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The Inner Border Crossing: Imagination in Design

Mads Nygaard Folkmann

Abstract

Since Romanticism, imagination has been praised as a locus for human creativity, i.e. as an origin of a limitless and boundary-crossing mental activity that can lead to radically new creations. At the same time, a key insight of Romanticism was that imagination has to be externalized in a medium if it is to have any effect. Following imagination's dialectics between internalization and externalization, the paper will discuss the dynamics of designers' imagination. In describing the concrete work and working methods of the designers FUCHS+FUNKE (D) and Ditte Hammerstrøm (DK), the paper will raise the question of the inner workings of the imagination as it (a) links sensual matter with conceptual meaning in the Kantian structure of schematizing, and (b) aesthetically performs this operation in an open, non-teleological construction of the concepts involved. Thus, the imagination is a locus for the creation of meaning in the intersection of known and unknown.

Key words

Imagination, creativity, design methods, design epistemology, furniture design

Introduction

Since Romanticism, imagination has been celebrated as a locus for human creativity, i.e. as the seat of a limitless and boundary-crossing mental activity that can lead to radically new creations in staging, setting, transforming, coalescing and blending meaning (cf. e.g. Casey, 1976; Kearney, 1998; Coleridge, 1984; Fauconnier & Turner, 2002; Wunenburger, 2003).

Romantic authors such as, e.g., Percy Bysshe Shelley, S.T. Coleridge and Novalis have contributed to the establishment of a discourse of creativity as something rooted in a mental setting in relation to the appearances of the world. Thus, a basic principle in Romanticism is *internalization*, the “inward sight”, to use a phrase from Shelley’s 1821 treaty *A Defence of Poetry* (Shelley, 2002, p. 533), where the Romantics, in a process of reverting the structural relation of inside and outside, sought to discover the wonders and freedom of the inexhaustible and borderless inside of consciousness (Engell, 1980) and let the inside perform as the central core for conceiving meaning and apprehending the world. At the same time, however, a central insight of Romanticism is that imagination must be *externalized* in a medium if it is to have any effect. Novalis, who said that “the secret way is going inward”, noted that it had to be complemented with an outward gaze: “the second step must be an active, outward gaze – a self-active, unexpended perception of the outside world” (Novalis, 1965, p. 422). The gaze must be turned outward, toward the world, but still it has to begin with a detour to the inside of consciousness. The gaze must be tinted by the operations of consciousness as it “dissolves,

diffuses, dissipates, in order to re-create” (Coleridge, 1984, p. 304) and thus serve as a locus for the creation of new meaning, but it must also be *mediated*, for example in works of art, the preferred medium in Romanticism, in order to have any effect.

As a model for creativity, the structure of internalization and externalization is informative in several ways. First, we can see that the creation of new meaning may occur in the formative powers of imagination in consciousness but that it only comes to itself in the meeting or *refraction* of inside and outside, and, second, that this must take place in a medium. Further, through the dialectics of internalization and externalization, we can get a more precise concept of imagination in design, i.e. how creativity through imagination not only takes place in the analytically inaccessible (cf. Liddament, 2000) minds of designers but actually find its way to and thus is traceable in their design. In the following, the paper will discuss the dynamics of designers’ imagination with the internalization-externalization structure as an overall framework for linking theoretical models of the imagination with the work of designers, in this paper specifically the work and working methods of the furniture designers FUCHS+FUNKE (D) and Ditte Hammerstrøm (DK). The question that structures the argument of the paper is how we may conceptualize imagination in a way that makes it relevant for design discourse, not in a celebration of designer’s creativity but as a contribution to design epistemology.

Imagination at the intersection of known and unknown

Reflecting upon imagination’s position in the internalization-externalization framework, a series of questions pertaining to the issue of *knowledge* take on urgency: When we apply the inward gaze, what can we then know at all? What is the contribution of new meaning from the imaginative operations of consciousness? In phenomenological discussions it has been pointed out on the one hand that an image in consciousness will always be less than worldly perception as we can only project as an imaginary image what we already know (Sartre, 1940), and even Romanticism’s main apologist of the imagination, Coleridge, pointed out the impossibility of *creatio ex nihilo*, as all faculties of consciousness rely on experience; on the other hand, imagination holds the potential to transform the material that it might receive from experience and through the “negation of the condition of being in the world” it can posit “an anti-world” (ibid., p. 261) where meaning not only turns into “another meaning” but into “the *otherness* of all meaning” (Blanchot, 1955, p. 354). The main point is that something happens with meaning when it is internalized; likewise, the boundaries of what is knowable and what is not are blurred. Imagination, then, can be seen as a structure in consciousness that negotiates and exchanges known and unknown.

The question of the relationship between known and unknown is particularly relevant for design development and design epistemology, as the anticipation and prediction involved in grasping at something not-yet-existing and presumably preferable is a specific characteristic of design (cf. Simon, 1996; Zamenopoulos & Alexiou, 2007; Galle, 2008) where the method of

development is not given in advance but evolves during the process. Thus, design processes can be conceptualized as a grasping at something that is not-yet-known, i.e. design processes often function as an exploration of the unknown. With regard to design methods, there has been debate about the necessary amount of knowledge: how much knowledge is needed in a phase of analysis in order for a phase of synthesis to extrapolate, generate and stipulate new design solutions (cf. Lawson, 2005). From the perspective of imagination, however, the question is not so much about how to gain information from the outer world (data about users, tests, market research, etc.) but rather what kind of knowledge lies within the designer's consciousness and how it is employed and transformed here. This pushes the relation of knowledge and non-knowledge in another direction. Instead of being a feature of constitutively not knowing enough, i.e. always having inadequate knowledge, as we cannot in principle know in advance what knowledge will be relevant for developing a design solution whose existence is emergent, design problems are "wicked" and constitutively ill-defined as it is the nature of the problem only to evolve during the design process (see e.g. Rittel & Webber, 1973). Further, seen in relation to consciousness, the structure of knowing/not-knowing can be regarded as a mental setting in relation to the design problem and thus as a method of filtering experience and meaning. Awareness of this structure of knowledge can be an asset in design processes; If one is aware of its tacit workings in consciousness, it may shed light on the inner dynamics of the design process and its material envisioning of something new that not only was not there before but also not-previously-knowable. In management theory, C. Otto Scharmer similarly speaks about seeking 'self-transcending knowledge' that is organized around 'emerging opportunities' (Scharmer, 2001) and about developing a culture of management out of the perspective of an open and emergent future, where a connection to the roots of human existence in a phase of "presencing" enables a "letting come" of the future and its not-yet-to-be-known paradigm of knowledge (Scharmer, 2007). However, Scharmer also demonstrates the fluffiness of these reflections, and the next question is how to get a better grasp of the workings of the structure of imagination and its conceptualization in relation to design.

Schematizing

As we approach samples of design from Ditte Hammerstrøm and FUCHS+FUNKE, we may, of course, ask why the designs look the way they do, and further, what kind of mental setting in relation to the design problem and what refraction of inside and outside, known and unknown they reflect. FUCHS+FUNKE's over-size origami chair *Papton*, for example, is like many of the works from this firm, not so much a finished and physically circumscribed product as the result of an ongoing negotiation of a mental image of the material possibilities and constraints of a standard sheet of paperboard. Thus, the question is how imagination meets materiality and how, then, both imagination and materials are ultimately and mutually transformed. Through its work with materiality (in turning the tactility of upholstery inside out), Hammerstrøm's chair

Bistro Light (2005) actively seeks to challenge and question the cultural frames of reference that design is understood through; her design is not primarily aimed at solving a problem but rather constitutes a physical projection of a mental questioning of design ontology.

[IMAGE 1: *Bistro_Light_6*

Bistro Light, 2005

Design: Ditte Hammerstrøm

Made by: Källemo AB for Thorsen Møbler

Photo: Ole Akhøj]

Thus, I propose the theoretical concept of *schematizing* as way of addressing the intersection of internalization and externalization, of mental settings and of physical manifestations in design. It is a model of the cognitive, imaginative framing of reality. The concept is not, however, unknown in design discourse; for example, in a context of actual design practice the term *schemata* has been used to describe dominant ways of addressing problem solving in the “development of a growing pool of precedent” (Lawson, 2004, p. 456). Further, the notion of image schemata from contemporary cognitive science (cf. Hampe & Grady, 2005) and its focus on conceptual frameworks has found its way into design research and design discourse as an attention directed at users’ responses to technological artefacts which require a reorganization of given knowledge structures to generate a new construction of meaning in a process of embodied interaction (Markussen, 2010).

My approach will be to focus on the process of *linking concepts and materiality* as they can be detected in design objects and traced back to a question of the designer’s mental setting in relation to the design process. In two steps I will point to Immanuel Kant as an important philosophical source, in part because he connects imagination to epistemology and aesthetics and thus offers a foundation for the process of linking concepts and materiality, and in part because he points to the dynamic nature of this process.

1. In his seminal epistemology in *Kritik der reinen Vernunft* (1781/87), Kant describes the basis for a release of the productive powers of imagination that had hitherto, in English Empiricism, been too tightly connected to the sensual. The basic – and revolutionary – premise in Kant’s epistemology is his shift away from a belief in gaining access to things ‘as they are’ to focusing on human cognition as the entrance to knowledge, “*our way of perceiving and recognizing objects*” (cf. Kant, 1990, B25). Kant operates with *flexibility* in cognition and relates this to imagination. For him, experience takes place at the intersection of sensual appearances and, on the one hand, inescapable structures such as time and space and, on the other hand, the conceptual constructions of cognition. The crux of the matter is that he proposes the *scheme* as a matrix for the apperceptive and synthesizing linking of concepts and sensual, sensory and perceptually given appearances and thus for the human production of meaning (ibid., B177). Thus, the scheme conditions our ability to construct meaning through synthesis. The key point is that the scheme is itself a product of imagination (ibid., B179); i.e., it is not

given once and for all but is a structure of the human mind that is open to alteration and new configurations. This kind of reflection reveals the conditions of knowing and construing meaning and leaves it open to analysis: We see that meaning is not actually given but created in a complex interaction of constructive factors.

2. In his work on aesthetic experience, *Kritik der Urtheilskraft* (1790), Kant uses the flexibility of schematism in relation to ‘judgements of taste’. This operates without concepts but through the imagination it may *schematize openly without given concepts*. It operates in a search for concepts that fit the appearances that seek to be comprehended through the judgement of taste (Kant, 1995, p. 164). The point is that aesthetically, imagination can perform the operation of linking sensual matter with conceptual meaning in an open, non-teleological construction of the concepts involved.

My hypothesis then, is that with their design designers can create a specific connection of abstract conception and concrete views, and that in this respect the design process can be considered as a process of schematization. This process produces new meaning through the designers’ views concerning how the design is intended to interact with its surroundings and its cultural and societal contexts, and how it organizes meaning in a way that lets it ultimately affect perception and understanding (on a small scale). Herein lies the way in which schematizing can be activated as a dynamic and flexible operation that simultaneously transgresses the individual and subject-bound perspective otherwise implied in traditional thinking of imagination and creativity; just as art has the capacity, in phenomenological reflections of experience, to cause a “coherent deformation imposed on the visible” that provides us with “emblems whose meaning we will never stop to disentangle”. Thus, art is less a source of concrete, specific ideas than a source of overall “*matrices of ideas*” (Merleau-Ponty, 1960, pp. 96-7), and the insight in the structuring of experience through actual artefacts can be turned towards the creative process where it can be made an asset of aesthetic production. Thus, in focussing on the general structures and patterns of ideas (and not on idiosyncratic-personal ideas of creation) and using the concept of schematizing, it might be possible to achieve valuable insights about the connection of designers’ mental settings in relation to the outcome of the design process: the design objects.

Papton and Sofa set: Dialectics of mental setting and design objects

The theoretical approach of schematizing is broadly conceived in relation to basic structures of meaning creation in and through design and might thus have implications for the understanding of design method and design processes – this is, however, yet to be tested through analyses of design objects and in collaboration with designers. This paper presents a theoretical proposition that needs to be elaborated and worked through.

I will, however, indicate how this may be approached through a brief discussion of the examples *Papton* and *Sofa set*.

Hammerstrøm's *Sofa set* (2004) can be seen as an example of how the overall framework of schematizing links concepts and sensual matter. Thus, questions can be raised from the position of the design and back to the designer's mental setting.

[IMAGE 2: *Sofa_Set_1*

Sofa set, 2004

Design: Ditte Hammerstrøm

Made by: Erik Jørgensen

Photo: Jeppe Gudmundsen-Holmgreen]

Sofa set is simultaneously heterogeneous and homogeneous. Its elements are made to be as archetypical as possible, "to look like an experiment in the laboratory of furniture", and to play with the culturally shaped expectation of having furniture belong together in groups. Hammerstrøm has taken the ongoing fusion of furniture in contemporary culture literally and created a set where all the different pieces are built into each other. Thus, instead of grouping and arranging discrete and separate pieces of furniture, she has created a brutal clash of disparate elements of different kinds of furniture, sofa, coffee table, shelf, and lamp. As most conceptual design, *Sofa set* reflects a meeting of an abstract field of discourse (what do we expect of furniture?) and a concrete physical manifestation in a product design that is still in many respects capable of fulfilling its basic functions as furniture design. On a conceptual level, it is important for Hammerstrøm to maintain that all design employs frames of reference specific to time, place and culture, and that these are unavoidable as no design can exist outside culture. In her example, she challenges the tradition of Danish Modern and what she claims is its ideologically biased design dogmas of simplicity, rationality, and timelessness. The frames of reference, then, can be employed to enhance the clash in the design of opposite structures. Thus, in challenging the ideology of Danish Modern, Hammerstrøm wants to produce clashes in order to question the frames of references that work tacitly but effectively and omnipotently in and through design. In the clash of abstract references/principles/concepts and concrete detailing/matter/material in the design, Hammerstrøm not only lets abstract concepts and concrete matter be mediated, exchanged and connected. She also seeks to create new meaning that might be based on a clash (the negative-destructive aspect of her design) while still, openly, exploring new ways of relating abstract and concrete (the positive-constructive aspect) where both polarities of abstract and concrete undergo changes during the process of meaning creation.

In many ways, *Papton* is a *design-in-progress*; based on the material constraint of the standard sheet of paperboard, the design can be understood as an ongoing search for the ultimate and minimalist form by using origami for a chair. According to Wilm Fuchs, one of the two associates of FUCHS+FUNKE, the design based on a basic idea that operates as the principle for development in giving the direction for taking the idea to new levels. One way of conceiving this search might be to see it in relation to an implicit assumption of the possibility of creating a perfect expression of form, where the inside of the paperboard so to speak contains

an ‘ideal’ chair that simply needs to be discovered and carried out in the design. This conception has neo-Platonic, Plotinian traits in positing an ideal substance that emanates through the design and ultimately leads to the perfect, one-and-only expression of form; traits of this are present in contemporary design discourse (Brix 2008). Another approach would be to see it as an example of Kantian aesthetic schematization where the concepts for the design (the principle of folding in the right way) are continually explored in a process of infinite approximation; in this perspective the actual manners of folding of the paperboard all contribute to the open process of the non-teleological construction of the concepts involved. Thus, in an interview about imagination, Wilm Fuchs talks about the process of seeking to enable imagination in order to transform and implement (“umsetzen”) it as design (“Entwurf”). In this creative zone, he points to an “ability of *sensitizing* oneself” by focussing on the mental images in the founding stages of the design process. Further, he speaks of both negative and positive aspects of imagination as a borderline of possibilities and non-possibilities of design; the positive side of imagination can activate “passive knowledge” and evoke cross connections (“Querverbindungen”) in a borderland of known and unknown, thus enabling something hitherto not possible, i.e. the creation of an origami chair. On the level of discourse, Fuchs deliberately employs and works with imagination, and his testimony can be seen as an interesting expression of the ideology of imagination as a creative power in setting and transforming meaning. More important, in this context, is his employment of a mental setting in the process of immersion where he and Kai Funke, the other associate of FUCHS+FUNKE, seek the condition of sensitizing, i.e. a specific way of relating oneself to the character, structure and challenges of the design process. In the case of *Papton*, the mental setting is one of openness towards the relationship between known and unknown: By taking into account that the solution of the problem (how to make the ultimate origami chair out of a standard sheet of paperboard) is developed in a process of infinite approximation (the folding can always be a little bit different), the design process takes on the character of a negotiation of the known and given in the material matter of the chair and the unknown in the conceptual construction of its form.

[IMAGE 3: *papton_sequence.jpg*

Folding of Papton. Design: FUCHS+FUNKE

IMAGE 4: *papton_side.back.jpg*:

Papton. Design: FUCHS+FUNKE]

In summary, in my view the productive approach to making imagination a subject of discussion in relation to design is not primarily to attach it to the ideological statements of what imagination can do as a creative force within consciousness, as that renders the theoretical discourse too general. Rather, it can be productive to see imaginings not as “something intangible which takes place in a mysterious ‘medium’”, i.e. the mind, but rather as “*a doing*” that “alludes to the thinkable, and this means: to the do-able” (Liddament, 2000, p. 604). My contribution to this discourse is to propose a framework – imagination as schematizing and as

structured by a refraction of internalization in an actively defined mental setting and an externalization in the material manifestation of design – that is able to operationalize the insights in the structures of imagination for the benefit of design work. Of course, the examples in the paper belong to the realm of experimental design in terms of structure and form, but as they are on the verge of the possible and impossible in design, they may be instructive as to what is going on when boundaries are crossed through the operations of imagination and deployed as design.

Imagination as method?

In conclusion, I will briefly discuss the methodological implications by theorizing design and design epistemology within a framework that incorporates the borderland of the known and unknown in imagination as an aspect of design thinking. The present proposal may, as I see it, enrich the design discourse in two ways.

First, it may contribute to the *mis-en-discours* of an area that belongs to the tacit areas of design knowledge, or, to use Nigel Cross's phrase, 'designerly ways of knowing' (2007). As all designers who look at the world through the "design they are working on" in fact look through a "set of lenses, and cannot help but do so" (Harfield, 2007, p. 171), there may be an advantage in becoming aware of the workings of these lenses with regard to perceiving and understanding the world and thus configuring experience. When we discover how we see and become aware that we always see through one set of lenses or another, we acquire reflexive knowledge and get past being entangled in experience. The same can be said about imagination: Being more aware of the mechanisms of imagination, we understand how it contributes to our ways of constructing meaning and we can create and use design as a medium for this process.

Second, I will point to the relevance of not only conceptualizing in a process of enlightenment what must be known but also of acknowledging that the known always is, in every process of human cognition, countered and circumscribed by something unknown. This reversal of enlightenment has been claimed especially by Romanticism. Instead of seeing the knowable as the base of a sort of 'remainder' of the non-knowable, Novalis reverses this polarity by stating the primacy of unknown: "The unknown, the secrecy is the result and the beginning of everything. [...] The recognition [Erkenntniß] is a means of obtaining non-recognition again" (Novalis, 1968, p. 302). By also enlightening imagination and its structures of operation, hopefully we can arrive at a better understanding of the complexity of the factors at work in design in the intersection of what we know, and what we do not know.

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