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Philosophy of design: an introduction

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Abstract: The relatively young field of research known as ‘the philosophy of design’ is briefly presented, by asking on behalf of the reader what the philosophy of design is about, and what its use may be.

Keywords: Philosophy of design, design research, design practice, design education, engineering design

‘We all have our philosophies, whether or not we are aware of this fact, and our philosophies are not worth very much. But the impact of our philosophies upon our actions and our lives is often devastating. This makes it necessary to try to improve our philosophies by criticism. This is the only apology for the continued existence of philosophy which I am able to offer’ (Popper, 1974, p. 33).

We see design reflected in countless artefacts with which we furnish and sustain our environment and even our bodies; no doubt design shapes our lives just as much as science and technology – or even more so. But what shapes design? Design may be seen, presumably, as significantly depending on technological and scientific knowledge, but it cannot be understood in terms of science and technology alone. Developing a satisfactory understanding of the nature and workings of design itself calls for serious philosophical work (Galle, 2000); the field of which we name *‘the philosophy of design’*.

Being the result of, as I hope you’ll agree in the end, a *happy* union of philosophy and design research, the philosophy of design is a child of mature parents. Yet as a field it is young enough itself to need a few words of introduction to those outside its immediate vicinity (for a discussion of the origins of the field, see <http://www.cephad.org> > literature > emergence). So ‘the philosophy of design’ may not have a familiar ring to you, and it is only fair if you wonder (1) what this field is all about, and (2) what it is supposed to be good for. I shall address these two questions in turn, and in so doing take you on a quick guided tour into the subject.

The first question will be considered at a rather general level. I shall present a small sample of research questions for illustration, but this is not a ‘survey paper’ of the kind that outlines the entire

literature of a field. (The *CEPHAD Bibliography*, however, offers a fairly comprehensive overview of the literature, in chronological order; see <http://www.cephad.org> > literature > bibliography.) As for the second question, I shall take a look at it from three vantage points: design research, professional design practice, and design education.

1. What is it?

The very youth of the philosophy of design suggests that a definition carved in granite would neither be feasible nor indeed welcome. Like other youngsters, the field is probably better left to grow up of its own accord, without being patronised by too many preconceptions about its future identity. But let's not press the metaphor; it does not answer the question for us anyway. One way of answering the question – without carving granite – would be to say merely that the philosophy of design is whatever philosophers of design do, or could reasonably do. That answer, I admit, may sound altogether too flippant for a serious introduction. And yet it is all I shall offer right now, for it does suggest a good way of approaching the subject. Why? Because if you are new to a subject, a handful of examples is what you need to form an initial intuition about it, and in my experience such intuition (for many of us) is a prerequisite for understanding. After the examples I shall attempt a more general, and I hope more satisfactory, answer to the question of what the philosophy of design is about.

First, however, a glance at the affiliations of the authors whose work appears in the *CEPHAD Bibliography* will reveal that some but not all philosophers of design are philosophers by profession. It is an essential characteristic of the philosophy of design that it is cross-disciplinary. Authors who write about it have varied backgrounds; some are philosophers; others come from research, practice, or teaching of design. Having a formal training in both philosophy and design is the exception rather than the rule. So in a sense, in this field most of us are half amateurs. By this I am *not* suggesting that philosophers of design are charlatans; only that presumably they have more to learn from each other, and more to offer in return, than people in more homogeneous fields of research.

What is it that philosophers of design do, or could do, then? They try to come to grips with certain fundamental and abstract questions about design; questions much more general than those that confront designers in their everyday practice. The following examples are not claimed to constitute a representative sample in any precise sense of the word 'representative'; but even so they will convey the flavour:

1. What distinguishes design (architectural, engineering, software, etc.) from other intellectual endeavours, such as science or technology?
2. How are the concepts of design and artefact related? For example, are they definable in terms of each other? Is it a necessary, a sufficient, or necessary and sufficient, condition for

something to be an artefact that it was designed; can there be artefacts without design?

3. Whatever the answer to the latter question may be, it seems clear that there is always design without artefacts, for at the time a given artefact was designed, it had not yet been constructed. Yet designers talk about what they design as if there were artefacts for them to talk about. How is that to be explained? Are statements of design discourse true, false, or even meaningful? If so, what makes them so? If not, what purpose could design discourse possibly serve?
4. What ontological and epistemological assumptions should be made to explain the apparent fact that designers can know or predict the properties of an artefact, which is not there to have properties?
5. Taking universals to be whatever can be predicated of things, design might be viewed as the selection (or creation?) of one or more universals to be predicated of some future artefact. Using this approach to theorizing about design, it must be expected that the traditional distinction between nominalist, conceptualist, and realist theories of universals carries over to theories of design. What would design theories of the three types be like, and what would be their relative strengths and weaknesses?
6. What are the relations between philosophy of design and philosophy at large? For example, considering the central problems of the philosophy of design (whatever they may be, apart perhaps from defining 'design'), are they special cases of familiar philosophical problems, or are they new? No doubt the philosophy of design can draw on insights from other fields of philosophy. Can it also offer them new insights?
7. Can results from the philosophy of design be put to use in design practice – for example, by leading us towards better artefacts, better design methods, better ways of utilizing computers in design?

What these issues have in common is that they are all aspects of design, and that insights about them may be obtained by rational and critical reflection, rather than empirical observation. Moreover, it seems that these insights could not be gained by anything but such reflection; for common empirical methods of design research, such as protocol analysis, would be of little help in these matters. Rational reflection, and the cultivation of such argumentative power and conceptual awareness as it takes, is the business of philosophy, as I understand it. If we can agree on this, we can probably also agree on characterising the philosophy of design straightforwardly as *the pursuit of insights about design by philosophical means*. That nothing has been unduly carved in granite by this, follows from the fact that the question of what precisely philosophy is, remains itself a philosophical problem.

2. *What's the use?*

The second question was, 'What is the *use* of the philosophy of design?' If we agree to see insight as an end in itself, the answer is fairly obvious, given the above description. In that case the philosophy of design is useful simply because it offers us insights about design which we could not obtain otherwise.

To a researcher, the idea of pursuing insight for its own sake, should be familiar and not in need of much justification. Suffice it therefore to consider for a moment the function - structure distinction discussed by Kroes (2002) and others. Suppose they are right about 'the dual nature of technical artefacts' (as I think they are); that indeed there is a functional-intentional view of artefacts just as necessary to understand them as the structural-physical view. The latter has been explored intensely by physics and its more application oriented cousin, engineering science, with mathematics as a *sine qua non* for both. Should the impressive results compiled in this way over the centuries, forever keep us from exploring the other view, the functional-intentional view, by whatever means will be offered by the philosophy of design?

Outside the circles of research, the desire for insight may need a little more elaboration and justification. So borrowing and modifying a formulation by Wartofsky (1979), I would suggest that, as a major *raison d' être*, '[the philosophy of design] serves the end of helping, guiding, suggesting how the [designer] comes to *understand* what he is doing, and not simply how he comes to *do* what he is doing' [Note 1]. This coming to *understand what one is doing*, rather than just *understanding how to do it* is an insight about design of the kind I have been talking about, and which I believe can only be pursued by philosophical means, as offered by the philosophy of design. And such understanding, I would contend, is a valuable asset for designers.

And yet there may be healthily hard-nosed people outside the ivory towers of academia who find that it takes more to convince them than anaemic appeals to 'insight'. 'Does your "insights about design" help us improve our products, increase our share of the market, or boost the productivity of industry?' such people might ask. If you are one of them, don't expect me to answer 'yes, they do'. No one can seriously make such promises on behalf of an emerging field of research. Try instead to consider the *negation* of my claim: Would you be prepared to tell professional designers working for you, that understanding *how* to do their job is all they need, while understanding *what* they are doing is a waste of time? – To me, that does not seem the kind of thing to tell employees whom one hopes to motivate and enable to improve one's products, increase one's share of the market, or boost the productivity of industry.

But, although one should not become too much of an instrumentalist about philosophy, it is legitimate to ask if knowledge of the philosophy of design will enable designers to do better designs. I do not think there is a *direct* causal connection between such knowledge and the quality of the designs (although the issue of quality is one that occupies philosophers of design (Baljon,

2002; Kroes, 2002; Trott, 2002), and some day they may come up with insights of direct instrumental value); but the philosophical insight into their profession may enable designers to take a well-founded critical stance towards what they are doing, and may give them a conceptual and verbal tool kit *useful for thinking* about how to improve the practice of their profession. (Or – at the very least – avoid what Popper, in the passage quoted as a motto of this introduction, calls ‘devastating’ impacts.)

For similar reasons, some philosophical understanding of *what* they will be doing may be an important supplementary qualification for the *students* of design professions (engineering, architecture etc.). And last but not least, in the educational setting one should not shun the additional *motivating effect* that learning elements of the philosophy of design may have on students. To a student of engineering, for example, I should think there is a difference between (a) thinking of yourself as someone learning how to use scientific results in solving technical problems (which is perfectly respectable, of course), and (b) thinking of yourself as someone who is *also* a prospective creative designer of artefacts, someone capable of bridging function and structure using your knowledge of both; and someone who is able to lean back in quiet moments and reflect on this whole fascinating process of design.

Those days of innocence are long gone when young people could marvel at the wonders of technological progress, and feel heroic when growing up to make their own contribution. But mastering the design of technical artefacts in a delicate world balanced between the threats and promises of technology, is a wonderful thing. So let us teach our students to do it, let us give them the philosophical means of insight into what they are doing, and let us encourage them to be proud of what they see.

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Notes

1. In the essay from which the passage stems, Wartofsky argued that metaphysics is a heuristic for scientific research and theory formation, not only as a matter of historical fact, but ‘inescapably’. On p 73, he concludes an argument by the passage I borrowed: ‘Thus, I am talking about metaphysics as that heuristic which serves the end of helping, guiding, suggesting how the

scientist comes to *understand* what he is doing, and not simply how he comes to *do* what he is doing.’ The essay should be of interest to philosophers of design, as much of Wartofsky’s argument for the relevance of metaphysics to *science* would seem to apply to *design* as well; or perhaps even more to *design research*.

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