

Six notes on thinking about design as capacity or capability

#1: Design and its Capacities: Introduction

Because design is so often spoken of in the collective singular and because we tend to forget that in educating for design we do not teach an object but a capability (the only 'proof' of education in design is that one is capable of designing) then what often slips from view is the fact that design is not a single capability or capacity but a practice and a process that draws upon improbable combinations of a range of capacities and capabilities. Precisely this is the source of the infinite flexibility and potentiality of design.

But what are these capacities? Without in any way seeking to be prematurely definitive, we might begin to try to posit the range the capacities and capabilities that design draws upon, combines and exemplifies.

If we were to do this as a written project we would have to think about it as something between a dictionary or a glossary (though not objectively definitive, nor could it be simply organized alphabetically, for the capabilities of designing are to a degree affinitive) a book of "Keywords" (the allusion to Raymond Williams' justifiably famous work is deliberate) and an essayistic inquiry into (and exploration of) these varying and often fugitive capabilities.

The goal of such an exercise would be to open understanding of the range and diversity of capacities that design subtends, to lay out both the variety of scales at which they operate and the range of actions (and necessarily, virtues) they subtend.

But there would also be a larger ambition to such a task. By identifying and naming these capacities as key moments within the design process, and by articulating both the objective realities that each addresses and the subjective kernel which each draws upon, then the way is opened to give thinking much freer access to the processes of design.

Rather than attempting to undo a falsely constituted object ('design') and thus force the capacities of design into a singular model, this alternate view allows us to think about three things that the obscuring of which has hitherto prevented us opening up what design involves.

- (i) The first is that the fact that design is always composed of a multiplicity of capacities and capabilities; hence that it occurs through the situated and particular coming together and exemplification of the range of capacities it draws on; design, in other words, occurs only in instances of design. It is possible there is no design as such. This does not mean that design "is" not, that it is a kind of nothingness that has merely professional existence (which is how the professions would like to see it). Rather, it means that the something that design "is" does not have the form of an essence (and it is certainly not a thing). It means that design can only be seen as a type of acting, which means also a type of deciding. But these terms are already too reductive: design can only be thought essentially in terms of its capabilities, which means also its possibilities and its limitations. But even here one wants to insist again, design is not a thing, it is a possibility or potentiality for

- acting in certain ways; ways that draw upon a multiplicity of capacities and capabilities.
- (ii) If this is the case then to search for design per se is unproductive. What is more productive is what is offered by this approach, namely, a conceptual “seizing” of the constitutive moments (capacities, capabilities) that design draws upon.
 - (iii) In listing, showing, exposing, presenting, exemplifying, articulating these one is bringing to light not only the procedures of design but what it is capable of, i.e., its possibilities.

This might, perhaps, be the best way of creating a philosophy (or a thinking) *for* design, not by creating a “philosophy of design” (a thinking *around* design, which inevitably posits it as something already sealed and impervious to thought) but by presenting (offering, giving, demonstrating, articulating) the “truths” that design offers—the truths being precisely the possibilities enshrined in the capacities and capabilities that design draws upon and combines in improbable ways.

The human truth of design is contained in its deployment of these capabilities and capacities. This is design’s singularity—what it alone offers in this particular manner; its limit; its joy. It is also its meaning.

#2: The applicability of the idea of design as capacity to the question of the roles that designers” (broadly understood) might play

Context

The problem of defining a practice, or even an approach to practice, in the context of emergent fields of design is astonishingly difficult, mostly because one is battered both by expectations and norms (fashionable, traditional) and operating in context where the future directions and possibilities are very hard to see—a context in which the traditional disciplines have in many ways broken down, without however alternative clear paths necessarily emerging.

To say that thinking one’s future practice ‘requires significant reflection and self-analysis’ is an understatement. But there is anyway a massive confusion between “skills” and “roles” in design, and a genuine difficulty at times of reconciling these moments. It is therefore no wonder that becoming articulate about future practice is not easy. It requires, for example ‘exploring the vocabulary of existing practitioners who are doing innovative things, but also developing your own language for describing what they do.’ (Jamer hunt) but it requires also at the same time a much broader conception of what creative or design work might entail —and whether these are anyway the right terms in which to try to encompass this kind of practice.

Thinking design in terms of capacities and capabilities

One way perhaps of helping thinking in this area is to begin to think of design in terms of capacities and capabilities. The notion of thinking design in terms of

capacities and capabilities is one that I have had in mind for a few years (and even proposed a book on it; see document #1). It arose for me as a way of escaping from what I think of as the dead-end of the question “What is design?” and also, more importantly, as a way of opening up this word. When we use the word “design” we think we know what we mean, but I think that we do not. “Design” in my parlance is just lazy and inadequate short-hand for a complex series of activities and capacities that together make up—but never in a simple sense—what we refer to as “design.” Once we begin to open up this word I think we begin to open up what design truly consists of.

For example, many years ago I began to talk about the configuration of things rather than their design. I did so because “configuration” refers both to a thing’s structure and to its disposition to act in certain ways (whereas the term design conflates and confuses these two aspects). Configuration also lets us see that that is a condition owned by all things (natural and artificial). It tells us then that design is always really re-design; the adaptation, more or less radical, more or less transformative, of existing configurations (and this can apply of course to situations and environments as well as things or images).

So design works on configuration(s). But what is this “design” that does this work? It is clearly not a singular thing, because it encompasses so vast a range of potential decisions, actions and capabilities—from (say) the capacity to ‘have a conversation about a situation’ (Donald Schön) to the ability to sketch or model a proposition; from the perceptual ability to grasp the needs and possibilities of a complex situation to the capacity to work iteratively to attune a proposal to the demands it is expected to meet. It is both serious and flippant; significant and irrelevant. It is both an intellectual and (just) physical activity. We think it in terms that almost always have a visual connection yet its most important work maybe invisible.

The idea of thinking design as capacity or capability is one way then of trying to get inside the real complexity that design is. Perhaps (and I stress perhaps) it may provide a way of beginning to understand, articulate, decide upon and develop roles. Particularly at a time when the impact of the artificial is at once more ‘immersive, encompassing and confounding’ than in any previous society—and therefore the question of how deal with all of the implications and consequences of the ‘coming alive’ of artifice becomes both more complicated and much wider in range than before—the notion of a *choice* of terms of capacities and capabilities to be developed in relation to possible roles one might take up in helping configure a humane future” becomes more apposite: it is no longer enrolling in the capabilities implicitly put forward by a discipline but rather choreographing a range of capacities that one can draw upon and offer in a series of future roles.

#3: Capacity and Capability: dictionary definitions/synonyms etc.

One place to begin is by looking at dictionary definitions of capability and capacity

Capacity

Definitions

1. the ability to understand or learn; aptitude; capability
2. the ability to do or produce
3. a specified position or function
4. (technical) a measure of the potential electrical output of a piece of apparatus
5. (legal) competence, e.g. the capacity to make a will
6. (ecological) the maximum number of individuals that an area of land can support, usually determined by their food requirements

Synonyms

1. amplitude, compass, dimensions, extent, magnitude, range, room, scope, size, space, volume;
2. ability, aptitude, aptness, brains, capability, cleverness, competence, competency, efficiency, facility, faculty, forte, genius, gift, intelligence;
3. power, readiness, strength.
4. appointment, function, office, position, post, province, role, service, sphere
5. the ability or power to contain, absorb, or hold

Etymology

Early 15c., from M.Fr. *capacité* (15c.), from L. *capacitatem* (nom. *capacitas*) "breadth, capacity," from *capax* (gen. *capacis*) "able to hold much," from *capere* "to take" (see [capable](#)).
Verb *capacitate* is recorded from 1650s.

Capability

Synonyms

1. ability, capacity, competence, facility, faculty, means, proficiency, qualification(s), wherewithal
2. potential, potentiality, power.

Antonyms

1. inability, incompetence, inefficiency, ineptitude, powerlessness.

Etymology (capable)

1560s, from L.L. *capabilis* "receptive," used by theologians, from L. *capax* "able to hold much, broad, wide, roomy;" also "receptive, fit for;" adj. form of *capere* "to take, grasp, lay hold, catch, undertake, be large enough for, comprehend," from PIE **kap-* "to grasp" (cf. Skt. *kapati* "two handfuls;" Gk. *kaptein* "to swallow, gulp down;" Lett. *kampiu* "seize;" O.Ir. *cacht* "servant-girl," lit. "captive;" Welsh *caeth* "captive, slave;" Goth. *haban* "have, hold;" O.E. *hæft* "handle," *habban* "to have, hold;" see *have*). Related: *Capably*.

#4: Critical evaluation of the idea of listing the “capacities” or “capabilities” of design

“Capacities” are capabilities to act. Thought as part of a process they can be considered also as ‘functionings’—except that ‘functionings’ might better describe the (limited) capacities developed and required for a particular job or post, whereas capability or capacity refers to a potential capacity with the individual designer (but which also might be held socially as when a society or group focuses and develop particular capacities or capabilities (or expertise) in response to particular circumstances).

In any one design act these capacities or ‘functionings’ are drawn upon contingently and individually in a set; or to be more accurate, the design process in any instance consists of many shifting patterns of such sets, sometimes within an individual, more often across a series or team of persons. In practice of course capacities are not drawn upon within these parameters nor do such parameters form in practice a neat processual model. A listing can only be heuristic then; a device for bringing things to light not a model of how capacities are deployed in real circumstances (always infinitely more messy than any model could model).

Another point to consider here is the status of these capabilities. In any one designer, a very large number of them are pedagogically underdeveloped in an explicit sense; they are therefore innate, though doubtless developed (more or less) through experience and awareness. Others may be developed by circumstance in particular contexts, others still may equally be repressed, even forbidden.

Further problems of offering a listing of capacities, particularly a-priori

1. Since design is historical and takes place in specific and shifting historical conditions no definitive list of capabilities can ever be given. Conditions of designing and the priorities they suggest vary.
2. Any individual list will be abstract and contingent in the sense that is made speculatively by me. As the economist Amartya Sen has noted over his own list of ‘capabilities’ (in relation to development and rights) “The problem is not with listing important capabilities, but with insisting on one pre-determined canonical list of capabilities, chosen by theorists without any general social discussion or public reasoning. To have such a fixed list, emanating entirely from pure theory, is to deny the possibility of fruitful public participation on what should be included and why.’ At the very least making such a list therefore needs to be a collective exercise; public discussion and reasoning is almost certain to lead to a more exhaustive and finally attuned set of capacities and capabilities
3. At the same time have to acknowledge that in practice we use capabilities for different purposes. As Sen again notes, ‘what we focus on cannot be independent of what we are doing and why.’

On the other hand ...

In defense of the listings given below it is interesting to consider what they show. For example, while the lists deliberately exclude some of traditional art-based capacities and capabilities it is clear how much traditional (and existing) design pedagogy focused/focuses its explicit training almost exclusively on the capacities listed under 8 and perhaps 6 & 9.

The corollary of this last point is that it forces us to ask what should be/can be the necessary focus of design pedagogy for today and the future in terms of the developments of skills and capacities.

It may be that for 'design in the expanded field' as I call the condition of designing today we have to think about this wide field of capacities and how we develop the capability to develop and manage potential capacity well.

#5. A first listing of the capacities or capabilities of design

An incomplete & by no means definitive listing of the capacities or capabilities of design might include:-

1. Capacities for critical apprehension (evaluation) of a situation and its possibilities

Reflection ('Originality and range')	Evaluative (of situation)
Perception (needs and wants)	Measuring/gauging
Researching/seeking	

2. Critical capacities

Critical apprehension	To see non-relations/what is missing
To question (categories)	To pose a question to the given/to ask why not?
To affirm (that a non-relation can be overcome)	

3. Capacities that have to do with moving from existing to preferred situations/capacities of intervention

Speculation	For thinking possibility
Invention (courses of action)	Intervention
Innovation (realization)	

4. Capacities that have to do with organizing/planning/strategizing

Articulating (the issues)	Scenarios (drafting)
Schematics	Planning
Programming (systems)	

5. Capacities involved in conceiving & bringing something new into the world

Propositional Positing
Anticipative Pre-figurative
Originative/Natalic

6. Capacities involved in how we configure/re-configure things

Negotiation (of incommensurability)
Configurative Formative
Dispositional Re-directive

7. Capacities for mediating and attuning our relationships to things and the world

Mediation Reciprocity
Resonance Synthesis/integrative
Attunement

8. Processual capacities (those involved in the translation of concept/perception to realization):-

Translation Modeling/Visualization
Realizing/Manifesting Prototyping
Iteration/Iterative capacities

9. Poetic and transfigurative capacities

Revelation Refinement
Emblematization Transfiguration
Embellishment

10. Capacities for evaluation

Critical Reflection (second-order) Evaluation (after the fact)
Critical Analysis (processual) Researching/Testing
Assessing/gauging (implications)

Single words are evocative but on the other hand they are weak in explaining what they contain.

#6: Design capabilities in sentence form

1. Capacities for critical apprehension (evaluation) of a situation and its possibilities

Reflection ('Originality and range'); Evaluative (of situation); Perception (needs and wants) Measuring/gauging (qualitative); Researching/seeking
—the capacity of (diagnostic) observation

- the capacity for original reflection on a situation
- the capacity for evaluative apprehension (of situations) in terms of their possibilities (thinking in terms of subjects)
- the capacity of recognition of/perception of, the needs/wants/desires of the other
- the capacity to gauge a situation and its possibilities (its politics)
- the capacity to see what is ethically required in a situation
- the capacity to see what must be researched/evaluated/understood concerning a situation
- the capacity to see the affirmative human potential in a situation

2. Critical capacities and the capacities of understanding (a situation)

- Critical apprehension; to see non-relations/what is missing; to question (categories);
to pose a question to the given/to ask why not?; to affirm (that a non-relation can be overcome)
- the capacity to pose a question to what-is
 - the capacity of critical or analytical commentary
 - the capacity to break with or re-configure concepts and categories
 - the capacity to see or to sense or to feel the breakdown of norms or a paradigm
 - the capacity to understand a situation
 - the capacity to ask “Why not?”
 - the capacity to affirm (that a non-relation can be overcome)
 - the capacity to take non-identity of relations or requirements and to speculatively show how things that appear antithetical (beauty and use; beauty and economy) can be shown to co-exist

3. Capacities that have to do with moving from existing to preferred situations/capacities of intervention

- Speculation; for thinking possibility; Invention (courses of action); Intervention; Innovation (realization)
- the capability of thinking possibility and thinking in terms of possibility
 - the capacity of speculating at as to how things and situations might be
 - the capacity of understanding the interaction of material and immaterial factors in a situation
 - the capacity to envision intervention (and to assess the likely affirmative and negative impacts of intervention)
 - the capacity to invent courses of action to allow movement from existing to preferred situations

4. Capacities that have to do with organizing/planning/strategizing

- Articulating (the issues); Scenarios (drafting); Schematics; Planning
Programming (systems)

- the capacity to give (some) words concerning a situation and how it might be transformed; the capacity to become precise (but non-reductively) concerning a situation
- the capacity to articulate a situation and what can be done with it
- the capacity to make a narrative concerning a situation
- the capacity to draft (and visualize) scenarios
- the capacity to offer schematics of transformation
- the capacity to map the system(s) of realization (of a complex project)
- the capacity to plan and to organize
- the capacity to organize transitions and the realization of a project

5. Capacities involved in conceiving & bringing something new into the world

Propositional; Positing; Anticipative; Pre-figurative; Originative/Natalic

- the capacity to offer the gift of translating a desired perception into an enduring thing
- the capacity to offer scenarios of what is possible and to offer occasions for discourse around what is possible (“this, or that?”)
- the natalic capacity (to give birth to) [whose commercial version is innovation]
- the capacity to (dare to) propose the new or the originative
- the capacity of pre-figuration and anticipation

6. Capacities involved in how we configure/re-configure things

Negotiation (of incommensurability); Configurative; Formative; Dispositional; Re-directive

- the capacity to break with or re-configure concepts and categories
- capability of configuration and re-configuration
- the capability of giving things and situations a propensity towards; i.e. to give direction
- the capacity to undertake re-directive work
- the capacity to design to the scarce or limiting resource (Simon)
- the capacity to make the possible real, but to do so in forms that preserve the question (the real and the fictive)

7. Capacities for mediating and attuning our relationships to things and the world

Mediation; Reciprocity; Resonance; Synthesis/integrative; Attunement

- the capacity of mediation as relating together and connecting ...
- the capacity to (configuratively) negotiate incommensurable demands (the capacity not to fear incommensurability, indeed to welcome it)
- the capacity to think the mediation of conditions, especially mediation of subjective and objective requirements; at widest to think the ‘four-fold’ mediation

- of subjects, world, 'earth' (what-is) and 'gods' (the anagogic conditions of existence)
- the capacity to offer new or other ways of understanding how we can be in relation to the artificial and natural ways; the capacity to show us new ways of (say) of inhabiting a body
- the capacity to identify resonance and recognition (features and capabilities of subjects, features and capabilities of situations, features and capabilities of a situation)
- the capacity for complex synthesis and for establishing connections between
- the capacity for attunement and resonance

8. Processual capacities (those involved in the translation of concept/perception to realization):-

Translation; Modeling/Visualization; Realizing/Manifesting; Prototyping

Iteration/Iterative capacities

- the capacity to translate between the perception of the possibilities of a situation and its material or substantive re-configuration
- the capacity to visualize and model
- the capacity to make manifest an idea
- the capacity to prototype
- the capacity for (reflective) iteration and the capacity to use iteration as a tool for understanding (for 'coming to understanding about the problem')
- the capacity to think in terms of the material realization of an idea

9. Poetic and transfigurative capacities

Revelation; Refinement; Emblemization; Transfiguration; Embellishment

- the capacity to transfigure and transform
- the capacity to give a thing or an experience emblematic form (so that it is capable of lodging in mind)
- the capacity for enhancement and enchantment
- the capacity for embellishment and refinement of an idea

10. Capacities for evaluation

Critical Reflection (second-order); Evaluation (after the fact); Critical Analysis (processual); Researching/Testing; Assessing/gauging (implications)

- the capacity for critical reflection
- the capacity for analysis of what has been done in terms of the immediate demands or requirements of the issue or situation
- the capacity to assess and gauge implications of what has been achieved
- the capacity to see the implications for knowledge (of design; for knowledge in general and particularly concerning the artificial and our relations to it) in what has been achieved—
- the capacity to be able to register and analyze second- third and fourth order consequences

