On the Roots of Undiscipline

Steve Harfield, University of Technology Sydney, Australia

Abstract

Variously used to describe a branch of knowledge, a system of rules of conduct or a method of practice, or a character trait associated with rigorous and controlled behaviour, the term 'discipline' is both widespread in its application and yet considerably under-examined in regard to its expectations and consequences. While the general field of design, or each of the various sub-fields thereof, is colloquially referred to as being a discipline – and unreflectively accepted as such – quite what constitutes and informs this disciplinarity remains unclear. Arguing that design problems are, to a significant extent, personally determined rather than neutrally provided; that, while highly informed in regard to their disciplinary practice(s), design agents are inescapably influenced, driven, and, to large measure, controlled by their specific theory choices and ideological commitments; that, rather than being a knowledge-generating discipline, the field of design generally constitutes a practice-based knowledge-utilization discipline, aimed at providing service to an external world; and thus that design is essentially normative rather than explanatory-descriptive; this paper explores the nature of design's disciplinarity, and avers that the above factors not only actively contribute to, but promote and prolong design's *un*disciplinarity. Design's very characteristics are thus the roots of its undiscipline, roots that go deep into design's psyche, and that support and feed an enterprise that is in need of serious self-examination.

Keywords

Design Philosophy; Design Thinking; Problematization; Ideology; Disciplinarity

> *"I was a producer of materiality and I am ashamed of this fact…Everything I designed was unnecessary…design is a dreadful form of expression."* (Starck, 2008)

To say that one belongs to or works within a discipline is to assert a degree of commonality, perhaps a shared knowledge base, a set of agreements about issues central to that discipline, assumed skills or competencies, and so on. Belonging to a discipline implies, at least at some level, a more-than-layperson's familiarity with and understanding of the content of that discipline, a level of commitment to the discipline (even if one is critical of it), and an appreciation of the scope and extent of that discipline, i.e. an understanding of the cloud-like boundary that sets this discipline apart from that one, and allows us to distinguish one from the other.

That disciplines cannot be precisely and absolutely defined; that there may be disciplines within disciplines within disciplines; that disciplines overlap and interact; and that new disciplines emerge and evolve as knowledge and technology develops is not the issue here. What *is* at issue is design's understanding of *what it means to describe design as a discipline*. Hence, what constitutes disciplinarity? Which aspects of commonality – of knowledge, of skills, of competencies, of key issues, of expectations, of assumptions – speak of 'being a discipline', in a way that somehow elevates 'practice' to an appropriately intellectual and abstract-conceptual level, and which aspects merely suggest a grouping of workers engaged in 'the same kind of thing'? Is, then, design (or particular instances of design, from fashion and graphic design to product design and architecture) a discipline? Or does it remain, in

significant respects, an *un*discipline, a set of extant practices, valuable and highly respected in themselves, that aspire to but crucially do not reach disciplinary status?

Given the vagueness of the word itself, this question is perhaps both formless and unanswerable, at least in any absolute sense. Yet, it will be contended, the question is nevertheless useful insofar as it elicits a number of responses in respect of what it is that design does, of how design conceives of itself, and, of most significance for this paper, of certain practices, certain presumptions and certain absences that condition how design 'works' and thus how its disciplinarity is enacted.

This paper advances three (perhaps contentious) propositions that might account for the potentially *un*disciplined nature of design thinking and design practice.

(The Undiscipline of) Personal Problematization

The first of these addresses the nature of problems in design, specifically proposing that, in crucial ways, *designers construct the problems that they seek to solve*.

This is not to deny what is usually taken to be self-evident, namely that design problems are presented *to* designers *by* external agencies (clients), nor that the problems thus presented are, to a significant extent, defined by the range of specific requirements that constitute what is commonly termed the brief. What is *rejected*, however, is the conventional understanding that assumes that it is *this* problem – the unmediated problem received from the external world, or, as I have termed it elsewhere, the problem-as-given – that the designer 'solves' (Harfield, 2002; 2007a; 2007b).

Such an assumption does not, of course, oblige the believer to assert that all solutions to any given problem must perforce be the *same*, but it does lead to the further, and often under-examined, assumption that differences between solutions are the result of differences in the skills, talent, level of experience and creativity of individual designers and/or of the plurality of different 'satisficing' solutions that design problems allow. Nothing wrong with this, we might think: individual designers surely *do* have different levels of experience, and are possessed of and exhibit in their practices differential degrees of talent, skill and knowledge. Indeed so, but what is missed in this analysis is its grounding in the 'different designers / same problem' scenario.

The shortcomings of this common, if misguided, assumption I have argued at length elsewhere (Harfield, 2002; 2007a). Suffice it to say that it is my contention that it is *not* this 'problem-as-given' that the designer 'solves'. Rather, each designer 'problematizes' and individuates the problem-as-given in order to construct an augmented problem – dubbed the problem-as-design-goal – that, in any given case, will establish the basis of, and actively inform, direct and focus the individual designer's actual solution search. While initiated by 'real-world' problems extrinsic to the designer, and without wilfully ignoring or recklessly deforming said problems, design proceeds by internalising and 'moulding' such problems to 'fit' the individual designer. Thus is created a substantially *revised and personalized problem* that both subsumes the original problem and imposes upon it a range of designer preferences, prejudices and expectations. Whether such problematization, such 'moulding to fit', is conscious or unconscious to the designer must lie outside the scope of this paper, although it should be noted that the very conception of design as objective problem-solving, as a kind of neutral engagement between the well-trained designer and the problem that lies outside and is thus effectively at one remove from her or him, is deeply undercut by these suggestions.

The significance of this is two-fold.

From the perspective of an analysis of design*ing*, it will be clear that, starting from the same initial brief, different designers will necessarily produce different outcomes, not merely on the basis of differential skill sets but because, in substantial ways, they are *solving different problems*. This 'problematization' of the initial brief, different for each designer and for each project, thus informs and constrains both the design activity and the final outcome *in ways that are not dictated by the brief itself*. Moreover, such problematization will, in each individual case, substantially establish, not to say dictate, the *nature and range of the actual solution possibilities* and thus determine *the set of criteria that will be used to judge the eventual outcome*. More than simply a set of feedback loops, then – indeed, more than merely co-evolutionary – problem setting, solution generation, and criteria determination constitute an almost inextricable matrix of design determinants.

From the perspective of an analysis of *disciplinarity* – and claims of a neutral and rationally determined problem-solving process notwithstanding – the above suggests that not only is every design *outcome* intensely personal, but so too is *design itself*. Nothing wrong with this, we might say again, nor, indeed, is there. But, it might be suggested, the consequence of such acceptance of the centrality of the individual and the effective self-determination of design problems is that what we share, both under the aegis of the general term 'design' and within any individual sub-discipline thereof, is a set of generalized practices based on an assumed but by no means highly codified knowledge base, informed, to more or less degree, by a variety of different, frequently-changing and essentially normative theoretical imperatives, and perhaps restrained or directed by a similarly disparate set of ethical strictures.

The combination of such generalized sharing with an active and institutionalised desire to assert individuality suggests disciplinarity only in a sense akin to Wittgenstein's notion of 'family resemblances': while we might have no trouble recognising – and valuing – design, it remains *un*disciplined to the extent that its theoretical and intellectual base, and, significantly, its relations with the 'real world', remain essentially contingent.

Explanatory Absence

This notion of contingent connection to the real world, while not necessarily deleterious to design's disciplinary expectations and ambitions, does suggest a potentially informative comparison. My second proposition therefore looks to the long-established disciplines represented by the physical sciences, suggesting that what such sciences have, and what the design disciplines conspicuously lack, is the unifying agency not just of a coherent knowledge base, or a set of agreed practices or skills or intentions, but of what, at any given time, might colloquially be called a set of 'current major problems' within that discipline / sub-discipline, i.e. both a shared understanding of, and a commitment to, certain key questions which, were they to be successfully answered, would advance knowledge within the discipline – and thus advance the discipline itself – in significant ways, simultaneously generating a new set of current questions. While not every scientist within a given discipline is actively working on such problems, their existence, and the acceptance of their fundamental importance to that discipline, provides an established intellectual focus and a key driver to that discipline's progress.

In contrast it might be proposed that, if, on the one hand, design is replete with personal (or personalized) problems, on the other it effectively has *no problems at all*, at least in the scientific sense of agreed conceptual difficulties at the boundaries of knowledge within the field!

Such conceptual difficulties – or, perhaps better expressed, the acknowledged presence within the given discipline of a set of key intellectual impasses which both identify the current gaps in disciplinary knowledge at a fundamental level, and signal the direction of future research work needed to resolve such issues and thus forward the discipline – is the hallmark of the physical sciences. This is manifest in science's attitude to and understanding of the term 'theory' as indicating intellectual structures, rigorously constructed in relation to, and eminently testable against, external and quasi-objective data established as part of that discipline's extant knowledge base, that seek to explain the nature of (some aspect of) the external world. As Appiah (2003, p.144) notes, it "...seems impossible...to conceive of science without theory. The development of theories about how different parts of the world work is what science is for. If you don't want scientific theories you don't want science". In a similarly instructive observation, Kerlinger (1973, p.8) suggests that "The basic aim of science is theory", to which he immediately adds, "Perhaps less cryptic, the basic aim of science is to explain natural phenomena".

By contrast, design lacks most of these characteristics. And while this does not necessarily discount its aspirations to disciplinarity – not every discipline need be 'scientific' in this sense – it does highlight a number of key differences in intentionality and in self-perception.

If scientific theories might conveniently be termed *'explanatory'* theories, in that they are rigorously constructed in order to explicate some aspect of *'how the world is'* (or, consistent with the nature of scientific theories, how the world *was* and how it *will be*), then theories within design may best be characterized as being *'normative'*, i.e. means by which we seek to delineate and/or promote 'how the world *should be'*.

Design is thus not aimed at explaining the world but at responding to, changing and, hopefully, advancing it – precisely what we would normally understand by the phrase 'designing' it. Design's engagement with the real world is thus not primarily with natural phenomena, but with – to use Simon's (1979) well-established term – the *artificial*, and the determination and development thereof. Design's theories, then – or what stand in for theories – inevitably, and perhaps regrettably, tend to the rhetorical, the opinionated, the assumptive, and the ideological. They are propositional and 'directional' insofar as they comprise indicators and exhortations of what the future world should be – or, at least, those aspects of it amenable to, and of sufficient interest to, this particular presumption of 'designing'. They are thus not only highly time- and situation-dependent – a characteristic that may well be laid at the feet of scientific theories – but also highly personal, even if such personal views are the representation and expression of group sensibilities and intentions – maybe even those of the whole discipline – to which any given individual, knowingly or unknowingly, subscribes.

To some extent, then, design's disciplinarity evokes that of a service industry, with its emphasis on supplying the world rather than explaining it, and with its knowledge base being tied more to the development and codification of practice skills, to the uptake and utilization of advanced materials, new technologies and the latest manufacturing techniques, and to the progress – some may well say the mere establishment of ongoing differences – of form, aesthetics and taste, than to the pursuit and development of knowledge *per se*.

The Drive of Ideology

But perhaps this is an unkind and unreasonable critique. What might be called such 'knowledge questions', so intrinsic to science's perception of itself, and thus to its workings, are not – and, it might be suggested, have no need to be – central to *design's* activities and aspirations. If design is a knowledge-*dependent* discipline, this does not mean that it is, or is required to be, a knowledge-*generating* one in the sense indicated above, and design

outcomes should be analysed in terms of their efficacy in 'solving' real-world problems and in providing, in a variety of respects, means for a better future.

And yet, while this might be a plausible retort, it does leave unanswered the question: 'in the absence of agreed, discipline-wide 'current major questions', à la the physical sciences, what is it that establishes 'design directions' in a disciplinary sense, what is it that directs or 'controls' how and in what manner our thinking proceeds?' In answer to this my third proposition suggests *ideology* as the central driver of design intentions and design practice. In the absence of key major problems at the forefront of knowledge, design is, at any given time and varying from time to time, directed by, conceived within, and thus constrained by, a set (or competing sets) of ideas, beliefs, assumptions and preconceptions which structure not only how the designer will think about design, but, more significantly, *how s/he could not have thought otherwise*.

Drawing upon de Tracy's original denotation of the term as "…the 'science of ideas' which would reveal to men the source of their biases and prejudices" (Bell, 1999, p.414), ideology here is intended to connote both "…an interpretative scheme used by social groups to make the world more intelligible to themselves" (Bell, 1999, p.414) and "…a conceptual scheme with a practical application" (Blackburn, 1994, p.185), although perhaps the most useful contemporary usage might well be Railton's notion of ideology as a normative position, "…standing for a collection of beliefs and values held by an individual or group for other than purely epistemic reasons" (1995, p.392).

In this sense then, design, like any other ideologically-determined enterprise, is driven not only by *collective* normative beliefs – agreements among group members as to how the world should be – but by *contingent* normative beliefs – agreements based on particular, loaded, and often idiosyncratic views of how the world is, and *therefore* how it should be. Such views – personal subscriptions within a group identity – can appear so blindingly self-evident that they are accepted unquestioningly, naturalized and neutralized by their familiarity, their acceptability, and their undeniable desirability.

Hence, ideology is clearly Janus-faced. If, as Mautner (1996, p.201) suggests, it inescapably imposes "…a kind of obstacle to rational thought and clear perception" on its adherents, then simultaneously it provides not only the impetus to future action and forward movement, but supplies the very guidelines and 'rule-books' of such action.

This returns us to our earlier notion of problematization, and to the assertion that this personal projection of 'self' onto 'problem' is reliant not just on the explicit knowledge and skills of the individual designer, but on the often intuitive and unconscious reliance on the belief structures and theory commitment that ideology so neatly provides. While design problems are inevitably individuated problems insofar as they are 'solved' by a single or a small team of designers, at any given time both the frame and the design language within which these designers work have a certain commonality within the discipline, even if they represent one from among a number of competing theoretical frames prevalent at that time.

As both a constraint on, and a generator of, action, ideology (or, more accurately, ideologies in the plural) thus comes to provide a kind of quasi-disciplinarity to design. But it remains a disciplinarity of contingency; a disciplinarity that shifts with our time, our culture, our views of the world, and the needs that world demands of us. And while 'design' might recognise more 'big picture' issues, such as sustainability and resource management, and aspire to universal agreement about their significance and their centrality to design thinking, such concerns tend to represent the need for generalized ethical standpoints, rather than being the equivalent of science's intellectual problems at the root of the discipline itself.

The Effect of Discipline?

But what of 'discipline' itself? What of the idea of discipline as pertaining to rigour, to constraint, to the *disciplining of oneself*, akin, as one of my referees suggested, to the term's meaning in the phrase 'military discipline'?

Now, in this sense, 'discipline' and 'rigour' come with tied suggestions, with positive connotations. Rigour is a good thing. It suggests that we don't just 'do as we please'. It suggests that we are somehow in control, that we know what we are doing, and that we are not only capable of carrying something out but that we will do so in a way that conforms to some accepted and previously understood notions of correctness or best practice.

It suggests that not only do we know and believe some true or proper – or, at the very least, learned and accepted – path, but that we will not be diverted or drawn aside' from it by our own preferences, our desires, our weaknesses, and thus not by the seduction of 'other things'. It thus connotes the strictly observed, the appropriately constrained, the carefully enacted, and is not to be confused with the slapdash, the loose or lazy, the careless, and the merely wilful.

Hence, it suggests the accurate following of accepted strictures, viz: that while we, as agents, are in control, our control resides in applying to the situation something that lies outside ourselves; something that is established, tested, and accepted not only by ourselves but by the larger design community; and hence something that consolidates and legitimises and focuses our knowledge in ways that go beyond the personal. It thus suggests positive boundaries; suggests that we know the accepted limits and that we keep inside them, not in a timid way but in a way that ensures that we are acting responsibility and knowingly, in a way that secures the best possible outcome because of the discipline that we bring to our actions.

Yet at the same time, the combination of rigour and boundaries suggests that the creative designer is not forced to exist solely within this frame, but can bridge or exceed these boundaries, not by mistake but in a way that allows for growth, change, development. And again, not by mere whim, but by reason – and by reason of having an established and trustworthy base. In this sense the very idea of 'boundary' suggests the phrase *'reculer pour mieux sauter'* – to draw back in order to leap better.

The suggestion here, of course, is that one is leaping *forward*, beyond the existing boundaries, and that by so doing the boundary itself is not merely exceeded but either enlarged or challenged in a positive way. Thus, we may ask, do the boundaries act as surfaces off which we can rebound? The idea of 'pushing the envelope' or 'stretching the boundaries' suggests both that we learn from the resistance that we encounter in such pushing, and that we have some inkling of how and why and where to push precisely because this is what the current boundary, the current conventions and preferences and expectations of the discipline, show us. Without boundaries we would have no resistance which could inform us and which we use as our test. And we would have nothing against which to react, nothing that would provide the very springboard which we use to power our leap.

But what of discipline as negative constraint? While discipline has thus far been dealt with under the positive connotation of the gathering of facts and knowledge and skills such that, crudely speaking, we all know them and that we know all of them, the antithetical connotation of constraint, particularly with military discipline in mind, is that we *do what we are told*, that we know what we should do and what our limits are in terms of allowable action.

It also suggests expectations – expected actions because we know what we should be doing – plus responsibility and obeying orders. Encapsulated in the very idea of military discipline – and worth considering in the current context – is that we have given ourselves over to this situation; that the context in which we find ourselves is self-induced, agreed upon in advance, and known to the agent such that the agent finds no difficulty in obeying the orders, and in knowing what the orders and expectations are in advance. Hence, preparedness and the willingness to comply.

Such willingness to comply also suggests the idea of a greater good. We do not obey the rules simply because the rules are there – rules are not autotelic – but rather because we accept, either tacitly or explicitly, that the rules are there for good purpose. Hence, we accept the rules in advance and agree to abide by them.

Of course, from an 'external' perspective, military (and by implication any other) discipline can suggest to the critic an image both of inflexibility and of pettiness; of having rules about trivial matters; of having rules for everything where no rules are necessary; and of insisting and enforcing these rules for the sake of rule-enforcement. Here the suggestion is of a lack of freedom; of following a pre-set path; of trading free choice for known rules; of jettisoning creativity and inspiration in favour of established albeit, one presumes, successful ways of doing things.

Conclusion

If design clearly does not fall under such draconian constraints, we might nevertheless ask what is the nature of disciplinarity in design?

If, as suggested above, design is an essentially personal enterprise, involving individuated problems at the discretion of the designing agent; if such personal individuation itself is circumscribed and controlled by the ideology subscribed to by that agent, whether consciously or otherwise; if design itself is not a knowledge-generating enterprise but a practice-based service industry, creating what it provides without adding to knowledge per se; and if design therefore lacks major discipline problems at the level of fundamental knowledge, then perhaps it must be conceded:

(i) that design is fundamentally driven by its inherent preconceptions and determinate choices about how the world shall be seen and thus how the future world should be enacted;

(ii) that it is thus held together by a series of conventions; conventions which, while we may choose to believe them and to subscribe to them – or see them simply as self-evident 'facts' of the world which neither require nor are amenable to choice –remain, like ethics, consensual, conventional, contingent and communal, determined by and applying to the given design community of the time;

(iii) that to this extent design is essentially self-referential; and therefore

(iv) that design disciplines are not like scientific disciplines – nor have any need to be so – and are thus not expected to share universal or universally-agreed problems at the level of fundamental knowledge that establish the very intellectual base upon which that discipline is grounded.

Thus we may say that, if the sciences frame their disciplines in the form of 'what we know, or what we need to know, about the world', and may thus be characterised as disciplines of reflection, of 'doing in order to know', then design clearly frames its questions along the lines of 'what should we do…' or 'how should we do…' and may be characterised as a discipline of action, of 'doing in order to achieve'; hence, a performative discipline aimed at asking

fundamental questions of a different kind: how do we *provide* for the requirements of the world, and how do we provide for the requirements of the world *better and/or differently*?

Insofar as this is the case, then we might also suggest:

(v) that design must inescapably labour under the weight of a supply-side disciplinarity;

(vi) that, even as it seeks a more unified and more rigorous conception of itself as a discipline, design remains both 'internalized' – essentially it looks to itself for its purported rigour and intellectual base – and fragmented – is there really a design discipline *in toto*, or should we accept – and actively encourage – the fact that design's supposed sub-disciplines are the *real* carriers of disciplinary rigour and knowledge, and that they exist, and should exist, as separate and independent entities?

Howsoever we may read these propositions it is reasonable to suggest that all the factors discussed above constitute not only the roots of, but continuing reasons for, undiscipline. And how we can move from such undiscipline, or whether we need to at all; how disciplinarity is to be established beyond the mere sharing of skills and practice-knowledge, and beyond the contingent values of a shared community, or whether the codification, legitimation and enhancement of design knowledge, practitioner skills, practice ethics, and engagement with key societal issues is precisely the disciplinarity that is required, remains a moot point, albeit one that is in clear need of further discussion, clarification, and, perhaps above all, awareness.

References

Appiah, K.A. (2003). *Theory and Reality*. New York: Oxford University Press.

Harfield, S.J. (2002). How buildings come to be the way they are. In R. Best & G. De Valance (Eds.) *Building in value: Design and construction* (pp.17-32). Oxford: Butterworth-Heinemann.

Harfield, S.J. (2007a). On design 'problematization': Theorising differences in designed outcomes. *Design Studies*, *28* (2), 159-173.

Harfield, S.J. (2007b). On the self-construction of design problems. *Proceedings of the ConnectED 2007 International Conference on Design Education*, 9-12 July 2007, University of New South Wales, Sydney, Australia.

Bell, D. (1999). Ideology. In A. Bullock & S. Trombley (Eds.), *The New Fontana Dictionary of Modern Thought* (p.414). London: Harper Collins.

Blackburn, S. (1994). *The Oxford Dictionary of Philosophy*. Oxford: Oxford University Press.

Kerlinger, F.N. (1973). *Foundations of Behavioral Research*, (2nd ed.). New York: Holt, Rinehart & Winston.

Mautner, T. (1996). Ideology. In T. Mautner (Ed.), *A Dictionary of Philosophy* (pp. 201-202). Blackwell, Oxford.

Railton, P. (1995). Ideology. In T. Honderich (Ed.), *The Oxford Companion to Philosophy* (pp. 392-393). Oxford: Oxford University Press.

Simon, H.A. (1979). *The Sciences of the Artificial*. London: MIT Press.

Starck, P. (2008). Quoted in *The Weekend Australian*, March 29-30, p.15.

Steve Harfield

Steve Harfield is Associate Professor in the School of Architecture, Faculty of Design, Architecture & Building, at the University of Technology Sydney where he has lectured on theory, history, and design since 1988. A former Associate Dean Research within the Faculty, his research interests focus on the ontology of design and the nature of the design process, on the role of ideology in design thinking, and on design and architectural education.