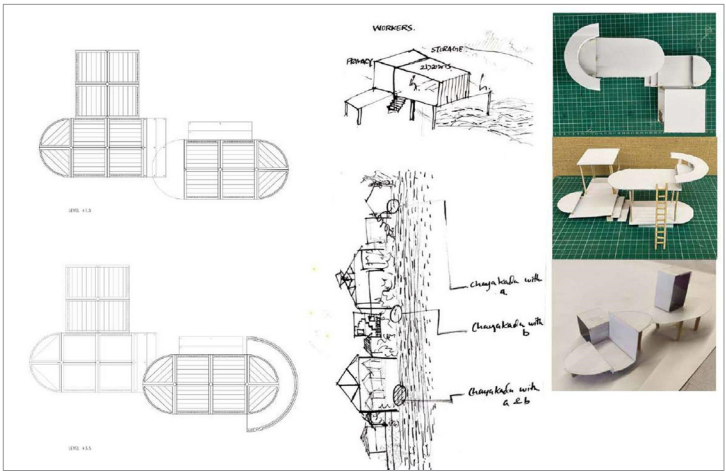


FIGURE 14. *Conceptual study models and diagrams of design explorations by Aadila V.*

Figure 15 captures the conceptual explorations and ideations by a student who interpreted the architectural object as a simple structural framework with multiple possibilities. This open structural frame acts as the "whole" onto which the smaller parts spread across the context could be plugged in or recreated in this system to form new interlinked systems. The proposed structural framework uses a fairly simple construction and

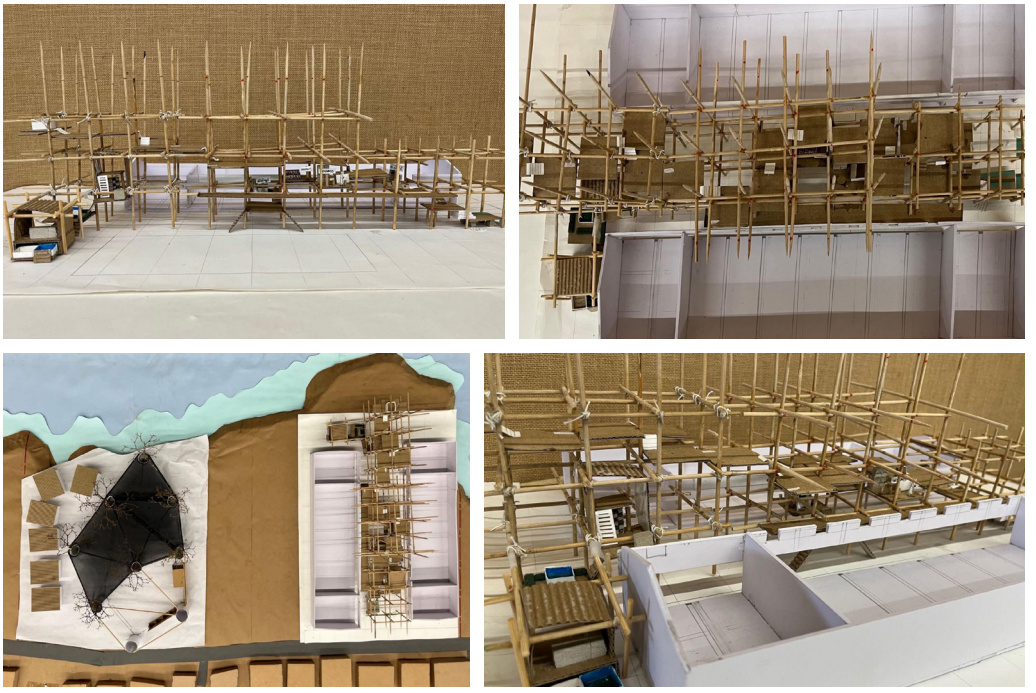


FIGURE 15. *Conceptual study models and diagrams of design explorations by Aadila V.*

is installed using familiar local timber (coconut and areca palm) along with other available materials which were researched and mapped across this region. The typology is a hybrid one or could also be interpreted as an architecture void of a specific typology as such, since new functions could be added or subtracted according to the requirements of multiple users engaging and inhabiting this region and the newly intervened architectural object. This architectural object is added between two existing dilapidated industrial buildings, which has now become an open democratic space for kids to play football, cows and goats to graze, growing vegetables, for workers to rest or take a nap, to drink a cup of tea, and numerous other open activities. In this way it embraces the ideas of encounters, cultural phenomenon, and occurrences which subtract the rigid utilitarian aspects of an industrial typology, while adding more layers of openness and various hybrid possibilities.

"*The object of use is, in its communicative capacity, the sign vehicle of a precisely and conventionally denoted meaning—its function. More loosely, it has been said that the first meaning of a building is what one must do in order to inhabit it—the architectural object denotes a 'form of inhabitation.'*" (Eco [1973] 1997, 185)

POSTSCRIPT

The vast field of semiotics and its vital relationship with architecture can open up new possibilities and methodologies of teaching and learning architectural design. These should be explored and developed further to form a better understanding of a world filled with signs and symbols. If this also incorporates various non-traditional or alternative ways of pedagogical approaches with well thought out goals, radical intellectual outputs can be achieved. This essay attempted to share some of the insights and processes involved in an experimental architectural design studio conducted using different methodologies and explorations. Principles of semiotics were used not only to analyse and decode existing or evolving languages of architecture, but also to explore the possibilities of incorporating them into design teaching methods which can help in understanding associations and form new ones. It encourages critical lateral thinking and interpretative skills for deriving unconventional solutions to sets of complex issues faced in this contemporary world; one of which is entangled with multiple layers of problems and intricacies. Methodologies and academic frameworks which incorporate these learnings from such experimental studios have to be carefully developed and assessed further to understand these alternative methods and their impact on design teaching and learning. This essay is open to critical interventions in architectural design education and accepts speculative opinions which can contribute to a collective and progressive environment of radical learning and teaching methods.

REFERENCES

Brenner, Walter, Falk Uebernickel, and Thomas Abrell. 2016. "Design Thinking as Mindset, Process, and Toolbox." In *Design Thinking for Innovation. Research and Practice*, edited by Walter Brenner and Falk Uebernickel, 3–21. Cham: Springer. https://doi.org/10.1007/978-3-319-26100-3_1

Eco, Umberto. (1975) 1976. *A Theory of Semiotics*. Bloomington: Indiana University Press.

Eco, Umberto (1973) 1997. "Function and Sign: The Semiotics of Architecture." In *Rethinking Architecture: A Reader in Cultural Theory*, edited by Neal Leach, 184–85. London: Routledge.

Ideo. 2018. "Design Thinking for Educators." https://www.ideo.com/post/design-thinking-for-educators

Kunhamu, T. K., Sandra Gopakumar, E. V. Anoop, and Ghosh. 2011. "The Wood Legacy Of Kallai: Lessons For The Future." https://www.researchgate.net/publication/316522236_THE_WOOD_LEGACY_OF_KALLAI_LESSONS_FOR_THE_FUTURE

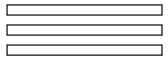
Rumain, Barbara, and Allan Geliebter. 2020. "A Process-Oriented Guided-Inquiry Learning (POGIL)-Based Curriculum for the Experimental Psychology Laboratory." *Psychology Learning & Teaching* 19 (2): 194–206. https://doi.org/10.1177/1475725720905973

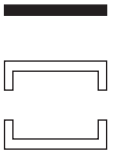
Schumacher, E. F. *Small Is Beautiful; Economics as If People Mattered*. New York: Harper & Row. 1973.

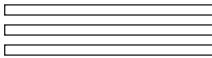
Stoner, Jill. 2012. *Toward a Minor Architecture*. Cambridge: MIT Press.

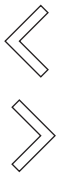
The de Bono Group. 2019. "Six Thinking Hats." https://www.debonogroup.com/services/core-programs/six-thinking-hats/

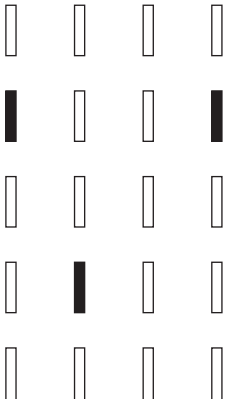
Weaver, Nicholas. 1999. "The Atelier Principle in Teaching." In *Symposium on New Directions of Architectural Education—The Necessity of a Cultural Paradigm Responsive to the Majority, Delhi*. Delhi: Greha. https://architexturez.net/doc/az-cf-21655











DESIGNING THE DREAM BALLET:

FROM OKLAHOMA!'S THIRD AUTEUR TO FISH'S REVIVAL AND BEYOND

Maressa Park

ABSTRACT

Rodgers and Hammerstein's epoch-defining, twice-Pulitzer Prize-winning Oklahoma! *is well-known for its integrated non-musical elements, which seamlessly create multimedia cohesion. The most iconic element of this integrated musical is Agnes de Mille's "Dream Ballet", a show-stopping choreography and "microcosm" of the show's plot and the paragon of its namesake genre. The Dream Ballet has undergone a striking evolution in the 2019* Oklahoma! *revival at the Circle in the Square Theatre, noted for its subversion of the genre's expectations. Although choreographer John Heginbotham and director Daniel Fish changed several aspects—including choreography, staging choices, audience immersion, and musical alterations—their refashioning of the Dream Ballet ushered in a new perspective and effect that is vital to the revival's meaning and success at large. This paper examines the ways in which the two Dream Ballets design themselves around and challenge their respective political environments. Whereas de Mille removes and confine's* Oklahoma!*'s unmistakable original horror material, Heginbotham's Dream Ballet capitalises on the immersion of the audience in a staging of communal sacrifice that plays upon its juxtaposition of community and belonging with community and* culpability. *Finally, this paper will examine the possibility of using virtual reality to emulate the specific affordances of the 2019 staging.*

#Broadway musical; #*Oklahoma!* revival; #Agnes de Mille; #Dream Ballet choreography; #Daniel Fish

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The Broadway dancing is understandable to all who see it. It is, so to speak, in the vernacular. It is ours. It speaks for us. It speaks to us. All of us.
—Agnes de Mille

INTRODUCTION: IMPRINT AND EVOLUTION OF THE DREAM BALLET

Rodgers and Hammerstein's *Oklahoma!* (1943) is an artistic innovation that continues to maintain a "singular position" in the fast-expanding canon of American musical theatre—defying initial predictions for its commercial reception (Young 2019). *Oklahoma!* created the image of the musical itself, pitching America's "makeshift" art from "entertainment to enlightenment" (Mordden 2002). As *Oklahoma!* approaches its eightieth anniversary, its status as the first "real phenomenon in modern Broadway history" is beyond dispute in the United States; it dominated the box office with an unprecedented 2,212 performances until its 1948 close on Broadway—surpassing the previous record four times over (Lunden 2000). In contrast with the duo's *Carousel* (1945, an adaptation of Ferenc Molnár's European hit play), *Liliom* (1909), and *The Sound of Music* (1959, based on a successful film and itself the source of the 1965 worldwide blockbuster), the dominance of *Oklahoma!*' remains rather limited to the country in which it is set, with the exception of London's West End. Despite the specific nature of a patriotic "tonic" made to compliment the uncertainties of the Second World War, the success of *Oklahoma!* prompted new integrations of creative elements and the revisitation of its Broadway predecessors altered in its likeness—"[e]verything that mattered was turning into *Oklahoma!*" (Mordden 2002).

Oklahoma!'s Dream Ballet elevated the established role of dance as a storytelling medium by making movement serve as silent mode of communication for plot and character development ("Honoring Agnes" 2006). Though choreographer Agnes de Mille did not invent the Dream Ballet's genre and drew inspiration from Broadway predecessors, she added complex, abstract layers through silent emotion, gestures, and expression that "spoke to the human condition" (Gardner 2016). Prior to the advent of the integrated musical, non-musical elements were generally disparate and choreography was often distracting,

amusing, or unessential fodder (Gardner 2016). De Mille—who also studied Freudian analysis—used ballet to "mobilise the subconscious" as a plot-furthering device (Gardner 2016).

At large, *Oklahoma!* is set in the early-1900s Oklahoma Territory and focuses on the interrelated complexity of community, transition of a new state's establishment, and conflict of young Laurey Williams' romantic entanglements with rivals Curly McLain and Jud Fry. The production's impact draws from its innovative integration of libretto with song, dance, and storytelling—redefining its genre and the future of musical theatre. As the powerful nexus and microcosm of the production, the Dream Ballet conveys the core of Laurey's turmoil with agency against force, escapism against reality, and desire against fear—probing class, consent, and convention through a mirror to the female psyche.

De Mille's Dream Ballet runs a gamut of bodily-represented emotions, beginning with fluttering, jubilant wing movements that Laurey performs when anticipating her wedding with Curly; moving to a romantic, spectacular high lift that conveys her elation when she chooses Curly; and ending with limp-necked agony—"a rape accomplished in mid-air" per de Mille—when Jud swings Laurey over his head and takes her away (Gardner 2016). The Ballet also explores the psychology of the characters through restraint, combat, caress, embrace, possession, seduction, goading, nonchalant throwing, strangling, and immobilisation. Without words, it manages to convey the spectrum of emotions, from hope to jubilance, glee to seduction, and mourning to horrified depression—stunningly without transition.

DREAMING UNDER DARK VEILS: LAUREY'S SUBCONSCIOUS

De Mille's choreography delves into her view on Laurey's subconscious—what she described as Laurey's both terrorised and repelled fascination with Jud's "mysterious and forbidden [absorption in] sex," and her anxiety about her own sexual awakening (Gardner 2016). De Mille's familiarity with Freud likely influenced this shocking change in tone from Rodgers and Hammerstein's original light-heartedness, infusing it with what Dolan dubs "women's theatre"—or a protest about the "the destructiveness of society and celebrating the rebirth of women's consciousness" (Gardner 2016). De Mille fought to reproduce all of this in Fred Zinnemann's 1955 film adaptation, aided by "full diagrams, measure for measure, the exact steps, and choreographic score" (Gardner 2016). Echoing Jud's violence with its sudden but radical scenic and costume changes, the filmed Ballet violently yanks the veil of "Quixotic" law and order—complete with the mimicry of manlike windmills in a field just before Laurey's unveiling and Jud's reveal—to

blow the whistle on the disaster of Laurey's hidden fears, revealing disarray exponential to that of Dorothy's cyclone. The community fails Laurey as she seeks protection from the stiff backs of a cast that suddenly seems unfamiliar—bystanders, enablers, and peripheral villains—or frozen puppets. Perhaps their inanimate state mirrors that of Laurey, who is stalked by a mirror at the Ballet's beginning.[1] While stalling, the worst decision occurs by default, and Laurey realises that her community will not guide her first adult decision—even by minima of meeting her pleading eyes. Bildungsromans are sorts of Purgatories, and Laurey's premonitions of her community's lack of care about her choice concretise as they take turns abusing her, foregrounded against a chandelier piping with flames straight from hell. Laurey's head lolls parallel to the ground when she witnesses her fate in her reflections: women tacked to Jud's wall like mares. Engulfed by blood-red dust, Laurey's movements finally synchronise with the townspeople in horror instead of tradition or jest, just as her lover's throat is depleted of air. No hand is moved as Jud seizes a filly by the bridle and rides away in triumph.

De Mille takes the role of textual disruptor without contributing to the original libretto itself. Her Dream Ballet depicts Laurey's descent into "active vanishing" or "radical invisibility" that render the subject silent (Phelan 1993)—a type of gastric feminist criticism that describes how artists "do not simply reflect the male gaze but refract it […]—and thereby even *dismantle* it" (Solga 2016).[2] When de Mille animates the women tacked on Jud's walls, decorating them as jesters, she highlights the consequences of the exclusion of women from personhood in theatre, aesthetics, and nature (Case 1988).

DREAMSCAPING AS RETHINKING: FISH'S AND HEGINBOTHAM'S *OKLAHOMA!* (2019)

Originating at Bard College in 2007 and arriving on the Broadway stage in March 2019, Daniel Fish's *Oklahoma!* reinterpreted the tone of the show with radically different choreography by John Heginbotham, including music, timing, chronological appearances, and staging choices. Importantly, these changes all manifested in the Dream Ballet (Fox 2019).

Audiences anticipating a Dream Ballet finale to Act I might be surprised to discover that it begins Act II, then moves so hurriedly to the next song that its own applause is robbed. No temporal separation exists between Laurey's nightmares and her waking world. Does this suggest that the entirety of Act II exists in that same special hell? The 2019 sequence—which swings from light to dark, cacophony to peace—is a disorienting pendulum. Once fog filters onstage, an unfamiliar figure clad in a glittery shirt—plain but for its script "Dream

[1] *She floats in the same malicious immobilisation of the decision paralysis that Lapine and Sondheim's Cinderella echoes on a palace terrace in 1987's* Into the Woods.

[2] *This is similar to Philomele's role in Timberlake Wertenbaker's* The Love of the Nightingale*: in it, Philomele overcomes her vocal muteness, representing societal silencing, to pursue justice through a performance that victoriously communicates her abuse to an emotionally-affected audience. (Dolan 1991, 8; Wertenbaker 1990). Like de Mille's treatment of Laurey, Yoko Ono intended to commit to the idea of societal exposé: what would occur if women were to "[not] fight" ("Cut Piece" 1964). Ono's alternative reaction encapsulates the idea of disappearance through autonomy: in line with Peggy Phelan's proposed solution to the "trap" of visibility for women in cultural production, Ono enacts "active vanishing, a deliberate and conscious refusal to take the payoff of visibility" (Phelan 1993, 19; Solga 2016, 24–25).*

Baby Dream"—appears mid-stage, and dances passionately in solitude. The sudden introduction, fusion, and responsibility of a novel player in the intimate cast, dancer Gabrielle Hamilton, creates shocking consciousness. Aside from the Dream Ballet, the remainder of the otherwise hip-joined scenes lack any singular spotlight or physical space designated more important than the whole.

Much about the 2019 Dream Ballet is boldly contemporary, from the style of dance—which is heady and unrestrained, removed from standard ballet—to the use of a screen projector casting close-up portraits (Kourlas 2019). The 2019 revival's Dream Ballet is performed not so much for the audience as it is *with* them; Hamilton draws uncomfortably close to audience members, staring at them directly—"[they] see [her] skin, [they] hear [her] breath, the exhaustion" (Kourlas 2019). *Oklahoma!* creates a stage for communal sacrifice. Neon lighting occasionally casts Hamilton and surrounding fog in colour, while the electric guitar riffs vibrate, culminating in a sense of ominous unease. Hamilton circles insistently, loping and spinning in spirals that are occasionally broken by urgent jerks as if glitches in routine—before being pulled backward, holding her chest as if a string has been pulling straight through her spine. Heginbotham's choreography displays Laurey's relationship with her restlessness and responsibility, conveyed through her "puppeteering" of dancer Hamilton's movements. Boot-knocking distracts while Hamilton begins to kick toward the audience; her bounds across the floor become combinations of backward turns and kicks and wide hops backward, broken by segments of eerily calm walking almost akin in contrast to the moments preceding and following Jud's seizure of Laurey's veil in de Mille's Ballet. The same tension between external possession and self-possession is explored here. The lack of puppeteer in Heginbotham's sequence leads us to wonder: for whom does the audience wait? Who will step in and claim responsibility for this chaos?

The audience's disorientation is mirrored in the boiling point of Hamilton's performance, where the cacophonous music reaches its shrill peak, the lights disappear, and Hamilton falls mid-spin. Heginbotham's Dream Ballet ultimately capitalises on the subconscious—true to de Mille's vision, but with even more abstract and interpretive freedom. The performance lacks much of the overt sexual energy displayed in the original—from the absence of focus on male love interests to Hamilton's loose, plain tee-shirt. However, Hamilton dances figuratively "naked," which is made apparent by the lack of shoes or pants, plain costume, and shaved hair (Kourlas 2019). Similar to Yoko Ono's *Cut Piece*, Jennifer Kidwell's *Underground Railroad Game*, or Karen Finley's *We Keep Our Victims Ready*, this performance creates raw audience discomfort, attempting to reclaim activeness of women's bodies—particularly subversively through asexualised nudity or near-nudity (Finley 2013).

Hamilton describes her character as an "entity of rawness" and states that some of her performance is like "screaming into a pillow" within a total script where Laurey herself is seldom given the opportunity to voice her thoughts or emotions ("Tony Nominees: The Women of '*Oklahoma!*': All Of It" 2019). Here, Laurey's choice of suitor seems more self-protective than confident, romantic, or autonomous, serving commentary on female autonomy (McDonald 2019). Embracing her own liberal choices within the piece, Hamilton states, "I don't think the Dream Ballet holds any value when I become comfortable in it" (Mordden 2002). Heginbotham's Ballet is painfully aware that Laurey is in hell the entire time.

The psychological hold is set up by landscape-set effects—"dreamscaping"—that put the audience in an interpretive, psychological state of mind while emphasising intimacy and community. Much of it is present for the entire show's run—like the crockpots obstructing the audience's view—but for some audience members, their purpose may not make sense until the Dream Ballet itself. The set, technical space, timing, and staging are important contributors to the experience of "dreaming" and contribute to what Larson refers to as "immersive theatre" (Larson 2019). Immersive theatre grants the audience's members active autonomy by allowing them to enter the spotlight of focus rather than periphery—even to the extent of allowing performances to occur outwardly (White 2012). The architecture of the Circle in the Square Theatre allows audience members to participate in a double-sided *experience machine*—an "enclosed and other-worldly" space in which scenography, choreography, dramaturgy, and more "[coalesce] to place audience members in a thematically cohesive environment that resources their sensuous, imaginative, and explorative capabilities as productive and involving aspects of a theatre aesthetic" (Alston 2016). According to Adam Alston, immersive work tends to be "[…] linked to the richness and evocativeness of affective experiences, which are produced in a reciprocal relationship between audiences and the world in which they are immersed, but that are also predicated on a commitment to immersion as a productive participant" (Alston 2016). Immersive theatre offers performer-audience transactive trust; by respecting its audience as performers, the performance carries the equal risk of complete rejection. The already alluded-to nakedness in The Dream Ballet and discussion of the body, naked from the waist down and barefoot, necessitates a relationship of reflective closeness with the audience. Reviews of Fish's *Oklahoma!* state that a number of the audience members that are welcomed "at the table" choose to abandon their place midway through the performance, just prior to the Dream Ballet. This promotes self-selection in response to risk: the "community" that remains becomes all the more intimate in number and shared choice.[3]

[3] *Yoko Ono's performance "Cut Piece" highlights the idea of performance as an "exchange" between performer and audience through transactive trust and risk of transgression. Ono's piece reflects physical and emotional consumption, dehumanisation, and destruction—through the literal implication of cut pieces. In 1967, she described "Cut Piece" as follows: "it was very important to say you can cut wherever you want to. It is a form of giving that has a lot to do with Buddhism. […] a form of total giving as opposed to reasonable giving" (as quoted by Concannon 2008, 88–89). Likewise, Hamilton performs "total giving" while Heginbotham invites the audience to "take what they want."*

The invitation of theatrical immersion can alter "instinctive reactions to what we see and hear" (Larson 2019). For *Oklahoma!*, these include the premonition of the collection of "Chekhov's guns" and occlusive fog surrounding the audience, alongside intimate and interactive audience proximity that includes direct eye contact and breaking bread. During the intermission and just prior to the start of the Dream Ballet, the audience members are together fed chilli—a hearty meal, likely contributing to affective drowsiness at the start of Act II, alongside an onslaught of disconcerting smog. This combination of the senses would not have been possible in timing had Fish left the Dream Ballet in its original placement before the intermission.

Dolan describes theatre involving relationship-reliant exchange as "circular"—"intuitive, personal, [and] involving" (Dolan 1991). Through audience involvement—the bread-breaking chilli, occlusive fog, and challenge to personal space—performances relinquish traditional "non-participatory" separatism between performer and spectators (Dolan 1991; Kidwell). Simultaneously, the obstruction of vision and space, alongside the unconventional act of eating within the theatre, cause an audience level of self-awareness and vulnerability.

Adding to this self-awareness comes the lighting design, which shifts from aggressively-bright illumination to total darkness, so that the thrilling part of this exposure appears as something that always lurked waiting to be "excavated" (Green and Brantley 2018). Reviewers call the moments of illumination "all-exposing," in conjunction with the "open prairie" of the surrounded stage and one which "allows those homesteaders we once thought were so wholesome no place to hide, even when it's pitch dark" (Green and Brantley 2018). The affordances of lighting foreshadow the rife moments of intentional darkness to follow—particularly the scene in which Jud places Curly's hand on the pistol and the obtrusive lighting dies.

Some of these horror elements are maintained and some are exaggerations of original elements. Beyond the overtly brow-beating murder of Curly, de Mille's choreography always contained puppeteer-like movement, a limp Laurey dragged like a ragdoll by Judd, silent screaming, and immobilised bystanders: every time Laurey searches for help, her community is frozen. In Fish's revival, horror manifests in blood-red lighting; moments of eerie blackouts; and the alteration of the score. The shrill screeches of string instruments followed by mid-rise halts and stark silence—choices that sound like mistakes—put the audience on edge. The Dream Ballet ends when the cast returns from offstage to mark the onset of the next number staring into space, foreshadowing their lack of vitality during Act II's finale. They remain still until they are reanimated—like puppets, or perhaps the undead—by a jarring "*Yee*-haw!" that indicates the start of the highly contrastive "The Farmer and the Cowman."

According to de Mille, the original Dream Ballet was diegetic—with recognisable characters, dynamics, feuds, and desires that are each connected to the libretto—and contrasted the innocence and grace evoked by ballet genre with assault, pornography, abuse, and murder. This is diluted in Heginbotham's choreography—while it identifies titularly as a "ballet," it boldly contends with disparate genre boundaries and expectations. However, Hamilton's performance holds vehemently to de Mille's requirements of intimate character-building and internal exploration (Sandomir 2017).

UNIVERSALISING AND PERSONALISING ART: *OKLAHOMA!*'S FUTURE

Theatrical history is rich in "radical" revisitations of tradition—including *Belle Reprieve* to a *Streetcar Named Desire*, *The Love of the Nightingale* to the legend of Philomele, and *Desdemona: a Play about a Handkerchief* to Shakespeare's *Othello*. Their effect is aggravating because they deconstruct popular representations and conduits for change through reclamations of women's voices, visibility, and movement in the theatre tradition. As Sue-Ellen Case reflects, such revisitation designates a "new kind of cultural analysis, based on […] cultural and socioeconomic evidence, to discover the nature of women's lives" in classic periods—particularly those which are the most lacking in their representation (Case 1988).

Heginbotham's Dream Ballet foreshadows violence and literal darkness but conceals until the ending the culprits of these premonitions—Jud is not the sole villain. This ambiguity casts importance onto the periphery surrounding the iconic scene—in "Oh, What a Beautiful Mornin'," the voices of Curly and Aunt Eller intersect in an unnervingly maniacal shared laugh. At their duet's conclusion, the final unexpectedly disturbing and resonant note suggests that the characters' observance of beauty will be challenged. This finale harkens to the hissing halt in "Laurey's Entrance." Such peripheral recasting of villainy is a subversion of expectations that omission, as well as presence, works to achieve in Heginbotham's Ballet.

Perhaps the fog on the set is an indication of the obscuring of expectations—the same teasing, testing way that they had played with the audience's feelings of hunger and drowsiness to be shocked awake with the revulsion of the finale. According to Kourlas, this is an open "landscape ballet," and there is nowhere to hide particularly during the Dream Ballet (Kourlas 2019). All that remains is the human body.

Ultimately, both Dream Ballets fashion their designs around their political environments. De Mille's and Heginbotham's Ballets echo in temporally disparate yet like American eras—one steeped in ideals of war, justice, and nostalgia; the other steeped in racial justice

and exclusion, gun violence, pandemic and wartime, requiring us to grapple with the workings of American justice (Green and Brantley 2019). However, Agnes de Mille centred the show's first murder in the Ballet—confining the show's horror to the dreamscape as the audience's guilt and conscience blended into the background by the jubilant finale, with Jud's death excused in their subconscious. Fish's revival strips this psychological cover-up, making Jud the first murder *victim*, rather than the Dream Ballet's resident murderer—and after the ensemble vocalises their dark, selfish excuses, culpability becomes uncomfortably present in every corner of the theatre. By opening de Mille's vision and transferring the darkness to the acts surrounding Heginbotham's mist, *Oklahoma!* plays with the idea of diegetic challenge found in Laurey's Ballet of consciousness: the safety of tradition versus the pull of violence.

Fish's 2019 revival continued its North American tour in 2022; its reception on stages with increased front-facing crowd capacity—but less intimacy—fares more critically (Lenker 2022). It is within the Circle in the Square Theatre's environs that Heginbotham, Fish, and Hamilton achieved "circular" performance: much in the vein of At the Foot of the Mountain Theater, one of the oldest American cultural feminist theatre ensembles, which "struggle[s] to relinquish traditions such as linear plays, proscenium theatre, non-participatory ritual" in place of theatre that is communal: "[. . .] circular, intuitive, personal, involving" (Dolan 1991). What might community, progress, impossible decisions, and statehood and independence look like—feel like—after the onslaught of pandemic and war? The international adoption of *Oklahoma!* has always represented "survival of a civilization" (Mordden 2002). Yet the sole other nation that has housed numerous revivals is England, originally as a "greeting" or "handshake" two months after the Battle of Stalingrad's (Mordden 2002). Could a communal need for peace following a plague bolster *Oklahoma!*'s to a worldwide recognition that matches its national success?

Agnes de Mille stressed the importance of community during national crises; reimagining democracy in uncertain times through communal revisitation. a streaming entity successfully brought Lin-Manuel Miranda's 2015 Hamilton in its live glory, with its rotating platforms and live cracks of laughter and anguish, to standard smart devices. a standard-screen movie adaptation would fail to convey the circular theatre that lives within Fish's *Oklahoma!* An immersive experience could capture the confrontation and blood of this open "landscape ballet." Television giants have invested in an array of 360° panoramic films; the future of virtual reality in film is close. While Fish's *Oklahoma!* makes use of the affordances of the Circle in the Square Theatre, the same strain of culpability he captures could be more terrifying should the audience, inversely, be located in the *centre* of the created community.

This would grant Heginbotham the opportunity to dreamscape a hell virtually inescapable from any direction, playing into the psychological tactics that de Mille introduced. Fish's *Oklahoma!* should not be cribbed in reaction to the stifling staging concessions made for its North American tour—it should resume the level of immersion wherein it was founded. *Oklahoma!* has always been described as a wartime "tonic" in source material—a historical fireball that has proven itself to think smart, in circles of prediction and forewarning (Lunden 2000). Alcohol always offends before it cleans a wound for binding. Almost a century later, Oklahoma's closer-knit-than-ever audience must decide whether to take it as analeptic balm, blind bracer, or precious propellant.

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REFERENCES

Alston, Adam 2016. *Beyond Immersive Theatre*. London: Palgrave Macmillan. https://doi.org/10.1057/978-1-137-48044-6_1

Case, Sue-Ellen. 2008. *Feminism and Theatre*. New Directions in Theatre. London: Palgrave.

Concannon, Kevin. "Yoko Ono's »Cut Piece «: From Text to Performance and Back Again. *PAJ: a Journal of Performance and Art*, 30 (3): 81–93.

"Cut Piece." Museum of Modern Art. MoMA Learning. www.moma.org/learn/moma_learning/yoko-ono-cut-piece-1964/

Dolan, Jill. 1991. *The Feminist Spectator As Critic*. Ann Arbor: University of Michigan Press.

Finley, Karen and Electronic Arts Intermix (Organization), directors. 2001. *We Keep Our Victims Ready*. Electronic Arts Intermix.

Fox, David. 2019. "Follow-Up: More Thoughts on Daniel Fish's Oklahoma!" *Reclining Standards*. August 14. https://recliningstandards.com/2019/08/14/follow-up-more-thoughts-on-daniel-fishs-oklahoma/

Gardner, Kara Anne. 2016. *Agnes de Mille: Telling Stories in Broadway Dance*. Oxford: Oxford University Press

Green, Jesse, and Ben Brantley. 2018. "Review: There's a Dark, Golden Haze in This Reclaimed 'Oklahoma!'" *The New York Times* (online) October 7. www.nytimes.com/2018/10/07/theater/oklahoma-review.html

Holdren, Sara. 2019. "The Brightness (and Badonkadonk) Amid the Menace: Re-Reviewing Oklahoma!" *Vulture*. April 7. https://www.vulture.com/2019/04/the-brightness-amid-the-menace-re-reviewing-oklahoma.html

"Honoring Agnes." 2006. *Dance Magazine* 80 (4): 27. https://link.gale.com/apps/doc/A143826643/ITOF?u=upenn_main&sid=ITOF&xid=855bd648

Kidwell, Jennifer. 2017. "Underground Railroad Game." Vimeo video, 01:13:36. https://vimeo.com/191167805

Kourlas, Gia. 2019. "In 'Oklahoma!,' an Extravagantly Minimalist Dream Ballet." *The New York Times* (online). May 8. https://www.nytimes.com/2019/05/08/arts/dance/in-oklahoma-an-extravagantly-minimalist-dream-ballet.html

Larson, Sarah. 2018. "Daniel Fish's Dark Take on 'Oklahoma!'" *The New Yorker* (online). October 22. www.newyorker.com/magazine/2018/10/22/daniel-fishs-dark-take-on-oklahoma/amp

Lenker, Maureen Lee. 2022. "Sexy 'Oklahoma' Revival Loses Its Provocative Edge on Tour." *Entertainment Weekly*. September 16. https://ew.com/theater/theater-reviews/oklahoma-sexy-revival-loses-provocative-edge-on-tour-review/

Lunden, Jeff. 2000. "'Oklahoma!'" *NPR*. April 29. https://www.npr.org/2000/04/29/1073526/npr-100-oklahoma

McDonald, Soraya. 2019. "The Unbearable Whiteness of 'Oklahoma!'" *The Undefeated*. September 16. http://theundefeated.com/features/the-unbearable-whiteness-of-oklahoma-on-broadway/

Mordden, Ethan. 2002. "Spring Theater; Six Decades Later, Still The Great American Musical." *The New York Times*. (online) February 24. https://www.nytimes.com/2002/02/24/theater/spring-theater-six-decades-later-still-the-great-american-musical.html

Ono, Yoko. 2014. "Cut Piece." Vimeo video, 09:19. https://vimeo.com/106706806

Phelan, Peggy. 1993. *Unmarked. The Politics of Performance*. London: Routledge

Sandomir, Richard. 2017. "Gemze de Lappe, 95, Dies; Keeper of the Agnes de Mille Flame" T*he New York Times* (online). November 17. https://www.nytimes.com/2017/11/17/obituaries/gemze-de-lappe-95-dies-keeper-of-the-agnes-de-mille-flame.html

Solga, Kim. 2016. *Theatre & Feminism*. London: Palgrave Macmillan.

"Tony Nominees: The Women of 'Oklahoma!': All Of It" (2019). *All of It with Alison Stewart, WNYC* (podcast). June 14. www.wnyc.org/story/women-oklahoma/

Wertenbaker, Timberlake. 1990. *The Love of the Nightingale*. Woodstock: Dramatic Pub. Co.

White, Gareth. 2012. "On Immersive Theatre." *Theatre Research International* 37 (3): 221–35. doi:10.1017/S0307883312000880

Young, Catherine M. 2019. "Sympathy for the Incel?" *HowlRound*. June 26. https://HowlRound Theatre Commons, howlround.com/sympathy-incel

Ágnes Kapitány and Gábor Kapitány: A szimbolizáció. Hogyan cselekszünk szimbólumokkal?

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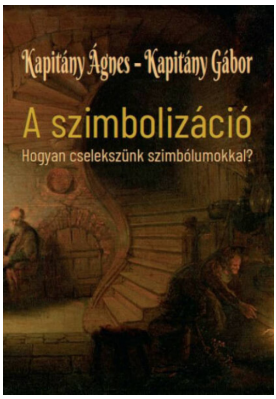

Ágnes Kapitány and Gábor Kapitány: A szimbolizáció. Hogyan cselekszünk szimbólumokkal? *Budapest: Ventus Commerce, 2021, 508 pages. ISBN-13: 978-6-155-82823-2*

According to Edmund Leach, the essential characteristic of human culture is its endless diversity. By this he does not mean chaotic diversity nor predetermined versatility. Leach's statement could be one of the mottos of Ágnes Kapitány and Gábor Kapitány's most recently published book, *A szimbolizáció. Hogyan cselekszünk szimbólumokkal?* (Symbolisation: How Do We Act with Symbols?), which deals with the rich and diverse world of symbolism. The authors, who have been analysing symbolic phenomena for nearly fifty years, have published a summary monograph that was preceded by four foundational publications reviewing literature on a particular area of symbolisation mechanisms. This large-scale summary was also preceded by a series of research projects carried out by the authors over several decades, which were broad in their methodology and choice of topics. The description provided here outlines the main content of this monograph, which exceeds five hundred pages. The authors have been active and widely known in Hungarian academic life for decades. Their thematic research programmes covering the wide range of symbol use, their professional and scientific presentations, their individual and joint publications have been and still are a unique model for social research. The synthesis of their research into the diverse and rich world of symbolism represented in this publication can be seen both as a professional product and as a kind of institutional history of a two-member research lab that has been operating for several decades.

People use symbols, create symbols, and interpret symbols. Symbols are integrated into all levels of individual and community life. From everyday life events to significant community celebrations, from clothing to relationships, from the use of physical space to the construction of virtual spaces, they appear in many forms and ways. They

not only provide a framework for our actions and interpretations, but also *constructively* advance a way of acting, a possible process of symbolisation. "How do we act with symbols?"—the authors ask in the title of the publication, and the volume offers a comprehensive and thematically rich answer to this question.

The first chapter of the volume, divided into five major sections, presents approaches to the concept of symbol and the characteristics of symbolic thinking. This presentation also offers a history of professional interpretations of symbols. The second chapter, which deals with the components of the symbolisation process, approaches the process of symbolisation from the perspective of cultural anthropology, psychology, and aesthetics. The historical overviews of the concept, nature, function, and mode of operation of the symbol, on the one hand, and the review of contemporary approaches in cultural anthropology, linguistic theory, semiotics, and aesthetics, on the other, provide a useful source of orientation for those who wish to explore this very complex subject.

Based on the authors' rich and varied analytical practice over several decades, the third and largest chapter in the volume offers a range of skillful examples of symbol analysis. Each of the seven thematic analyses (objects and spaces, power, world of values, social modernisation, community identity, historical periods, and motivations) is also a content-structural unit in the sense that it is linked to a specific topic by a literature context, a social or socio-historical framework, a specific research methodology, analysis material, and presentation. The authors modestly identify these seven themes, presented in more than 250 pages, as "a few" areas of analysis, but at the same time offer the reader a comprehensive synthesis of the diverse and complex practices of symbolism.

In chapter four, which deals with the interpretation of the symbolisation process, the authors formulate approaches and at the same time analytical aspects from the point of view of the formation of symbols, their polysemic nature, their interrelation, and the attenuation of symbolic meanings. An important part of this chapter is a complex and detailed discussion of the role of context.

The final chapter dealing with the role of symbols in society draws attention to the variety of actions that can be carried out through symbolism and its important social constructive role. Symbolism, the authors emphasise, is a highly significant phenomenon in society, which largely determines the present and whose role and importance will grow. The concluding section, which lists the most important statements in thesis-like form, can be seen as a summary of the volume's findings. The thematic variety of the extensive bibliography illustrates the complexity of the symbolisation process and the necessarily interdisciplinary nature of the approach.

It is not an easy professional task to review a scientific work summarising a researcher's career, and in this case it is not the work of one

author but of a pair of authors whose research has been focused on a single topic—the use of symbols—for several decades. Furthermore, the reviewer is not in an easy position if, in addition to highlighting the professional value of the publication, which is obvious at first sight, he or she also wishes to address content-related issues. Although the authors call this a monograph, it could well be argued that this is an encyclopaedic work. The authors themselves indicate this when saying they see this book as a summary—and therefore also as a review—of their research, and the monographic character is reinforced by the fact that the achievements of several decades are being reinterpreted at a more recent, updated, and abstract level. We would like to draw attention to this encyclopaedic nature and the experience of the reader.

The language, the use of words and the way the book is written are indicative of an attempt to address a wider audience. This is also indicated by the numerous everyday examples of use of symbols. However, there are, despite the authors' best intentions, several features of this book that may reduce the readership considerably. Three factors should be briefly mentioned.

In this book, the authors present a long trajectory of research on symbolism by presenting the key concepts, theses, and interpretations of individual researchers or professional trends. The encyclopaedic nature of the book does not allow room for a more detailed presentation, for the discussion of individual ideas or professional findings in the context of their own scientific paradigms. In many cases, therefore, the reader will need a considerable knowledge of the social sciences to follow the summaries and descriptions. The key concepts presented by each author, school, theory, or research result provide the links to the symbolic themes. To make sense of this connection, however, the reader needs to know more about the paradigm, thesis or theory being presented. At least in part, the reader needs to know the epistemological framework that underlies each paradigm, theory, thesis, or concept. Similarly, the reader is presented with parallel theories, methodologies and professional results from several disciplines, sometimes very different from each other, which have dealt with the topic of symbolism in their own course, but which have approached the topic of the use of symbols with very different aims, perspectives, and methodological starting points. And finally, there are many passages in the book where it is necessary to consult the authors' earlier works to follow the discussion. In some cases, the authors at least signal this.

It is important to emphasise that the encyclopaedic features make the publication colourful and rich in content, and this is certainly an important virtue. They also enable the reader to enjoy the chapters, case studies, reflections, and examples in the book, or even to gain useful methodological and analytical ideas and solutions. However, if the reader wishes to engage in a dialogue, debate, or further reflection on the publication as a whole or on individual chapters, a profound knowledge of social science in a variety of disciplines is required.

This work is well edited, clearly structured, and despite its strict professionalism, it is still a readable publication. The latter characteristic is certainly due to the richness of the examples and the authors' extensive knowledge of the field. A special feature of the volume is that it can be read and interpreted at the level of individual chapters. At the same time, it is a publication offering a broad professional overview, which can be used in education, as a basis for research programmes, and for the dissemination of scientific knowledge. The rich and varied social practices of symbol use illustrate that there are social phenomena present in every age and situation that play a key role in the organisation of society, and that social researchers continuously challenged by the continuity and change of use of symbols. The authors' choice of topic, their decades-long research, and the wealth of results related to these, are evidence of a sustained research commitment and research practice on a single topic, and furthermore that, although relatively few undertake such a project, it is useful and productive.

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