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BOOK REVIEW

The Semantic Turn: A New Foundation for Design

KLAUS KRIPPENDORFF (ROUTLEDGE, 2005)

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DESIGN IS MAKING SENSE OF THINGS

Design is in crisis. Bauhaus, Ulm, Scandinavian Design, and Memphis, all the great schools of design have lost their distinctiveness and momentum and have largely disappeared. Designers are busily creating marketable products with criteria of a rapidly fading industrial era, helplessly floating in a stream of technological changes or even worse posing like futuristic intellectual fashion models.

This is the staring point in *The Semantic Turn: A new foundation for design* by Klaus Krippendorff. He suggests that design has to shift gears from a preoccupation with appearance and surfaces of tangible products to designing material and social artifacts that have a chance to make sense to their users, aid larger communities, and support a society that is reconstructing itself in unprecedented ways and at record speed. Nota bene, this is not an outsider's view but a critique from within the design field. Krippendorff himself is an award-winning industrial designer, a graduate of the prominent Ulm School of Design in the late 1950s and early 1960s, and hence a carrier of the design legacy from Bauhaus (but for many years also a professor of communication at the University of Pennsylvania). Krippendorff 's position is that a new foundation for design must come from within, and pursue its own paradigm of inquiry and ways to generate practical knowledge. In doing so it has to acknowledge that design is not only about making things but also fundamentally about making sense of things (design is a sense-making creative activity making products that make sense to their users). What Krippendorff suggests is a foundation for design that is both practical and philosophical, a science of making and a philosophy of realizing artifacts with and for others. A bold suggestion, but is it also achievable?

TURN, TURN, TURN

Can there be such a thing as a *science for design*? If so, can it also be formulated as an intellectually tough and at the same time teachable doctrine relevant to the practice of design? The classical example is the attempt by Nobel Prize winner Herbert Simon in *The Sciences of the Artificial* from 1969. His famous program suggested that a science of the design of the artificial should pose the problem of design in such a way that the fuzzy problems of design could be transformed in ways such that methods of logic, mathematics, and statistics could be applied just as in the natural sciences, a kind of design engineering. Maybe we could talk about an analytical or *logical turn* of design away from an art-and-crafts orientation. Nevertheless, no matter how impressive a foundation for design, turning designers into scientists and masters of formal representations has not proved to work in the long run. Fundamental ethical and aesthetic problems remain, and the core of design practice seems to be absent. Hence, over the years alternative foundations have been searched for and suggested. Such alternative foundations have been located in phenomenology, in Marxism, in pragmatism, and not least in the linguistic turn in philosophy (especially with reference to Ludwig Wittgenstein and his aphorisms in *Philosophical Investigations*). Here Wittgenstein insisted on the importance of understanding meaning in use and not separated from practice. Language does not represent artifacts, but is itself an artifact we use when we participate in intertwined *language-games*. The most prominent contribution to a science of design in this tradition, though also strongly influenced by John Dewey and pragmatism, is probably the attempt by Donald Schön in *The Reflective Practitioner*. With *The Semantic Turn* Krippendorff takes us one step further, combining the practical grounding of Schön and the scientific clarity of Simon. Building on Wittgenstein and the linguistic turn in philosophy he thoughtfully outlines a convincing teachable doctrine on how to make sense of things.

OVERVIEW: THE SEMANTIC TURN

The book has nine chapters. The first chapter gives a background to *the semantic turn* (with its origin in "product semantics") and some parallel reflections on the changing environment for design in contemporary society. This is followed by a chapter on basic design concepts, especially human-centered design, the relation between designers

and stakeholders, and the importance of what Krippendorff calls "second order understanding". This means getting away from the God's-eye view of the omnipotent designer understanding what the user needs. Instead designers have, in a dialogue with (other) stakeholders, to try to understand how the artifacts they create enter the stakeholder's understanding (and hence also change the designer's own understanding). Thus, the semantic turn and a focus on meaning-sensitive design methods as well as a language to talk about such design.

From this position the three following chapters look at the meaning of artifacts in design and how humans are involved.

One chapter looks at the meaning of *artifacts in individual human use*. Starting systematically from the proposition that "humans always act so as to preserve the meaningfulness of their interfaces", well-known usability principles like affordances, constraints, feedback, coherence, learnability, multisensory redundancy, variability, robustness, and delegation are reinterpreted and framed within the ideas of "human centeredness" and "second order understanding". Besides Wittgenstein a main influence for this chapter on "interfaces" between humans and technology comes from James Gibson, and his famous ecological approach to the affordances of an environment.

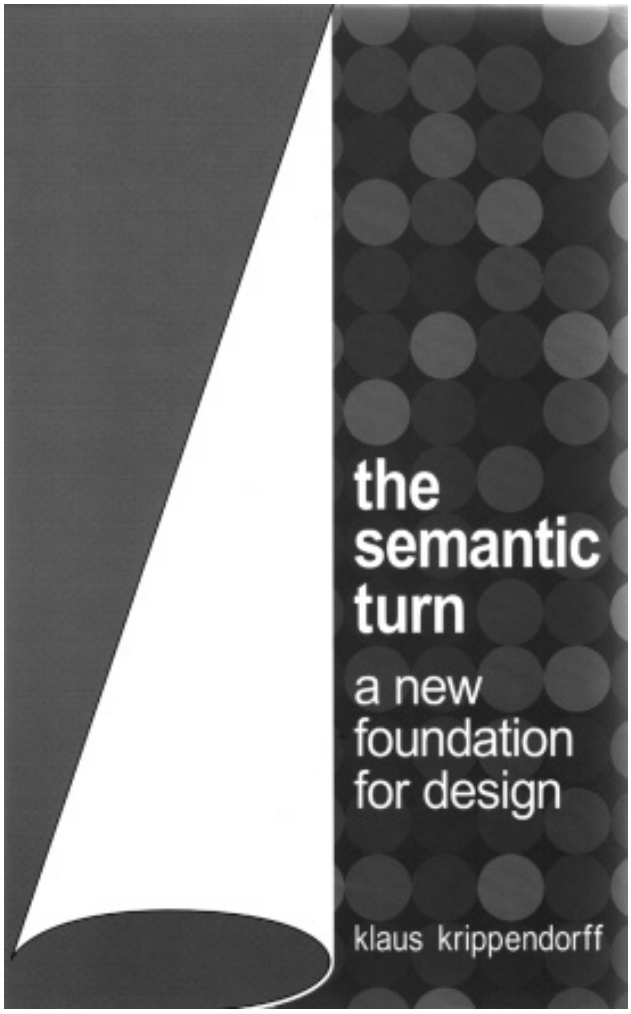
The next chapter concerns *artifacts in the context of language, human communication and social use*. Krippendorff notes that the role of language is often overlooked in the process of designing. Good designers talk a lot more than they might believe they do; in presentations to clients, among themselves, evaluating published ideas, weighing up options, soliciting opinions, judging solutions, etc. Hence, he proposes that "the fate of all artifacts is decided in language". Not surprisingly, the theory of language with which we are presented has very little to do with the logical positivist view of language as a system of signs and symbols and as a medium for representation of the world "out there". Besides theories stimulated by the later Wittgenstein and the idea of language games the strongest inspiration comes from Humberto Maturana, with a focus on "languaging as a process of coordination". It is highlighted how language use directs attention, frames perception, creates facts, is relational, and not least is an embodied phenomenon. Pragmatically Krippendorff takes us through the use of concepts such as categories, characters, identities, metaphors, and not least narratives. Finally he touches upon the role of culture, concluding that the meaning of artifacts actually goes beyond use. They come to mean the role they take on in the larger conversations that drive the evolution of culture. Though for the most part beyond control, designers can and should be aware of these conversations as active participants in support of other participants rather than as prophets of cultural trends.

"No artifact can be realized within a culture without being meaningful to those who can move it through its various definitions". This axiomatic proposition is the core of the following chapter on *artifacts in the context of their life cycle*, their design process in the widest sense. There is really no beginning or end to design; the problem-solving cycle of technology-centered design is a blind alley. Key for designers is to understand how stakeholders are and may be involved in webs of stakeholder networks, be this in design, engineering, production, sales, use, storage, critique, maintenance, repair, or retirement of the artifact. Stakeholders are political actors, who attempt to alter the manifestations they have access to, act in their own world, emerge when desirable possibilities or undesirable prospects become apparent, create other stakeholders by communicating their actions, and organize into interest groups with political agendas. Designers are stakeholders as well. Good design embraces the stakes of its diverse stakeholders. "Projects" are one method for this realignment of stakeholders, a way to inherently inspire cooperation.

"The meaning of an artifact consists of its possible interaction with other artifacts." This proposition is key to the following central chapter on an ecology of artifacts and how artifacts relate to each other meaningfully. An ecology of artifacts is manifested as technological cooperatives held together by collective human actions. Such an ecology is historical, complex, open, and constantly attended by new designs. If artifacts get adopted they have to work together with other artifacts through different forms of cooperation, competition, or even parasitism. Examples of relations between artifacts are by causal connections, family resemblance, metaphorical connections, and institutional liaisons. Designers must recognize these ecologies and their dynamics considering the potential in them for survival of a new artifact.

The three following chapters are, in a way, a book in themselves. Whereas the previous chapters have outlined theories for "the semantic turn", the subsequent chapters reflect on the new science of design this calls for.

The major chapter in this part outlines such a "science *for* design" (as opposed to a science about or of design). Such a science cannot be restricted to theories of "what is", to generalizations of patterns



observed in the past. Instead it must provide the intellectual tools needed to introduce what did not exist before, desirable changes, and compelling justifications of designs to their stakeholders. Krippendorff outlines five outstanding features that such a science for design has to acknowledge and address: (1) Designers are essentially concerned with artifacts that did not exist before; variability rather than generalization comes into focus. (2) Designers need to have a sense of which futures constitute improvements, continually proving themselves in communication with those they claim to serve. (3) Designers must understand how their understanding of other stakeholders' understanding can inform design. (4) Designers must be provided with ways to substantiate the claims made for their designs. (5) A healthy design discourse must examine itself and continuously expand its vocabulary. Hence, a science for design is by necessity *both a science of making and a philosophy of realizing artifacts with and for others*.

The remainder of the chapter outlines (often well-known) methods for a science for design. Among methods for "creating spaces for possible futures" brainstorming, reframing and combinatorics are presented. As for "inquiring into stakeholders' concepts and motivation" the set of methods spans a range from focus groups, ethnography, and triangulation of methods to narratives of ideal futures and participatory design processes. Finally, relating back to the semantic framework of the meaning of artifacts, Krippendorff suggests five practically proven creative "human centered" methods: (re) designing the character of artifacts; designing informative or expressive artifacts; designing design strategies; designing original artifacts guided by narratives and metaphors; and dialogical ways to design.

In the second to last chapter a number of provocative "distantiations" are made between the "semantic turn" and a variety of other disciplines and approaches. With energy it is argued as to why alternatives such as semiotics, cognitivism, ergonomics, aesthetics, functionalism, marketing, and textualism cannot deliver what a science for design requires. For example seemingly strong candidates like semiotics (excludes human agency) or functionalism (leads to various forms of oppression) are rejected.

The final chapter is a somewhat nostalgic return to the roots of design, to the industrial design legacy from the Bauhaus and the form functionalism took in the Ulm School of Design when Krippendorff was himself an industrial design student. What he finds is very little support for systematic considerations of the semantic aspects of artifacts. On the other hand the moral vision of Ulm stands out as a strong design legacy showing the way into what we today call human centeredness in the design of human interfaces with technology.

The semantic turn: What a tour de force!

TURN AND RETURN

Nevertheless, I can understand it if some industrial designers find "the semantic turn" towards the use of language and away from a preoccupation with tangible surfaces somewhat "academic", questionable, and maybe also threatening, though from within it is really a major challenge for rethinking industrial design. Although designers are ascribed a central role in the "semantic turn", there will most certainly be critiques, and I am sure in the spirit of his book Krippendorff would welcome such a dialogue with the stakeholders of design from the industrial era.

From my own position in the emerging field of interaction design (merging human-computer interaction, traditional design fields, and media and communication theory) I fully embrace this

"new foundation for design" with its focus on communication, interaction, and participation by and with humans and artifacts. This book, itself an artifact, deserves a prominent place in any design canon, and I will definitely not only use it myself, but also strongly recommend it to academic colleagues, students, and practitioners.

This being said, "the semantic turn" also to some extent bothers me. I maintain the view that we are presented with a solid foundation for a science of design, as well as an elegant, elaborate, and teachable doctrine of design. The strength and the weakness is exactly "the semantic turn", the determination by which Krippendorff put language and meaning in use. It reminds me of Maslow's Hammer: "He that is good with a hammer tends to think everything is a nail." I would encourage other stakeholders mastering other intellectual tools to enter the conversation. Let me give a few examples of possible pieces for conversation.

I shall start with Wittgenstein (and Richard Rorty) as Krippendorff does. Would it not, in fact, be more accurate to talk about a "pragmatic turn"? I agree with the position that the meaning of a word is determined by its use in a particular language game. However, this already points at practice. To extend this to all artifacts (not only words), as I believe Krippendorff constructively does, is to me a useful and decisive "pragmatic turn". There is more to the practice of designing and using artifacts than words. The reason for stating this truism is that I believe much would be gained from conversations with a parallel and partly overlapping stream of inquiry into theory for design practice, especially emanating from the pragmatist philosopher John Dewey (rather than from Wittgenstein). For example, concepts of "communities of practice", "aesthetic experience", and "controlled inquiry" offer well-formulated matching concepts from this "pragmatic turn" in design. So, how pragmatic is the "semantic turn"?

From my own outlook in interaction design there also appears to be another turn around the corner: a "spatial turn". This is not a turn away from communication and "communities of practice" but a "twist" towards the importance of "place making" beyond the idea of culturally invested spaces and towards a local and global material heterogeneity. Examples from the field of computer-supported collaboration are "situating", "localizing", and "placing" conversations (making context and space intrinsic to human activity and not external), from human-computer interaction the "embodiment" and "performativity" of interaction, and from participatory design a focus on "configuration of places for design" and "spatial appropriation of design in use". This is not at the cost of focus on communication and community, but for literally making it take place. This "spatial turn" in interaction design, with its focus on the role of materiality of space, resonates well with current discourses in humanistic communication fields such as cultural theory and anthropology as well as contemporary discourse in architecture on space and place. Is this in tune with the "semantic turn"?

By the way, much as I appreciate the humancentered approach that is presented to an ecology of artifacts and networks of stakeholders, I would love to see these meet actor network theory, the agency of artifacts, and Bruno Latour's "collective of humans and non-humans".

"The semantic turn" will get its genuine meaning in use, it is hoped by reaching a broad network of stakeholders and not only designers, but as Krippendorff so wisely suggests: "The dialogue that a science for design entails is probably the best assurance of its continued viability – but it must be practiced as such."

Your turn!

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