

Designing the *Performative Object*:
a study in designing mindful interaction through artefacts

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Designing the *Performative Object*:
a study in designing mindful interaction through artefacts

by

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A thesis submitted to the University of Plymouth
in partial fulfilment for the degree of

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Faculty of Culture & Media
Falmouth College of Arts

Abstract

Kristina Niedderer

Designing the *Performative Object*: a study in designing mindful interaction through artefacts

This thesis investigates the potential of design to intentionally mediate social interaction in ethical (mindful) ways. The subject of the study has evolved from observations and reflections on my own practice. In using the drinking vessel to explore the mediation of human face-to-face interaction through the artefact, the question arose whether some objects can influence interaction more actively than others. In particular, the question was whether and how an artefact can stimulate the user's behaviour by means of its function, and whether this stimulation can cause mindful reflection and interaction. The aim was to understand better the characteristics of this kind of object, of their impact and design, and whether they could be useful as a wider concept for design (Buchanan 2001).

In the course of the study, I have developed the concept of the *performative object* (PO) to describe objects with these qualities of interaction. At the core of the study is a concern with identifying the PO as a separate category of definable design objects. This is under the recognition that the PO has not hitherto been recognised as a separate category and therefore it has not yet been put to its full potential use.

The activity of proposing the PO as a new category determines the study as a naming and classification study (Fawcett 1999). This means, first, it is necessary to find out what POs are by defining their characteristics. Second, it is necessary to distinguish POs from other categories of objects in order to show their originality. And third, it is useful to try to assess the benefits of proposing this new category. Consequently, this thesis offers the concept development and testing of the category of PO.

The concept development is used to define the concepts of mindfulness and function in the context of interaction as the main characteristics of the PO. The concept of mindfulness (Langer 1989; Udall 1996) is taken to refer to the attentiveness of the user towards the social consequences of the action performed with the object. The concept of interaction as used in this study unites concepts of human-object-interaction from Material Culture (Miller 1987; Pearce 1994 and 1995) and of social interaction from Sociology (Goffman 1967; Mead [Morris 1967]) in order to accommodate the understanding of human-object-human-interaction as a triangular relationship in the context of design.

The testing is conducted through the conceptual and comparative analysis of examples with regard to examining the probability and originality of the concept of PO. While the comparison is theoretical in its nature, the theoretical development of the conceptual analysis is complemented by an element of practice. The practice is used to explore the potential of function to cause mindfulness in order to develop an understanding of the characteristics of POs and to provide further evidence in terms of examples. The drinking vessel is chosen as a focus of investigation due to its distinct position within social interaction; however it is complemented by selected examples from product and interaction design in order to indicate the wider significance of the concept.

The outcome and contribution of this thesis is that we can identify artefacts with certain characteristics of mindfulness and function as *performative objects* (POs) and that we can distinguish them as a separate category of definable design objects. In reflection on the usefulness of the proposed concept, I argue that the benefit of recognising the category of *performative objects* will give designers more scope to utilise the social and cultural potential of design, and to create mindfulness.

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Author's Declaration

At no time during the registration for the degree of Doctor of Philosophy has the author been registered for any other University award.

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A general research training and research seminars were attended at FCA. Additional events were attended, including a Seminar Day on Research Degrees and Research Supervision (7/2003) and a Learning and Teaching Day (7/2003) at FCA; a series of seminar days on Comparative Research Methods (11/2002) at Staffordshire University; a seminar day on PhDs in Art and Design at the University of Plymouth (11/2002, Exeter); and a PhD Supervision Workshop at *CommonGround* (9/2002, DRS-conference).

A number of relevant conferences were attended between 2001 and 2004: Conference of the *CEPHAD*-group (15-18 April 2004, DRS and Denmark's Design School); *Techné* (28-30 April 2003, EAD); *CommonGround* (5-7 September 2002, DRS); *Drink and Conviviality in Early Modern England* (10-11 July 2001, University of Reading); *The Enactment of Thinking: Creative Practice Research Degrees* (5-6 July 2001, University of Plymouth, Exeter).

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"Why is there the Need for Explanation? – Objects and their Realities" (7/2004, Hertfordshire University: *Research into Practice 2*); "Designing the Performative Object: designing mindful interaction through artefacts" (4/2004, CEPHAD); "The Performative Object: Enacting the Humane Dimension within Design" (4/2003, EAD). Seminar presentations of research work have been made at FCA (10/2001, 2/2002, 2/2004), Staffordshire University (2/2004), and the University of Hertfordshire (5/2004).

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Signed.....
Date.....21.09.2004.....

Chapter 1

Introduction to the study of the *performative object*

Chapter 1: Introduction to the study of the *performative object*

1.1 *Genesis: identifying the problem of the study*

The subject of this inquiry has evolved from observations and reflections on my own practice. The project that has been of fundamental importance for the development of my research has been the “Social Cups”, which I completed some time before the proposal for the current research.

I developed the “Social Cups” with the aim of mirroring the interrelations between users which I had observed at various occasions around the table, and to make them explicit. The shape of the cups is that of the cuppa of a champagne glass, yet without the foot. Without the foot, the cups cannot stand. Therefore, they each have a little connector with them that carries two suction pads on each side and by means of which the cups can be connected. At least three cups have to be connected to build a stable unit. In this way, people have to communicate and interact in order to operate and use them (Illustration 1).



Illustration 1: “Social Cups”,
Kristina Niedderer 1999

The finished piece raised some debate and questions about the potential and value of the object to influence interaction. There were doubts about perceptions of predictability with regard to use as well as considerations about the potential of design as social mediator. Both doubts as well as expectations were raised centring on my intervention with function that somehow subverted the norm. My experience of the cups seemed to propose that this object – due to the manipulation of function – could more actively impact on social interaction than is normally assumed.

This sparked the desire for a systematic inquiry into the phenomenon described in order to find out what was different. The assumption was that some objects could influence interaction more actively than others. The aim was to understand better the characteristics of this kind of object, of their impact and design, and whether they could be useful as a wider concept for design.

To articulate and frame my inquiry, hypothetically I have termed the group of objects that I want to investigate *performative objects* (PO). I call them *performative objects*, because I assume them to

cause the user to perform in a particular mindful way. This means that attention is directed towards the social interaction within and through the use of the object.

With this project I aim to investigate the concept of the *performative object*. Before I present the initial hypothesis and research questions, I need to introduce the problematic of the PO in more detail. In the following, I outline the context of the inquiry and introduce three key concepts which are implicit in the above: *interaction*, *mindfulness*, and *function*.

1.2 Positioning social interaction within the context of design

The first key concept I want to introduce is that of interaction. Above, I have stated my interest in the impact of the artefact/object on social interaction within and through use. This suggests a triangular relationship between person/subject – artefact/object – person/subject (Figure 1), which embraces the three aspects of

- interaction with artefacts within use
- use of artefacts within interaction with other persons, as well as
- social/cultural meaning and influence of artefacts/design within and on this interaction.

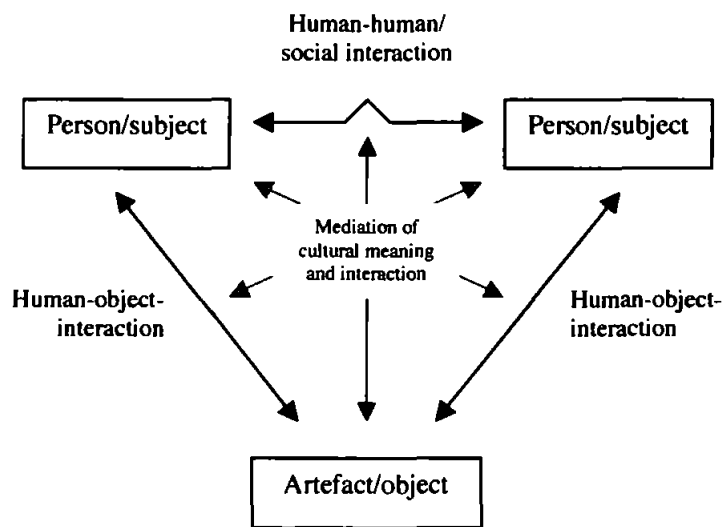


Figure 1: The triangular relationship of interaction

Coming from the position of the designer, I assumed that – naturally – my study would be positioned in the context of design. With regard to the concept of interaction, this raises two questions. Firstly, what is the meaning of interaction in design and, secondly, what is its meaning in the context of my study?

In design, the concept of interaction is usually understood either with reference to the design process (e.g. designer-user-interaction as in User-centred Design), or with reference to use (e.g. user-object-interaction as in Interactive Design etc.). With regard to this distinction, my interest in interaction can clearly be positioned within the latter area of use.

Looking at interaction in terms of use, it is common that emphasis is put on interaction with the object or medium and its technological aspects, and on a functional and/or ergonomic level (cf. §2.2.1: 38) rather than on aspects of human social interaction which it may facilitate. For example, mobile phones are designed and developed with regard to the technical potential and simplicity of use rather than the social consequences of use or abuse.

This emphasis may be seen to have its roots in the understanding of design from the perspective of production. The person engaging with the object or the designer is here regarded merely as a user, i.e. as a person who engages with the object according to the function intended by the designer. This perspective does not seem to acknowledge the social consequences and the freedom of the individual person to decide about how to use an object.

Use, in cultural terms, is also referred to as consumption (Miller 1987: 17). Material Culture investigates artefacts as they occur within consumption, that is, use embedded in a social context. Writers such as Pearce (1994 and 1995), Miller (1987 and 1998), and Miller and Slater (2001) explore the social dimension of consumption. Thus Material Culture shifts the perspective from that of production for consumption to that of consumption in a social context (Miller 1998: 11). Material culture studies therefore offer a useful approach to researching the social and cultural meaning and influence of design within and on interaction.

Finally, my interest in studying social interaction as mediated by design objects also suggests the need to look at social interaction as such. To take account of this aspect, I draw on the concept of face-to-face interaction which has been developed in Sociology (Goffman 1959 and 1967). In this context interaction refers to direct interaction rather than to mediated contact. *Face* is understood as the socially constituted value of self (1967: 5).

At this point, a brief note seems appropriate about the meaning of the terms 'user'/'use'. Above, I have indicated that 'user'/'use' in the context of design has a functionalist connotation referring to the realm of production. My employment of these terms in the context of this thesis therefore needs some explanation. Firstly, I have decided to allow it because there is no other term that would point so clearly to the engagement of the person with the object in terms of the action with it. Secondly, I would like to make clear that I am employing 'user'/'use' in the specific context of person-object-

interaction that belongs to the social sciences. Thirdly, I replace the term 'user' by the terms 'person' or 'participant' where appropriate. I use the term 'person' where it refers to the person's [or subject's] own [inner] world, and the term 'participant' where the emphasis is on 'human-human-interaction'. I apply the same criteria to the verbs 'use', 'engage', and 'participate'.

To summarise, the study of artefacts and of their use and consumption within social interaction is usually the subject of material culture. In this case, the investigation takes the approach from Material Culture, complemented by theories from Sociology, and applies them in the context of design thinking. This serves to acknowledge not only the important cultural influence of design, but also to harness the knowledge of consumption studies in order to realise the proactive potential of design.

Such an approach offers scope to consider the benefits of design for society as well as a required shift in the attitude to designing. In particular, this study aims to explore the creativity and responsibility of use in the face of self and other, and thus on the *mindfulness* of use. Subsequently, I need to introduce the idea of mindfulness related to interaction in general, and to interaction through artefacts in the context of design in particular.

1.3 Introducing mindfulness as a concept for consumption

Turning from the *concept* of interaction to the actual *experience* of interaction, we daily participate in social interaction where situations are often ambiguous and where we may ask ourselves whether we have said or done the right thing, whether we have understood another person properly, whether we have reacted openly or with prejudice, and whether we have been attentive, sympathetic, or empathic enough (Langer 1989; van Manen 1990). From within an educational context, van Manen (1995 and 2000) describes how we are faced with these situations daily in our interactions with other people. Yet, in our immediate acting we usually have little opportunity to reflect mindfully on these issues (van Manen 1999), and the opportunities to do so together with those concerned are even more rare. So what is *mindfulness*?

Mindfulness is a term that is increasingly used in sociology, psychology, and education (cf. §2.3.2: 48). It is described as an attitude of both awareness and attentiveness. Mindfulness as a state of awareness or consciousness implies my presence to the moment as lived experience, i.e. my experience of the 'now' where I look *at* my experience rather than *through* it (Metzinger 1995: 8-21; Udall 1996: 11-12). Depending on the context I can be conscious of my surroundings or myself, or of something or someone. Mindfulness in the sense of attentiveness is more specific. It usually occurs in the context of social interaction where it is associated – beyond consciousness of the situation – with caring attention towards a person (Langer 1989; Burgoon 2000).

Although desirable as an attitude, it seems that mindfulness is not an easy thing to achieve. Langer raises the question why we are not always mindful and how we could promote enduring mindfulness (Langer 1989: 121). Langer (1989) as well as Udall (1996) come to the conclusion that we need to break through established patterns of perception and experience in order to achieve mindfulness. 'Established patterns of experience' means here *lived experience* in the sense that – over time – it forms, and then carries with it, a body of knowledge of experience, i.e. *life experience* (van Manen 1990: 176). Through life experience, we form preconceptions of certain lived experiences. It is these preconceptions which might prevent us being mindful in new situations (Langer 1989: 19-42) and which we need to break through.

Whether deliberately or accidentally, this breakthrough to mindfulness usually seems facilitated through an external agent (Langer 1989: 81-14; Udall 1996: 107). The question that arises here is whether the design object – as external agent – could be designed to cause mindfulness, i.e. to cause the breakthrough? This question positions mindfulness as an aim in the context of design consumption and, more specifically, in the context of use within social interaction. Thus within this study, mindfulness refers to the attentiveness of the user towards the social consequences of the action performed with the object, i.e. towards others.

Whether and how the design object could be designed to cause mindfulness is a crucial point of the investigation. While theories can help explain the phenomenon of mindfulness, design might serve to transform our experience towards being mindful. Heidegger (1993 and 1996) identifies equipmentality, i.e. a reliance on the omni-existence of objects, as one trait of human nature because humans live in a physical environment that is made out of objects and cannot exist without them.

Furthermore, material culture, as "the study of human social and environmental relationships through the evidence of people's construction of their material world" (Miller 1994: 13) has proposed that objects have a much more active role in people's lives than previously acknowledged (Pearce 1995). Whether and how artefacts can contribute to mindful reflection in the context of interpersonal interaction is explored in this thesis; the 'material basis' for this assumption is introduced in the next section.

1.4 Mindful interaction as proactive encounter using artefacts: function as plan for action

So far, I have introduced the key concepts of interaction and mindfulness. Thereby, firstly, I have determined social interaction as the context of use and, secondly, I have determined mindfulness of interaction as the desired result of that use. What I need to introduce thirdly, is the means by which mindfulness is both caused, and focused on social interaction.

In the previous section, I have introduced the idea that mindfulness can be caused by an external agent through a disruption of common perceptions and preconceptions (Langer 1989; Udall 1996). Subsequently, I have conjectured that the design object might act as an external agent to facilitate mindfulness. The question remains how a design object could cause this mindfulness, i.e. this disruption.

The insights from observation of the use of objects, including my own work, have led me to assume that function might serve as the basis on which design objects could cause this disruption of preconception. In the example of the “Social Cups” (Illustration 2), it is the way in which a disruption of function – in this case the aspect of standing/non-standing – requires the users to interact with each other in order to operate the object, which has provided the first basis for this assumption.



Illustration 2: “Social Cups”,
Kristina Niedderer 1999.

On a theoretical level, this assumption seems to be supported by Pearce (1995: 166) who argues that the object provides a “plan for action”, which normally is laid down in the object’s function. This means, a disruption of function could disrupt the common pattern of action and in due course the experiences linked to it.

Therefore, if a disruption of perceptions and preconceptions is needed to cause mindfulness, I suggest that function could serve to cause mindfulness. More specifically, I conjecture that a modification or disruption of function is needed to cause a disruption of the ‘normal’ pattern of action and of experience, and thus to cause mindfulness.

To summarise, I have made the proposition that the design object can play a vital role in mediating mindful interaction. I have further proposed that function could be the means to achieve this through a modification or disruption of function. Having introduced the three key concepts [interaction, mindfulness, function] I can now present the initial hypothesis followed by the research questions.

1.5 *The initial hypothesis*

In §§1.1-1.4 I have introduced the initial problematic of the inquiry. I have explained that there are objects that seem to influence social interaction more actively. I have positioned my interest in interaction in the context of consumption in order to accommodate my understanding of interaction in design as a triangular relationship between use and social interaction. I have then introduced the concept of mindfulness into the context of consumption as a desirable feature. I have finally suggested that objects could be designed to cause this mindfulness by means of their function.

I can now formulate the initial hypothesis:

that we can design artefacts that communicate and cause mindfulness of other in the context of human interaction by means of a modification of function and such artefacts should be called *performative objects* (PO).

My claim is that the PO has not yet been recognised as a separate category and therefore it has not yet been put to its full potential use. At the core of the study is therefore the concern with identifying the PO as a separate category of definable design objects.

1.6 *The research questions*

In the hypothesis I have made three [as yet] unsubstantiated assertions. Firstly that there are POs. Secondly, that they are a separate category of definable design objects. And thirdly, that these objects have not yet been put to their full potential use.

In order to identify the PO as a separate category we first have to find out what POs are by defining their characteristics. We further have to distinguish them from other categories of objects in order to show their originality. And finally we have to try to assess the benefits of proposing this new category. This results in the following set of research questions:

- 1: What are *performative objects*?
- 2: Can we distinguish *performative objects* as a separate/new category?
- 3: What are the consequences of identifying and designing them?

I complement this first set of 'strategic' questions with a second set of questions, which represents the internal logic and content of the inquiry. These meta-questions respond to the ontological question of what POs are and to the need to define the characteristics of POs. They arise from the conjecture that a disruption of function can impact action/behaviour and thus cause mindfulness.

They are contextual questions that precede the actual research questions in the sense that the answer to them does not provide the actual outcome of the thesis, but they guide part of the inquiry:

1a: Can design [objects] modify behaviour?

1b: Can this behaviour-modification cause mindful reflection?

1c: Can this behaviour-modification (beyond mindful reflection on human-object-interaction) encourage mindful reflection on interpersonal interaction?

In summary, the two sets of questions ask for the development, analysis and testing of the concept of the *performative object* with regard to its realisation and its distinction from other categories of objects.

1.7 Defining the problematic of the inquiry and the methodological approach

We now need to analyse the hypothesis of the PO in order to determine the strategy for the inquiry. Most importantly the activity of proposing the PO as a new category determines that the study is one of naming and classification.

Fawcett (1999: 15) explains that naming and classification are descriptive theories. They “are needed when nothing or very little is known about the phenomenon in question” and “[t]hey state ‘what is’.” With the naming, I aim to identify and qualify the phenomenon under question (question 1: what are...?). With the classification, I aim to identify how the phenomenon relates to other [related] phenomena (question 2: can we distinguish...?). In my case this means that I claim there are objects that are distinguishable from other objects by a set of characteristics but that they have not currently been distinguished.

We now have to decide how to conduct the study; empirically or theoretically. In order to decide this, it is useful to consider what we have to show. Basically, we have to show both that the concept of the PO is possible and probably existent, and that it is original. In order to show that the PO is possible, we have to demonstrate that it is possible to cause mindfulness by means of function. In order to show that the concept is original, we have to demonstrate that these kinds of objects do not already exist as a category with another name.

Establishing the concept and category of the PO seems an essentially theoretical process. In order to approach this issue we first have to define what the originality is in the proposition of the category of POs. I have conjectured that POs may cause mindfulness by means of function. With the focus on function, the issue arises whether function would be the only means to achieve

mindfulness, or whether there might be other means by which to achieve it. In other words, the question is whether the proposition of the means of function is the original feature of the PO or whether it is the proposition of mindfulness that is original.

On reflection, it appears that there might be other objects that are associated with causing mindfulness, for example objects in an art or ritual context. Thus it seems appropriate to assume that it is the means [function] that is original. Firstly, we need to show that objects which are recognised for causing mindfulness, but do not seem to be POs, do so by different means. Secondly, we need to show that objects which do not seem to be POs, but which seem to exhibit similar characteristics in terms of means [function], do not cause mindfulness. The inquiry into the PO as a new/separate category thus requires us to compare POs with other categories of objects that cause mindfulness.

This reasoning about the originality of POs presupposes that objects can cause mindfulness, that it is possible or even common to cause mindfulness, and that there are objects that do actually cause mindfulness. It therefore does not seem unlikely for POs to cause mindfulness, but we have yet to show that it is possible/probable for POs to cause mindfulness, and that they do so by means of function.

The issue of probability corresponds to the first research question (1 and 1a-c). These question[s] imply the chain of reasoning: that POs cause us to interact with them differently from *non*-POs; that this causes awareness/mindfulness and in due course reflection on person-object relations; that it further causes reflection on ourselves and, lastly, reflection on ourselves interacting with others. The question is now how to approach this problem and to provide evidence for the possibility or probability of POs to cause mindfulness. Generally this problem could be approached either theoretically or empirically.

An empirical approach could be conducted either in a phenomenological or in a behavioural framework. It would set out the hypothesis, find [or make] objects that, according to the hypothesis, should be regarded as POs and set up appropriate experiments, e.g. user studies, to test whether the use of these objects shows the predicted outcome (deductive reasoning), i.e. from a change of perception and/or behaviour of the user. However the problem with an empirically conducted inquiry would be that we do not really know ontologically what POs are. Therefore, if the result were negative, we could not be certain as to whether there happen to be no POs or whether ontologically we had chosen the wrong objects or conditions.

A humanities approach in this respect seems more favourable to the inductive nature of the argument where the hypothesis is illuminated and discussed from different perspectives and thus tested against various counter-arguments. I therefore propose to develop and test the concept of the PO theoretically through analysis, supported by the comparison with other objects. However, we might find that, on a theoretical level, we cannot follow the reasoning to the end with full evidence, because some of the evidence might only be gained with relative certainty through empirical studies. This is to say, while I can determine the aim of the *performative object* (on a conceptual level), and also make some assumptions about its realisation (on a physical-operational level), what is least understood is the enactment (on a behavioural and phenomenological level), i.e. how design is perceived and can guide engagement and reflection with and through the object.

How can I provide evidence in a theoretical study? I can draw conclusions whether the PO can cause mindfulness through the close reading and comparison of objects. My understanding of the validity of this interpretation from objects is based on the relation between commonly known actions/gestures and their symbolic/meaning to the form-function-complex of objects that allows us to make a comparison between those actions and changes made to them as evidenced through the object. At this stage, I cannot say whether an object will cause mindfulness in every case, but I can make an assumption that there is a potential that it might. This conclusion is based on the further assumption of the principle that mindfulness is caused by a disruption of the common pattern of perception, which is present through a change in function. What the mindfulness is directed towards must be in turn dependent on what aspect is disrupted and in which way the disruption is resolvable in order to operate the object.

Speaking on an abstract level, the project follows a combination of *abductive* (also: *productive*) and *inductive* reasoning. To introduce the two concepts, March (1984: 265-276) draws on the philosopher Peirce (Hartshorne and Weiss 1998, vol. 5: §171) who explains that

Deduction proves that something *must* be; induction shows that something *actually* is operative; abduction merely suggests that something *may* be.

Peirce defines abductive reasoning further as

the process of forming an explanatory hypothesis. It is the only logical operation which introduces any new idea;...

Presenting the concept of abductive reasoning in the context of design methodology, March (1984: 269) argues that this mode of reasoning is most appropriate as framework for design knowledge, because of the nature of design as a creative and conjectural process. In other words, the concept and development of the *performative object* (definition and characteristics), is a projection of what might be possible (abductive reasoning). It is then tested and evaluated through comparative analysis (inductive reasoning) on whether it is probable.

My approach of establishing a theoretical framework as the basis for inquiry acknowledges “that facts *are* facts only *within* some theoretical framework” (Guba 1990: 25, emphasis by Guba). This positions my study in the research paradigm that Guba calls *Constructivism*. Within Constructivism the problem of subjectivity is answered with an understanding of the relativity of all knowledge. This means knowledge is

the outcome or consequence of *human* activity; knowledge is a *human construction*, never certifiable as ultimately true but problematic and ever changing (26).

In order to counter subjectivity within the inquiry, interpretive (hermeneutic) and comparative (dialectic) methods are used:

The hermeneutic aspect consists in depicting individual constructions as accurately as possible, while the dialectic aspect consists of comparing and contrasting these existing individual (including the inquirer's) constructions so that each respondent must confront the constructions of others and come to terms with them (26, parentheses by Guba).

To summarise, I have decided in favour of the theoretical route that sets out to establish the characteristics of the *performative object* through conceptual analysis. The aim is to develop a framework with which to test the concept of the *performative object* theoretically through comparison. This framework may also serve in future for the evaluation of related work on an empirical level. The findings will be evaluated with regard to the relevance of the concept of the *performative object* within the context of design and use.

1.8 *My approach to the problem of applied research: combining theory and practice*

Although, above, I have explained that the task of classification is basically a theoretical one, and although the thesis is not tested empirically through user studies, I understand my project as applied research, i.e. as the development of a theoretical concept with the aim of application and realisation through the practice. Buchanan (2001b: 18) explains about the nature and purpose of applied research that it

is directed towards problems that are discovered in a general class of products or situation. The goal is not necessarily to discover *first* principles of explanation but to discover some principles or even rules-of-thumb that account for a class of phenomena... In addition, because applied research lies between clinical research and basic research, those engaged in applied research are often conscious of the application of more fundamental principles to investigate a class of products or activities.

Subsequently, I understand my inquiry to embrace two levels:

- the concern with the concept itself. Although originally arising from [reflection on] the practice, the inquiry into the concept of the PO as such has a predominantly theoretical nature.
- the concern with how the theoretical concept can be made relevant for the practice of designing with regard to a practical application.

In order to account for the aspect of the potential practical application of the concept, I have used design practice to bridge the gap between theory and application. Thus, where appropriate, the theoretical investigation is supported through practice. The motivation for using practice is my aim for a potentially heightened applicability of the [conceptually-based] research results to design practice. With regard to this aim, I will extend the discussion with a brief discourse on using [design] practice within the research process before I introduce the framework for the practice and explain how the practice serves as support of the conceptual analysis in terms of experience and examples.

In the following I set out my understanding of the position of practice within research against the backdrop of the as yet problematic perception of practice-based doctoral research, a problematic that seems mirrored in the perception of design research from the perspective of professional design practice.

PhDs in design have been widely established only in the last one to two decades (Durling and Friedman 2000: 317). Although doctorates in certain areas of design are quite common and accepted, e.g. history or engineering, where it comes to the study of the creative nature of design there are still many unanswered questions about doctoral education in design. One problem with this seems to be that many practitioners have difficulties relating their creative practice to the research process. Durling and Friedman (2000: 377) summarise the problematic as follows:

Design integrates several fields with different research traditions and competing methodological claims. The relationship between theory and practice poses a challenging problem for doctoral education in design. Design disciplines such as engineering or computer systems have well-established doctoral traditions. Others, such as industrial design or information design, have hardly begun. The relationship between practice and theory is a challenge in established fields and new areas. This gives rise to debate on what is called 'practice-based' or 'practice-led' research.

Two years later Durling et al. pursue this question further as guest editors for a special edition of *Design Science and Technology* (Durling et al. 2002) with the conclusion that a clear and satisfactory definition has not yet been established. For Langrish (2000: 297-305), the problem lies in the confusion between the practice of research and the practice of design. For him the PhD is a training in the practice of research and therefore the question of the practice-based PhD is irrelevant. However, he accepts that every field has its particularities and that therefore "the questions asked", "the methods used to answer them", and "the type of evidence that is acceptable..." (302) may vary.

Fawcett and Downs (1986) who come from the subject of nursing are faced with the same problems of combining theory and practice within research. Intense occupation with this problem has led them to a clear definition of it that is very close to Langrish's understanding. According to

Fawcett and Downs (1986: 4), research can generally be understood as a vehicle for theory building. Everything that is useful to generate the data needed for the inquiry can be part of the research. In this sense, [design] practice can be employed in the research process. Adopting this position, the apparent problems in the relation of theory and practice seem to vanish. However, it will take some time yet until this clear-cut definition (that nevertheless leaves sufficient scope for interpretation and use of practice) will change existing perceptions.

Concerning the problematic of the applicability of [academic] research from the perspective of professional practice, Popovic (2003) observes that

Research has not been very common among designers because of its nature and the way that professional practice operates (134).

This means, on the one hand, the problem of relating [academic] research to professional practice lies in the [theoretical] nature or output of research itself. On the other hand the problematic lies in the [practice-orientated] nature of professional practice. Popovic suggests that it might be possible to bridge this gap between academic research and professional practice if

artefacts or tools are seen as mediators for knowledge generation and its utilisation (136).

While Popovic emphasises artefacts as mediators, in my personal experience it is not only artefacts but also the use of design practice as method that can serve as a means to make academic research applicable to the field of design. This is because design practice does not just provide data as foundations for theory but also provides certain experiences. These experiences may concern both the conjectural nature of the design process as well as its basis, that is, tacit knowledge. Using practice, these two elements can be employed to extend imagination and, made conscious, to gain new insights which feed both into the theory development as well as into the practice of designing. Practice therefore has particular characteristics as a method of data generation that uses creativity and tacit knowledge.

In this sense, design practice is part of my research process because it is a means to illuminate the physical basis for the realisation of the concept of the PO. More specifically, it serves as a means to understand function and [how] to link it to mindful intent. Design becomes here an activity of experimentally joining mental and physical levels of the phenomenon under investigation. In this way, it offers an opportunity to illuminate a gap in the theoretical knowledge and to close it. Thereby it links the theoretical position of the academic researcher with that of the designer-practitioner (Figure 2).

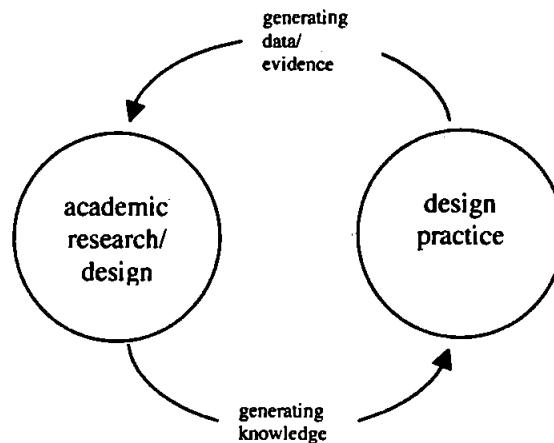


Figure 2: Cycle of theory and practice within research.

In this understanding, the practice serves both to develop an understanding of the characteristics of POs and to provide further evidence in terms of examples. On the one hand, the practice provides a means of experimental inquiry into the design process where it is not possible to anticipate the process and/or the outcome. On the other hand, the practice provides evidence (examples) in support of the conceptual and comparative analysis.

The practice includes two series: “Series I” and “Series II”. The aim is to explore the potential of function to cause mindfulness. The two series approach the subject from opposite ends. “Series I” is an analytical study for which Heidegger’s (2000) phenomenological analysis of “Das Ding [The Thing]” provides the framework. Within set parameters, the study has been conducted as an experimental and open-ended exploration of the disruption of function. This means, it has explored the potential to modify behaviour and to create symbolic action/meaning.

“Series II” was intended to complement “Series I”. Conceptually, it is a ‘synthetic’ study that starts with a specific mindful intent. It explores established patterns of perception and behaviour in order to find a specific solution to embody the selected mindful intent in the object. Although at this stage I was not sure about how to design a PO, the process helped to elicit some knowledge about the missing link. “Series II” has remained in its conceptual stage because of the open-endedness of the design problem that is beyond the scope of this thesis.

I have introduced the design practice at this stage, because it has informed the inquiry into the PO at all stages.

1.9 Choosing a [practice-related] focus for the inquiry: the drinking vessel

An object specific focus must now be determined for the inquiry. This follows on from my proposal to conduct the study by means of a comparative analysis of examples. It also follows my choice to complement the study with an element of practice.

In order to gain some more guidance for the selection of examples from the potentially vast number available, one can usefully make some further limitations. As a particular characteristic of the PO, I have determined that it is to cause mindful interaction. This includes a particular interest in face-to-face-interaction, i.e. human-human-interaction as opposed to human-object interaction. One can determine different categories of objects according to the different grades of interaction or interactional spaces they permit, for example:

- a) Objects that remind of interaction, e.g. photographs [of people].
- b) Objects that are supposed to prepare for interaction, e.g. the tamagotchi (cf. §2.2.1: 38)
- c) Objects that enable indirect interaction, e.g. letters, email.
- d) Objects that enable direct contact over spatial distance, e.g. the telephone.
- e) Objects that enable direct interaction in serving to overcome spatial distance, e.g. cars, aeroplanes.
- f) Objects that provide space for direct interaction, e.g. architecture, furniture.
- g) Objects that are used within and during direct interaction, e.g. drinking vessels.
- h) Objects that are used within direct interaction and that are linked to specific performance or ritual use, e.g. musical instruments.

Although in the following chapters I use examples from this list as appropriate, I have chosen the drinking vessel as the main focus of my investigation because

- firstly, the problem has arisen from observations of the use of drinking vessels,
- secondly, the object is linked in a particular way to action, and
- thirdly, the drinking vessel as an object is situated within face-to-face interaction through the particular way it is linked to social situations.

Firstly, choosing the drinking vessel as focus provides some coherence with the already established examples that have been the starting point for the inquiry, which have been mainly drinking vessels. Further it allows me to develop the practice coherently with the general focus.

Secondly, the drinking vessel is an object that is "*intrinsically active*" (Riggins 1994: 111). Riggins introduces this term in his attempt to identify analytical categories for objects according to their

different characteristics of function and meaning. He uses the description *active* for objects that “are meant to be handled” as opposed to *passive* objects that are used for contemplation. Because of the importance of function/action for the PO, I assert that *intrinsically active* objects are more likely to be POs than *intrinsically passive* objects.

Thirdly, the drinking vessel has a distinct position within social interaction, in which its role is sensitively balanced by design and function on the one hand, and its social use and cultural ritual on the other. Thus it seems to provide an important model for observation and analysis. This also links it to face-to-face interaction. The limitation to face-to-face interaction has arisen not only from my particular interest but also from the need to limit the scope of the study. In this sense, my focus on face-to-face interaction excludes a deeper occupation with human-computer-interaction. This is because the problematic of a computer-related object seems to differ somewhat from that of a simple mechanical object. Nevertheless, where appropriate I will include a number of [additional] examples of interactive computer-related objects for a more comprehensive scope.

In summary, the drinking vessel provides the main strand, but where other examples have greater explanatory power, I will use alternative examples.

1.10 The structure of the thesis

In Chapter 1, I have set out the initial problematic of the PO with three main concepts, the initial hypothesis, and the corresponding research questions. Following the problem analysis, I have indicated which methodological approach I have chosen for the study.

Chapter 2 comprises the Concept Development (based on a literature/context review). It serves to identify a gap in knowledge and to substantiate the three key concepts (interaction, mindfulness and function) in the context of design in order to establish the full theoretical foundation of the concept of the PO.

Chapter 3 presents the Critical Methodology (through a problem analysis). I review the problematic of the PO to establish a framework for the analysis and testing of the concept. The detailed discussion of the framework and methods chosen for the testing (concept analysis and comparison) follows. Chapter 3 concludes with the selection of object examples.

Chapters 4 and 5 offer the combined Conceptual Analysis and Comparative Analysis. Chapter 4 deals with causing mindfulness through the disruption of function. Chapter 5 explores the potential

to evoke mindfulness-of-other and concludes with an evaluation of the potential consequences of the concept of the PO for the field of design.

Chapter 6 presents the Conclusion.

The structure of the thesis is summarised in Figures 3 and 4 with regard to the content and the conceptual-methodological structure respectively.

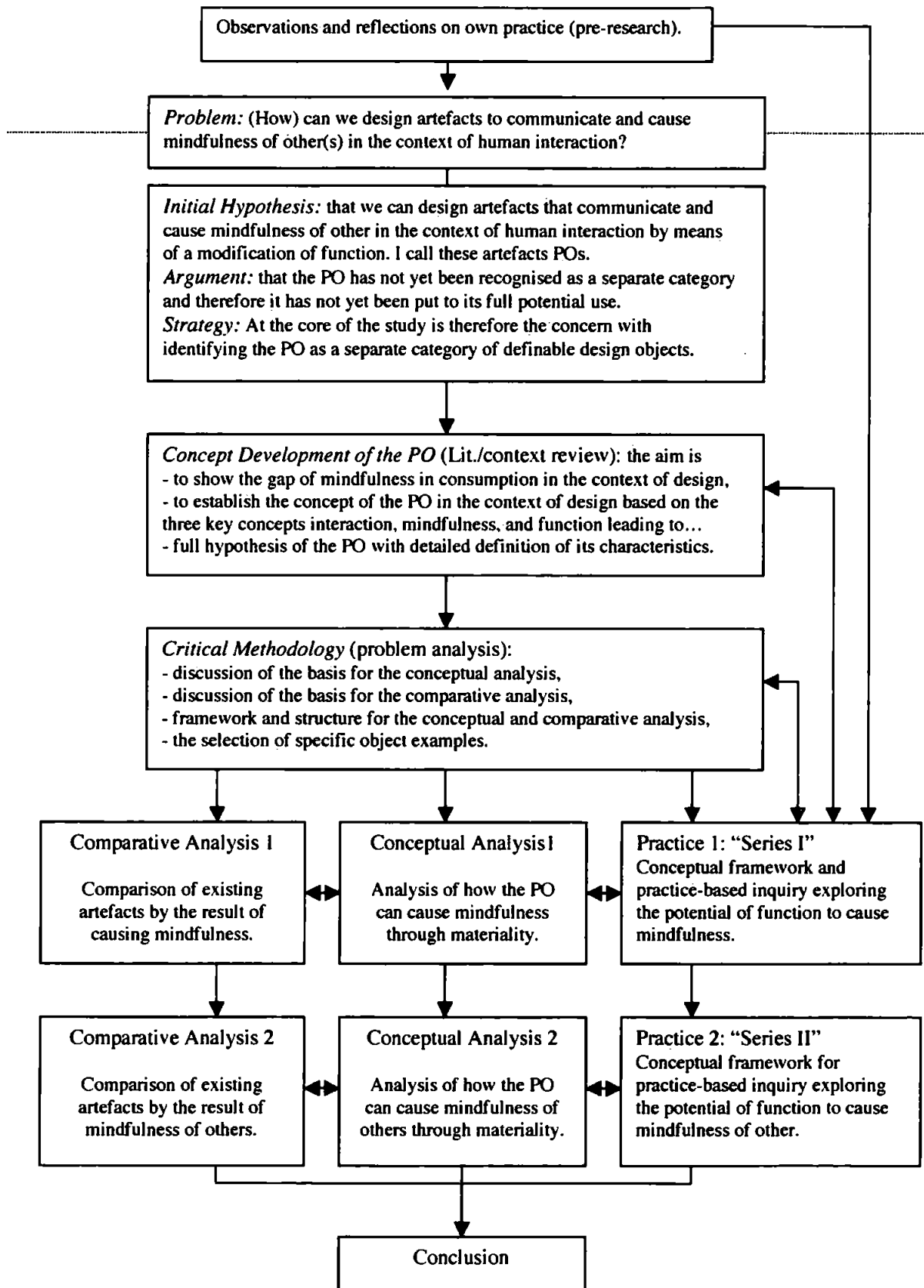


Figure 3: Structural Map (content)

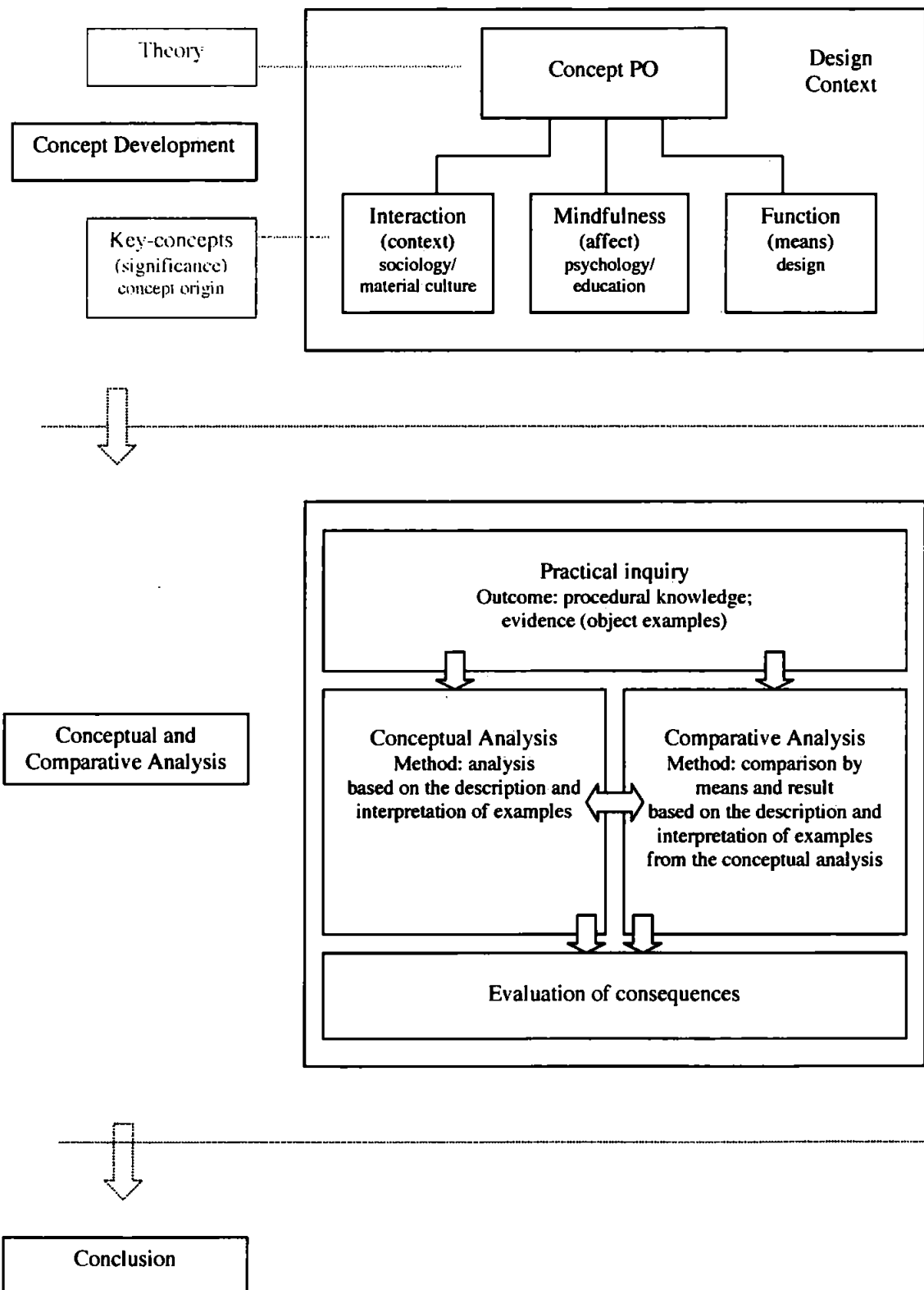


Figure 4: Structural Map (concepts and methodological framework)

Chapter 2

Function, Interaction, and Mindfulness in Design The Theoretical Concept Development (literature and context review)

Chapter 2: Function, Interaction, and Mindfulness in Design.
The Theoretical Concept Development (literature and context review).

2.1 *Introduction*

Chapter 2 contains the context review and the concept development leading to the full hypothesis. The context review evolves around a broad review of the three key concepts. At the intersection of the three concepts emerges the gap in knowledge in which the concept of the PO develops in due course.

The chapter starts with a review of interaction in design, showing current strands and considering the roles of designers and users in relation to the interaction created. The need emerges to extend existing knowledge in the area of use and user responsibility with regard to social interaction under the notion of 'mindful intent'. This leads me to consider ethics within design including previous attempts to use design as an educational tool.

The insight that the context in which design is situated is not promoting mindful reflection, leads me further to question and problematise the general probability and originality of the concept. I investigate whether causing mindfulness is feasible by examining whether it exists elsewhere.

It emerges that the design object seems suited to cause mindfulness on the basis of its function, i.e. which if understood in the traditional functionalist sense normally prevents mindfulness. The concept of function is subsequently reconsidered in relation to the understanding of mindful intent in order to substantiate the proposal of the PO.

Having grounded the concept of the PO in the context of design, the remainder of Chapter 2 is used to consider the meaning of the notion of the PO in this study in relation to existing meanings and uses before concluding in the full concept hypothesis.

2.2 *The Design Context 1: interaction within design*

In §1.2 (cf. 18), I have formally introduced my interest in the concept of interaction in design with regard to consumption. I will now review in more detail different approaches to interaction in design in order to mark more clearly the boundaries of the different uses of the concept of interaction and their implications with regard to social use.

I start the review (§2.2.1) by distinguishing different approaches to interaction within current directions of design such as Interaction Design and User-centred Design. I then move on to

investigate them more closely, considering the major intents and the roles and responsibilities for designers and users. The review shows that in the common use and understanding of interaction in design the social aspect of interaction is not sufficiently considered with regard to its qualitative content. This leads me finally to introduce the sociological concept of face-to-face interaction into the context of design (§2.2.2), in order to accommodate a qualitative understanding of social interaction in relation to design.

2.2.1 The concept of interaction in design: use and social interaction

The currently most immediate association with interaction in design is that of human-computer-interaction (HCI) in Interaction Design, often also associated with Experiential-Design (e.g. Shedroff 2002). Buchanan (2001b: 11) defines the whole of Interaction Design more broadly as

focusing on how human beings relate to other human beings through the mediating influence of products. And the products are more than physical objects. They are experiences or activities or services, all of which are integrated into a new understanding of what a product is or could be.

With regard to this definition, Buchanan (2001b: 11) remarks that

there is a common misunderstanding that interaction design is fundamentally concerned with the digital medium. It is true that the new digital products have helped designers focus on interaction and the experience of human beings as they use products. However, the concepts of interaction have deep roots in twentieth-century design thinking and have only recently emerged from the shadow of our preoccupation with 'visual symbols' and 'things'.

For this reason I begin my review of interaction in design within the area of digital design but place it within the broader definition of Interaction Design.

Within [digital] Interaction Design, we mainly find two kinds of interaction acknowledged. These are the interaction with the object (computer) and the interaction with other users via the medium (human-object-human-interaction, HOHI), usually over a distance. A third possibility that is rarely noted is the interaction with other users face-to-face *about* the medium (e.g. in the case of service/repair or communication about product details). However, a detailed discussion of this aspect is beyond the scope of this study, because it is an aspect that is not directly implied by the properties of the object.

We also find an emphasis on interaction in the domain of User-centred Design. Again it can refer to two different things. It can refer to human-object-interaction (HOI) or it can refer to human-human-interaction during the process of designing. Teamwork as designer-designer-interaction or as designer-client/user-interaction are regularly occurring concerns in the design process (and later in service). However, because of my interest in this study with interaction *outside* the design process, i.e. with consumption, I shall not be concerned with the aspect of HOHI in the design process, but only where it occurs within consumption.

There are two aspects, then, of interaction in consumption that are usually considered within the design process: interaction with the object (HOI/HCI) and interaction via the object (HOHI). The latter seems to apply predominantly to interactive technology. I analyse the aspect of human-object-interaction first.

Analysing human-object-interaction from the perspective of consumption, we find that usually the aim is to make interaction both *active* and, more importantly, *transparent*. With *active* I am referring here to a characteristic mainly associated with Interaction Design (though not exclusively, cf. §1.9: 31). In this context, *active* refers to the particular kind of engagement with the object that is required in order to 'find your way' and to retrieve information etc.

With *transparent* I mean the smooth and efficient use of an object due to its most efficient functionality that allows for the use of the object without paying attention to the object or use itself. We encounter the aim for transparency equally in both digital and non-digital objects. Most non-digital objects, for example toasters, cups, etc., are so designed that we can operate them most of the time without noticing. In Interface Design, one area of Digital Interaction Design that is strongly associated with HCI, much effort is directed towards designing interfaces in such a way (by drawing on established conceptual models) that the design allows for immediate and intuitive recognition of its features so that the user can focus entirely on the content. Nielsen (2001: 14-19), Shedroff (2002), and Raskin (2002) are typical examples of this understanding of HCI. Although design and designing in this area has increasingly focused on user experience, this means it is mainly the experience of the interaction with the object or medium and its technology with regard to aesthetic and functional satisfaction to which attention is paid rather than aspects of human interaction which it may facilitate. Even where interface design draws on concepts such as 'humane', the word is used with the sole meaning of providing a pleasurable experience in the use of the object (Raskin 2002: unpaginated). At the same level, we find approaches towards the user-experience of objects that are not restricted to HCI, such as in 4D Design (Robertson 1995).

We also find attention to efficient functionality in User-centred Design, although here with a particular emphasis on ergonomics and anthropometrics (Panero and Zelnik 1979; Norman 2002). Although more recent approaches (e.g. Boess 2003) take the aspect of the 'well-being' of the user into account and aim to enhance it, human-human interaction (i.e. user interaction) is not usually considered as the source of this 'well-being' in the context of the use of design. 'Well-being' refers here to the "state of being happy, healthy" (Boess 2003: viii). An example for this might be the beakers designed by Morris (Illustration 3). In the design we find a concern with the avoidance of assistance rather than with how assistance could be made acceptable or even enjoyable.

Illustration 3: "Landscaped Beakers".
Lisa-Dionne Morris, 2000.

The beakers are "aimed at people recovering from a stroke. [They have] been deliberately 'landscaped' to assist individuals who have suffered from perceptual and cognitive impairment following a stroke, to navigate around a table setting, enabling them to accomplish the task of eating and drinking independently" (Morris 2000).



I now want to turn to human-human-interaction as mediated by the object (HOHI). At this point it seems useful to be reminded of the fundamental distinctions between HCI and non-HCI. Firstly, in HCI we are usually confronted with indirect interaction (i.e. via the medium) and, secondly, there we have to deal with a certain 'responsiveness' of the object that we do not find with most other objects. Although in this study I am mainly concerned with non-HCI because of the more direct link with face-to-face interaction, for the review I shall nevertheless draw some of my examples from the area of HCI in order to show the full context and to address some of the surrounding issues.

Recently, there have emerged several institutions or project groups with an interest in this particular area; e.g. D&AD (1996), the Interactive Institute in Sweden, or Ivrea (Ivrea 2003), a newly founded institute for Interaction Design in Italy. In this arena we find remarkable approaches such as "Brainball" (Ilstedt Hjelm 2003). "Brainball" is an interactive computer game for two people to further their relaxation (Illustration 4).

Brainball consists of a headband with electrodes that reads a player's brain activity using an electroencephalogram (EEG). Two players sit opposite each other at a table, each wearing a headband. In the middle of the table from one short end to the other is a clear plastic surface with a small steel ball rolling on top of it. When either of the players presses the Start button, the ball rolls away from the person who is most relaxed and toward the other player; the only way for the other player to defend is to become more relaxed. When the ball reaches one end the game is over (1).



Illustration 4: "Brainball". Smart Studio,
Interactive Institute Sweden, 2003.

What makes it special is that the players can only move the [virtual] ball when *more relaxed* than their counterpart. Thus, this game turns our common perception and behaviour 'upside down' in the most unexpected way.

There are a small number of these kinds of projects that variously explore human interaction as mediated through design. They use computer-related technologies with the aim to draw awareness to the phenomenon under investigation. Justifiably, we might ask whether some of these are *performative objects*, beyond being interactive objects. What is important is that in order to be able to determine this, we need firstly to define the concept and secondly to generate criteria by which to distinguish *performative objects* from *non-performative objects*.

With regard to determining the concept of the PO, we may note that the examples found in this area mostly belong either to the level of games or operate on a conceptual level, often as one-offs or prototypes. Products in the area of interaction design that have become publicly available are, for example, the mobile phone or the ubiquitous computer email. However, when we look at their application in the real world we find that we are lost for guidance in terms of interaction: any objects, whether mobile phones or interactive websites, can be used or abused, because the mediation through the object/medium is 'transparent' and 'rules' for use-behaviour are external to the object, e.g. chat rooms or silent carriages in trains. The reason for this seems to be that these objects are designed to facilitate interaction, but they offer no reference to the quality of interaction. This is to say, there may exist social rules, but they are in no way linked to the materiality of the object. Also, for relatively new objects such as the mobile phone, social-behavioural rules of use still have to be established, no matter whether we are looking at use in cafés, trains, or while driving. The question then is [how] can objects communicate and cause more responsible use and interaction through their design?

One other example is the Tamagotchi-toy with its educational intent of teaching children to become responsible for others, e.g. their own children, however questionable its success. The reason for this may be that the object does not have the same value status as a human being. If the Tamagotchi dies, a new one can be bought. This attitude/perception may then become transferred to human beings rather counter-productively.

If we look for concern with the consequences of design outside of HCI, we might find a related understanding of interaction in areas of design which are explicitly concerned with social aspects, e.g. in design for crime prevention which is typically concerned with psychological responses to design (Crozier 1994: 25-33). However in this area of design, there is an understanding of the work as 'defensive' (e.g. avoidance of unwanted face-to-face interaction) and also 'transparent' rather than 'reflective'. Although these approaches are beyond the scope of this project because of their concern with defence and avoidance of interaction, it is of interest to notice that they acknowledge the need to draw on sources from social sciences, i.e. they operate within frameworks from various social science disciplines and with a clear intent, which is not common to other areas in design.

In terms of products, there are only few outstanding projects outside of Digital Interaction Design that start addressing the product's consequences for interaction. One exception in this respect is the bench "Come a little bit closer" (Illustration 5), which is a product of the Droog Design group (Ramakers 2002: 57; Lovegrove 2002: 62f). It was designed by Nina Farkache in 2001. The bench consists of a steel frame and the top surface is made up of glass marbles on which the actual seating surfaces 'float'. This design plays with the habit of people in public spaces to keep their distance and to take their seats at opposite ends. Through its design, the bench allows and suggests decreasing spatial distance if – while waiting – the wish emerges between the strangers to decrease social distance.



Illustration 5: "Come a little bit closer",
Nina Farkache for Droog Design, 2001.

In this section, I have reviewed the aspect of interaction in design with regard to its various directions. Among the directions, those including approaches to HOI/HCI and HOHI have been of most interest. We found that in particular design in the area of HOI/HCI, but also HOHI, is governed by an understanding of efficient functionality with little consideration for the social issues arising from the interaction these objects facilitate.

In recent design, we also saw the emergence of an experimental exploration of human interrelations on the level of both computer-related design and [traditional] product design with a HOHI-approach. These projects have shown the strongest link to my idea of the PO. However, their potential has not yet been commonly recognised and explored, and the existing approaches to user-interaction do not show a coherent basis.

Therefore in the following, I will look more closely at the mechanisms of interaction. I will introduce the concept of interaction from a sociological perspective. The sociological approach reveals the dynamics of interaction and provides scope for considering the quality of interaction. It thus provides a basis for the development of the concept of social interaction in design and of the role and contribution of design with regard to a mindful and reflective approach to interaction.

2.2.2 Defining the sociological concept of interaction in the context of consumption

I shall now introduce the concept of interaction as it has been developed in sociology through Goffman (1959 and 1967) with the intention of providing a basis for the discussion of the quality of interaction in design. Used in Goffman's sense, both interaction and social interaction refer to *face-to-face interaction*. This implies two things.

Firstly, face-to-face interaction refers predominantly to direct interaction rather than to mediated (indirect) contact. In his early work *The Representation of Self in Everyday Life*, Goffman (1959: 26) explains face-to-face interaction

as the reciprocal influence of individuals upon one another's actions when in one another's immediate physical presence.

Secondly, Goffman (1967: 5) later adds the definition of face

as the positive social value a person effectively claims for himself by the line others assume he has taken during a particular contact.

This definition points to the social dynamic of human interaction. It describes the mutual dependency of all the participants in the interaction through their consciousness of each other. It further exposes the fragile balance in the interaction between self and other. In the following, when I talk of 'self', it is as a sociological individual in the sense of Goffman (1959; 1967).

Miller's concept of objectification (1987) can be used to extend Goffman's understanding of face thus allowing the inclusion of the artefact as object, and subsequently as mediator, into the interaction. Drawing on Hegel's concept of objectification, Miller employs the concept to understand our relationship with the material world. He uses the term 'objectification'

to describe a dual process by means of which a subject externalizes itself in a creative act of differentiation, and in turn reappropriates this externalisation through an act which Hegel terms sublation (Miller 1987: 28).

In other words, in the process of externalisation the subject expresses him/herself through external means. Miller understands these means of externalisation in the widest sense, i.e. to include dreams and sensations as well as institutions, [material] objects, and actions. In the process of sublation (also: "reabsorbtion"), subsequently the subject identifies itself with, and defines its own self through, those [externalised] means/creations (12, 28). For example I, as a jeweller, may express ("externalise") myself through the creation of jewellery-objects. In turn, I come to understand and identify myself through these jewellery-objects (their quality, style, etc). In social context, therefore, these external means can be used to communicate face to others.

Miller's understanding of the process of objectification corresponds further to Goffman's understanding of the process of saving face (1967) through the understanding of our self-other-

relationship as a cycle of activity through which we learn to see and experience self and other. Assuming the social construction of self, we can understand the process of objectification to be inherent in the process of creating and saving face. Thus we come to understand ourselves equally through our relationship with things as well as persons.

If we now ask what guidance these concepts provide in respect of the quality of interaction through design, we find that Goffman (1967: 9-10) provides us with further insight into the qualitative order of social life when he explains that

[by] entering a situation in which [a person] is given a face to maintain, [this] person takes on the responsibility of standing guard over the flow of events as they pass before him. He must ensure that a particular *expressive order* is sustained – an order that regulates the flow of events, large or small, so that anything that appears to be expressed by them will be consistent with his face. When a person manifests these compunctions primarily from duty to himself, one speaks in our society of pride; when he does so because of duty to wider social units, and receives support from these units in doing so, one speaks of honor. When these compunctions have to do with postural things, with expressive events derived from the way in which the person handles his body, his emotions, and the things with which he has physical contact, one speaks of dignity, this being an aspect of expressive control that is always praised and never studied. In any case, while his social face can be his most personal possession and the centre of his security and pleasure, it is only on loan to him from society; it will be withdrawn unless he conducts himself in a way that is worthy of it.

Goffman describes here very well the dynamics and pressures of social life and their qualitative underpinnings. Design can play an important role in this context. Through what we wear or with what objects we surround ourselves, we communicate part of this aspect of saving face, in fact one could say it is emphasised. On the other hand, we could imagine that design might help to relieve these pressures by making people attentive to them and subsequently help people to handle them more carefully and responsibly.

In design philosophy, there is a perception of this potential of design although it has not yet been translated into concrete application. Buchanan (2001a: 37) emphasises Human-centred Design as “the major tenet of new design thinking”. He claims that “design is fundamentally grounded in human dignity and human rights” and summarises the dilemma of design conceptualisation as follows:

We [the designers] often think about the principles of design in a different way. We tend to discuss the principles of form and composition, the principles of aesthetics, the principles of usability, the principles of market economics and business operations, or the mechanical and technological principles that underpin products. In short, we are better able to discuss the principles of the various methods that are employed in design thinking than the *first* principles of design [i.e. human dignity and human rights], the principles on which our work is ultimately grounded and justified (36-37).

This statement very clearly marks the arising quest for the responsibility of design with regard to social interaction, the quest for mindfulness in design. In the following, I will review and define the aspect of mindfulness in design.

2.3 The Design Context 2: mindfulness within design

Historically, design has always been linked to social and educational aims because of its substantial influence through mass-production. We can therefore assume that mindfulness occurs within design, although we found in §2.2.1 that, with regard to interaction in design, the *quality* of interaction has as yet rarely been considered. The next step is to review in which forms mindfulness occurs within design and what it means there.

If we look for the notion of mindfulness in design, we might not get very far. In order to resolve this dilemma, we may have to recall that in the introduction (cf. §1.3: 20) I have described mindfulness as an attitude of awareness and/or attentiveness of and to something or someone. This broad definition may easily be perceived as related to ethical concerns, which are well acknowledged in design. For the moment then, I shall equate *mindfulness* with *ethics*.

§2.3.1 aims to review approaches to ethics (mindfulness) in design. It aims to show that mindfulness with regard to use in a social context has not yet been widely recognised as an issue of consumption of design objects, because of the focus on efficient functionality. Rather, causing mindfulness is left, for example, to educational initiatives. In §2.3.2, I distinguish between ethics and mindfulness, and I suggest that causing mindfulness through design objects would be desirable for design because of the significant impact of design on human interaction.

2.3.1 Reviewing ethics (mindfulness) in design

Whiteley (1999: 190-202) gives a succinct history of the ethical dimension within design and its changes showing the attempts to use design as an educational tool in this respect. He explains that

[the] two major points of continuity between the nineteenth-century reformist and the twentieth-century modernist approaches to design are the beliefs that one can read the state of civilization through its art and design and that there are transhistorical design principles which are aesthetico-moral and rational (194).

According to Whiteley, the difference between the modernist and the pre-modernist period was that in the latter the ethical qualities were linked to form and ornament, while from the modernist period onwards, ethical intent was connected with form and function. Papanek (1974) is the designer who is best known for his ethical ideals in the post-modernist era. Whiteley (1999: 190-202) credits him with separating *taste* as linked to the *aesthetic* from the *effect* as linked to the *function* of a design, and for establishing directions in design such as *Sustainable Design*, *Social Design*, and *Design for Need*. The user is perhaps given the most active responsibility with regard to the environment within Sustainable Design. Design for Need has probably led to the most active user-involvement

in the design process in the form of *User-centred Design*. Social Design (Design for Social Need) is a related approach though it is broader [politico-social] than Design for Need [and can include some of the others mentioned]. It is most prominently advocated by Margolin and Margolin (2002: 760) for whom “the main intent of social design is the satisfaction of human need”.

User-centred Design is the methodological basis of many of the other design directions named above. Instead of ‘User-centred Design’, the term ‘Human-centred Design’ is often used, although it can have different meanings. Most often it refers to design as “the central discipline for humanizing all technologies” (Buchanan 2001c: 16). In other words, it refers to the provision of satisfactory user experience. In the same sense, Whitney (2003: 14) states in an interview that “Human-centred design differentiates itself from more traditional ways of doing design, which are designer-centred, technology-centred, and market-centred.” However, it becomes clear that, in stating that “human-centred design brings decisions about user experience to the early stages of the project”, Whitney (2003: 14) uses the notion of Human-centred Design merely as a substitute for User-centred Design.

In one of his papers, Buchanan (2001a: 37) shifts the meaning of Human-centred Design considerably, in that he recognises “the central place of human beings in our work” and that “design is fundamentally grounded in human dignity and human rights” rather than to “reduce our considerations [...] to matters of sheer usability”. In order to distinguish these two terms, the former of the two perspectives might be grouped under User-centred Design, and the latter might be termed *Humane Design*. Again, the use of the notion of Humane Design is far from rigorous. It appears either in terms of human-machine interaction, usually in relation to Interaction Design (e.g. Raskin 2002, unpaginated); or in terms of fundamental human principles (e.g. Campbell 2003, unpaginated), which is equivalent to Buchanan’s (2001a) approach to Human-centred Design and to ‘Ethical/Moral Design’.

A brief explanation of the term ‘humane’ seems appropriate at this point. Both in the specific context of Humane Design as well as in the general context of this thesis, the term ‘humane’ is used in its American meaning, which seems to be significantly different from the British. In the American sense it refers to humanist values of mutual consideration rather than to ‘benevolence’, which seems to be the British meaning. This dichotomy also occurs in the explanation of the Oxford English Dictionary (OED) where in its early meaning it refers to the “civil, courteous, friendly, obliging” behaviour towards others (OED 2004: §1a) while in its contemporary meaning it refers to that of benevolence (§1b).

The last area I want to consider is that of Ethical and Moral Design. Ethics and moral principles are closely related, and within their application to design there is an overlap that makes them difficult

to distinguish. At most, one could say that Ethical Design refers more to aspects of human long-term benefits and sustainability (Papanek 1984). Other aspects of human ethics, in particular in the medical sector where aspects of human dignity and human rights are concerned, appear under both labels, although Moral Design might be understood to emphasise the process of morally creative problem solving (Martin 2003, unpaginated).

Of the several areas considered, the one that combines both ethical concerns (mindfulness) and interaction (on the level of HOI) seems to be that of User-centred Design, which furthermore seems to be an underlying methodology to many of the other directions discussed above. User-centred Design has developed as a process of designing which can be employed for any design project. Its method is to include the user as part of the design team with the aim to better match function and human needs. Thus it aims to guarantee physiological and psychological ergonomics of the product for a satisfactory experience (“well-being”, cf. §2.2.1: 38) for the user on these levels. Here then, we encounter mindfulness in the design process towards [the experience of] the user. However as within HCI/HOI (cf. §2.2.1: 38), satisfactory experience with the object usually means ‘transparency’ of use (see e.g. Norman 2002) in which the role of the user is taken as passive. This results from the aim for transparency of use through efficient functionality, which basically eliminates any questioning of use and consequently any mindfulness. I would like to challenge this role of the user by conjecturing that the user is much more active and that this should be reflected in the design object.

We find a similar attitude in the other areas considered. I will give one example from Sustainable Design. The ethical intent is to be mindful of the environment. However, it seems that the mindful attitude is achieved through education rather than through the use of design. Often these attitudes even have to be enforced by law or by order of some kind of executive body. For example, a few years ago, Germany was trying to stop the flood of plastic shopping bags. In due course by order of the government, nationally, the use of fabric bags was introduced. To start the scheme, in the first year, the fabric bags were issued for free, while from the same time a charge had to be paid for plastic bags. The scheme was adopted very quickly by the population, although no one can say for sure whether it actually is more sustainable.

One exception in design where the user is explicitly considered active is in Conceptual Design. Conceptual Design has been developed by Dunne (1999) and Raby (Dunne and Raby 2001). It is intended “as a medium for stimulating debate, discussion, or reflection, like conceptual art.” (personal correspondence with A. Dunne 2002). However, these objects are acting as placebo objects (Dunne and Raby 2001: 75), which means the impact is achieved through imagination which is stimulated by the designer’s explanations rather than through what the object actually

does. This means that in Conceptual Design too, the mindful attitude is achieved through the educational context.

In summary, all the directions reviewed above show some ethical intent, e.g. concerning the environment or other people, although none of the current strands of design seems to consider the issue of face-to-face-interaction within consumption and its quality. Furthermore, where an ethical intent occurs, i.e. a mindful attitude, it is brought about through an educational context rather than by the object itself. While at first education may seem to be a suitable means to cause mindfulness, it also seems that it is difficult to sustain a mindful attitude (Langer 1989: 19-35). I would therefore like to suggest that there is an opportunity for design objects to stimulate mindfulness since they are ubiquitous.

A final note about the nomenclature: I have shifted the term 'Human-centred Design' in the sense in which it is used by Buchanan (2001a) to 'Mindful Design'. I use it to emphasise my aim to move beyond the designer-centred, i.e. technical and process-orientated view, and beyond more recent user-centred approaches, towards a human-centred approach with an emphasis on social responsibility. In the context of my project, I use the notion of Mindful Design specifically with regard to the issue of interpersonal responsibility that arises for the user in the use of the object in a social context.

2.3.2 Developing the concept of mindfulness: frame and content

Under the aim of reviewing mindfulness in design, in the previous section I have liberally equated mindful intent with ethical intent. I will now distinguish both terms to define the concept of mindfulness more specifically with regard to the aim of the *performative object*. Following on from this, I consider how we can cause mindfulness, why objects have not yet been widely used to cause mindfulness, and how the object could be used to do so.

The concept of ethics seems to provide the 'umbrella concept' for the various terms. According to "Meyers großes Taschenlexikon" (1984: Vol.15, 24) and to the German "Duden" (1974, Vol.5: 220), ethics can be understood as the knowledge system of moral principles; moral principles are the general rules for human conduct and acting grounded in responsibility towards others. This means ethics hold the *intent* for the consideration of human conduct and the interaction with others. (I have used German sources here, because they were more comprehensive than the OED and more specific than the Encyclopaedia Britannica.)

Radest (2000: 181–212) further distinguishes global and local ethics. The former is seen as universal and therefore closely related to Human Rights. The latter is associated with the moral values and principles of a personal ethics and the ethics of care, which is culturally determined. In relation to this understanding of ethics, I see the aim of the *performative object* as the questioning and reforming of local ethics in the context of global ethics.

We may ask then why I use the term 'mindful' in preference to the term 'ethics'? In §1.3 (20), I have introduced mindfulness as a state of consciousness and an attitude of attentiveness, care and respect. Further, more specifically for the purpose of this thesis I have defined mindfulness as the attentiveness of the user towards the social consequences of the action performed with the object, i.e. towards the other. Subsequently, I propose that the difference between ethics and mindfulness is that ethics is *the intent for consideration* while mindfulness is *the act/state of making/being aware of this intent* and possibly enacting it through subsequent behaviour. Let us look more closely at mindfulness to substantiate this proposal and see how the object could have a role within causing mindfulness.

Sources from psychology and education that are interested in creativity tend to consider mindfulness with regard to consciousness (e.g. Benson 1993; Udall 1996). Most of the time we do things without being consciously aware of doing them. For example, we can walk or talk without noticing how we do it and even without being aware of where we go or what we say. In this context, mindfulness refers to the act of intentionally directing attention towards selected stimuli in order to bring them into consciousness. With regard to creativity, we mainly find a concern with mindfulness as insight, i.e. an understanding of one's own understanding (Udall 1996: 2). With regard to experiences of art, conscious experience is perceived as intimately based on personal perception. Here, mindfulness is mainly understood in the sense of deliberately directing awareness to personal experiences and their quality and relevance for self (Benson 1993: viii-xii).

Besides being attentive of the object and/or of self, mindfulness as a state of consciousness can also be directed towards others. We find examples in literature from sociology, social psychology as well as phenomenology and educational approaches drawing on phenomenology (e.g. Burgoon 2000; Langer 1989; Heidegger 1993; van Manen 1999). Langer (1998: 81ff & 133ff) gives examples of being mindful of other in the context of work and in the care professions. Heidegger's concept of *Sorge* (1993: §41) further makes the concern for the other explicit. In the way that *Sorge* can be translated both as care and worry, it embraces the meaning of both being *attentive off*paying attention to and being *attentive to*/caring for.

In the above discussion, mindfulness appears to have two components: one is that of awareness or consciousness *per se*. The other is that of awareness or attentiveness 'of something', i.e. the phenomenal content (Metzinger 1995: 8-11). One is the frame of mind; the other is its content. With regard to the content, i.e. the mindfulness-of-something, we have found that it can be both of self and/or other. In my reflection on Heidegger's concept of *Sorge*, I have distinguished the latter aspect even further into attentiveness-of and attentiveness-to/towards, that is, *mindfulness-of-other* or *mindfulness-towards-others*. While mindfulness-of seems to indicate consciousness in a fairly neutral way, mindfulness-towards seems more strongly to indicate personal/ethical concern.

In his considerations on caring as reflective practice, van Manen (2000: unpaginated) offers some illumination of what mindfulness-towards could mean. He offers one case where the person caring and the person being cared for exist as two selves, one acting reflectively and supportively towards the other. He also offers another case where he draws on a concept by Levinas that describes a more immediate response. This more immediate response we find in situations where immediate help is required "when we suddenly see a person fall in front of us". Van Manen describes this further "as an appeal" where "I have felt a response that was direct and unmediated by my intentions or thinking". What appears to happen here is that I so fully identify with the other that for the duration of this moment the boundary between the two subjects seems to disappear.

Considering how, in general, mindfulness could be caused and whether, in particular, it could be caused by any artefact, it seems rather unlikely that we can achieve the immediate response of the second case; no matter whether it is through the use of an artefact or even through education. This is because the state of mind in this second case seems to supersede reflection. It is an instinctive reflex. Consequently, we may not even want to achieve this state of immediate response since we are more interested in a reflective response. Instead we are concerned with the first case and the state of reflective attentiveness towards the other.

Having determined this aspect, the question arises what is the distinction between mindfulness-of-other and mindfulness-towards-other, and whether we have to make a distinction at this stage. Because both aspects are part of the content of mindfulness, it seems that at this stage it is enough to recognise the difference without precisely defining it. However, I shall investigate this distinction later (cf. §5.2.4: 143), because I have hypothesised mindfulness-towards-others as the ultimate aim of the *performative object*.

Before I move on to consider how mindfulness can actually be caused, I have to briefly clarify my use of the different terms. In the following, when I talk about mindfulness in the sense of the whole phenomenon, I use the term 'Mindfulness' with a capital letter (*M*). Where I refer to mindfulness in the sense of mindful frame, i.e. to the phenomenon of causing awareness, I use the term

'mindfulness' or 'mindfulness-of' (*m1*). Where I refer to mindfulness in the sense of and mindful content, I use the term 'mindfulness-of-other' and/or 'mindfulness-towards-others' (*m2*). *m2* refers to mindfulness as the phenomenon of causing reflection within and through this awareness. The use of 'mindfulness-towards-others' indicates not just consciousness but the ethical concern for the other person, which may variously be understood as social responsibility, caring, etc.

In the above, I have determined mindfulness and its terminology with regard to the PO. I have done this under the silent assumption that somehow POs could cause mindfulness. How in general mindfulness can be evoked, and how specifically the object could be used to cause mindfulness shall be the next step of the investigation.

Although desirable as an attitude, it seems that mindfulness is not quite so easy to achieve. In the context of one of her experiments, Langer raises the question why we are not always mindful and how we could promote enduring mindfulness (Langer 1989: 121). Langer as well as Udall come to the conclusion that, in order to achieve mindfulness, we need to break through established patterns of perception or preconception (Langer 1989: 61-80; Udall 1996: 48-94). Langer (1989: 63) explains:

Just as mindlessness is the rigid reliance on old categories, mindfulness means the continual creation of new ones.

This becomes clearer when we look at some of the causes of mindlessness. According to Langer (1989: 19-41), reasons for mindlessness are for example: previous experiences that predetermine our perception of a same/similar subsequent experience; repetition; outcome orientation where we are guided by our expectations rather than by our possibilities; and contexts that also usually predetermine our expectations. Being mindful, in contrast, means being open to shifting perspectives to allow for considering both old and new situations and information as truly new and thus full of potential.

The question is how can we break open established patterns of perception and preconception. Although it may be possible in certain areas to achieve mindfulness through education and training (e.g. in the medical profession, nursing, and other forms of care), mindfulness by its nature stays somewhat elusive. Therefore, whether deliberately or accidentally, mindfulness seems usually facilitated through an external agent. For example, Udall (1996) explores the facilitation of mindfulness in the context of design education whereby he acts as creative facilitator, i.e. external agent to the student. He asks students deliberately to seek new experiences through doing something that they never did or even imagined doing before. In the process, and with the right guidance, a tension builds up in the individual, some kind of disorientation, that helps to overcome established preconceptions and make the leap from the familiar to the unfamiliar, from the known

to the unknown. Interestingly, Schechner (1977: 187) offers a similar theory in the context of dramatic performance. Following a first external event, the crisis builds up in a 'curve of tension' until it is resolved by initiative of one or more of the persons involved.

The question that arises is whether the design object could be designed to act as external agent in order to cause mindfulness? Could design act as a daily reminder? We have discussed that we can cause mindfulness by breaking open preconceptions. While many new design objects aim to do this, in the majority they do so with regard to material or form. We find it far less often with regard to function because this would mean making a truly new invention (Pye 1982; Csikszentmihalyi 1996). What is common to the vast majority of all these products is the aim for transparency through efficient functionality. In other words, on the level of function, the majority of objects are designed to fit into common patterns of perception and behaviour, and thus are far from breaking open our preconceptions. This means that our mindfulness is not likely to go beyond an appreciation of the style of the object.

Consequently, I argue that the context of efficient functionality in which design is situated is not promoting mindful reflection. Nevertheless, I advocate that the design object is suited to cause mindfulness on the basis of its function, i.e. which if understood in the traditional functionalist sense normally prevents mindfulness. This is because objects "represent a plan of action" (Pearce 1995: 166) and this plan is essentially the object's function. When we engage with an object, we usually engage with it according to this plan, which guides our action and which through repetition becomes a pattern of behaviour. In this sense, we could also say function is the preconception of a plan of action, which designer and user usually share.

I argue that, if function implies the preconception of a plan of action, and mindfulness can be caused by a disruption of preconception, a disruption of function could cause a disruption of this preconception [of a plan of action] and thus cause mindfulness. In other words, I argue that a modification of function in the sense of a disruption-of-function can be used to break through patterns of perception and preconception and to cause mindfulness.

To summarise, in this section, I have firstly distinguished ethics and mindfulness. I have further differentiated between mindfulness-of and mindfulness-towards. Finally I have considered how mindfulness can be caused in general, which has led me to conjecture how objects could be used to cause mindfulness. The next step is to reconsider the concept of function in relation to this understanding of mindful intent in order to substantiate the proposal of the PO. Before this, however, I shall consider some questions about the probability and originality of causing mindfulness through objects in general, and through the PO in particular, which will introduce one more aspect to the problematic of mindfulness with regard to the PO.

2.4 *The originality and probability of the concept of the PO*

In the previous section, I have conjectured that the PO can cause Mindfulness by means of a disruption of function. The question to pursue in §2.4.1 is whether and how we can test this. At this point, it seems necessary to recall the nature of the thesis, which is the naming and classification of the PO. The purpose of this is to show the originality and probability of the PO (cf. §1.7: 24). Because of the theoretical nature of the inquiry, regarding probability it seems useful to show that there are other objects that are associated with causing Mindfulness, i.e. that it is likely for an object to cause Mindfulness. With regard to the originality of the PO, it seems necessary to show that those other objects cause Mindfulness by different means.

Looking closely, these two conditions seem somewhat independent. This is to say, if I show that other objects associated with causing Mindfulness do so by other means, I still cannot say very much about the probability of the PO to cause Mindfulness by means of function. Searching for further evidence, it is therefore necessary to also consider objects that show the same means (function), but without the result of Mindfulness. This leads me to one further aspect of the problem of the PO, which is the recognition that mindfulness-of (frame) and mindfulness-towards (content) can be caused by different means. In §2.4.2 the strands of the previous discussion are drawn together in a summary, which later serves as a basis of the framework for testing.

2.4.1 Encouraging mindfulness through artefacts: originality and probability

In §2.3.1 (45) we have seen that design is widely accepted as an educational tool in terms of ethical-mindful concerns and that it is possible to achieve Mindfulness within design through an educational context, as for example in the case of Sustainable Design. However with regard to the materiality of design objects attempts of, for example, functionalism to enhance moral standards through the visual and functional aesthetic of design have not fulfilled expectations (Greenhalgh 1990: 1-25). At the end of §2.3.2 (48), I have concluded that design might fail to cause Mindfulness by means of the design object itself because of the focus on efficient functionality. Subsequently, I have proposed that it might be possible to achieve Mindfulness by means of the object itself through a subversion of function. I have advocated distinguishing such objects from others and to call them *performative objects*.

So far, I have looked for the distinction of POs within the context of design. The result was that a small number of objects might fall into the category of POs, but the majority of objects do not appear to be designed to cause Mindfulness, unless in an educational context. With regard to the originality of the concept, we have to ask what other categories of objects might be available that

are associated with causing Mindfulness. We find two main categories: objects in the context of art (art objects) and objects in the context of ritual (ritual objects). Although, at times, these categories seem to overlap with each other as well as with the category of design objects, these two categories appear to be handled as if they were different. The question is how do they differ from each other, and how are they different from POs? How do they cause Mindfulness, and of what is this Mindfulness?

In the discussion of the question “what is art?”, Carroll (1999) traces the question of how artworks differ from other artefacts. He discusses a number of concepts that allow one to define and recognise art in different ways. Although there is no definite answer to the question, and although there are objections to each of the theories presented, the *Institutional Theory of Art* seems most relevant if we want, at least formally, to distinguish art from other categories (27, 224-239). For example, what would distinguish the work with the title “Fountain” by Marcel Duchamp, which comprises a signed mass-produced urinal, from the urinal as design object? The institutional theory of art holds that we only recognise Duchamp’s urinal as a work of art, because we encounter it in a context in which it is presented to us as art, in this case for example in a gallery. This institutional context can have many faces. It can be the art gallery, the picture frame, the artist's signature, or being reproduced in an art book. This institutional frame in turn indicates that we should be mindful of the objects presented to us within it and of their message or meaning. Carroll (1999: 6) illustrates this eloquently:

Suppose, we come across a living, breathing couple seated at opposite sides of a wooden table, staring intently at each other. Ordinarily, we might pay no attention to them at all, or avert our glance out of a sense of politeness. But if we categorise the situation as an artwork – as the performance piece *Night Crossing* by Marina Abramovic and Ulay – our response will be altogether different.

We will shamelessly scrutinize the situation carefully, attempt to interpret it, perhaps in terms of what it says about human life and relationships.

The institutional theory states that the frame constitutes the artwork and causes us to be mindful-of it. Carroll (1999: 227) explains further that the institutional frame is identified as a “certain set of co-ordinated social practices” located within a social context and called “the art-world”. The comparison is made between the institutional frame of the “art-world” and religion, i.e. more broadly with ritual, as a social institution “insofar as it is underwritten by rules and procedures.” In this sense, ritual, too, seems to serve in a social context that causes mindfulness. I use the term ‘ritual’ here in the sense of Rothenbuhler (1998), i.e. in its widest sense, in which it includes everyday social rituals such as nodding and handshaking as well as sacred ritual such as Holy Communion, in the understanding that all of them serve to structure and order social life.

If an institutional frame can cause us to be mindful-of in these different situations, the question is still – of what is it mindful? In the context of art, so far we have seen two examples that are utterly different. The performance piece by Abramovic and Ulay that deals with social relationships could

be interpreted as mindfulness-of-others. Only with difficulty can one imagine that the urinal by Duchamp might cause similar thoughts. This is confirmed by common interpretations of this work as a questioning of art and of the maker's intentions rather than a questioning of human relationships.

There are two insights to be drawn from this. Firstly, that the institutional frame is seen to cause mindfulness in the case of both art and ritual, but that it is not guaranteed to also cause mindfulness-of-other. Secondly, this may lead us to conclude that we have two different components that cause the two different stages of Mindfulness. In the case of art, mindfulness-of is caused by the institutional frame. Mindfulness-of-other, i.e. the content of the mindful experience, is determined by the materiality of the art object. Mindfulness-of-other therefore occurs only where the artwork deals with a social theme.

There are similarities and differences in the case of ritual. With regard to causing mindfulness, ritual itself seems to act as the institutional frame. It provides the frame for the actions that are performed as part of the ritual and that are interpreted ritualistically (Rothenbuhler 1998). Ritual, in general, seems to generate mindfulness-of-others, because of the social context that binds it to human interaction. In this sense, Rothenbuhler describes ritual as "necessary to humane living together" (x) and as a "humane way of conducting social order" (xi). Do we not need a second means to cause the second state?

I would argue that we do, but it is less obvious than in the case of art. Ritual content is so to say fused with the frame. In the case of art we have concluded that the second stage of Mindfulness is caused by the materiality of the object. Also in the case of ritual we encounter objects: ritual objects. However, they do not seem to be relevant for the message. For example, in the ritual of Holy Communion, we can use a chalice or an ordinary cup; it does not seem to change the content of Mindfulness. We must conclude then that the object in the context of ritual has only a generic function as symbol or 'prop', while it is the *ritual belief* that is relevant for the content of Mindfulness.

Summarising the debate with regard to the originality of the concept of PO, we found that mindfulness in the context of art and ritual can be regarded as being generated by an institutional frame, i.e. certain social practices in a specific social context. The same seems to apply to design where it appears in an educational [or cognate] context, although the majority of [design] products in everyday contexts do not seem to have this frame, at least not with regard to social interaction. Thinking further, even where an [educational] context exists, this frame might not always be enough to remind users of the aspect of Mindfulness. For example, we might think of children in an art gallery who are not sufficiently educated or who do not heed their task, or motorists who ignore

speed limits. This illustrates the need to find out how objects (POs) could be designed to cause mindfulness by means of their materiality within the given context of efficient functionality.

With regard to the aspect of probability, we found that there is a clear distinction between the aspect that causes mindful awareness (mindfulness-of, i.e. *m1*) and the content of that mindfulness (mindfulness-of/towards-others, i.e. *m2*). Together, the aspects *m1* and *m2* build up Mindfulness (*M*) as the entity of mindful experience. Concerning my claim that POs should cause Mindfulness through their materiality, we now have to consider whether it can cause both aspects – *m1* and *m2* – through its materiality.

When we were looking at objects in the context of art, we found that they can cause *m2* through their materiality, i.e. through the *theme* that they visualise. Consequently, we can say that *m2* is caused by *thematization*. If objects in the context of art can cause *m2* by means of their materiality, i.e. by thematisation, we can assume that POs can also cause *m2* by means of their materiality under the precondition that the objects could provide the first step of causing *m1*. Implicit is the assumption that *m1* and *m2* are successive steps. This follows the reasoning that without *m1* the materiality of the object that causes *m2* would stay unnoticed.

A further issue arises here: whether POs would cause *m2* by means of the visual aspects of their materiality or by the functional aspects? Perhaps both would be acceptable. The issue arises because within art objects the thematisation, i.e. causing *m2*, seems based on visual means to which attention is directed by the context that causes *m1*. In contrast, POs are assumed to cause *m1* by means of a disruption of function (*f1*). If the means of causing *m1* is responsible for directing attention to *m2*, one could assume that *m2* should also be caused by function, i.e. a thematisation of function (*f2*), because the user's attention would be directed towards function through the fact that *m1* is being caused by function.

The next step is to consider whether there are any objects that could cause *m1* by means of their function, i.e. that show a disruption of function. As we are looking for a particular state of function and [pragmatic] function is [one of] the main characteristic[s] of design, we need to go back and look among design objects. Although we might not [want to] think of it in the context of POs, we find one frequent disruption of function in broken objects. While this example shows the potential to raise awareness, it also raises the question if broken objects could cause *m1* what would be the difference between those and POs? I conjecture that broken objects may well cause us to become aware (*m1*), but that it would not cause *m2*. I discuss this issue in detail in Chapter 4 (cf. §4.2: 114).

Another more difficult issue is that if a PO can cause *m1* by its materiality, and in particular by a disruption of its function, why should it not be possible to cause *m1* through the other aspect[s] of

materiality, i.e. the visual aspects/aesthetics of an object? To attempt to illuminate this second issue it would seem useful to look at one category of objects that I have left out so far: objects from applied art/crafts. With these objects we encounter the same difficulty as with art objects; the difficulty of defining the category. Greenhalgh (2002: 1) summarises the problem as follows:

After decades of deliberation it has become obvious what the crafts are. In late modern culture the crafts are a consortium of genres in the visual arts, genres that make sense collectively because for artistic, economic and institutional reasons, they have been placed together... Craft has always been a supremely messy word. For centuries it was normally used in contexts that had nothing to do with creative artistic practice of any kind, but when it is used in the context of art, its multifarious nomenclatic heritage has rendered it so ambivalent that many who are associated with it consider it a drawback.

Considering the ambiguity of the crafts in terms of context as categorical frame, as 'applied art' they seem to aspire towards the contextual frame of art, as 'craft objects' they seem to aspire towards the contextual frame of design. However, if we assume the crafts (including applied arts) to be a separate category, craft objects ought to have 'their' particular contextual frame by which to potentially cause mindfulness.

One basic standard association with craft objects in this respect is that they are made by hand with great care; that they are 'crafted'. This seems to be an aspect of aesthetics, if we understand aesthetics as "the study of immediate experience and its objects when valued for its own sake..." (Encyclopaedia Britannica, 1974. Vol 1, 162). This particular kind of 'craft aesthetics' would be rooted in the object's materiality. Could this be the additional material frame for which we are looking? Could this frame cause us to be mindful and of what?

We may assume for the moment that it is and also that, as with art, the frame can direct attention to some form of message embodied in the object so that we would also have m_2 . Without a disruption of function or an institutional frame, how would we classify these objects? So far, I have referred to them as craft objects, but could the craft-aesthetics not also be a characteristic of art objects? Would this mean we have yet another category, perhaps the category of *aesthetic objects*? In the above I have assumed they would cause m_2 . We now need to look at this in more detail. If craft-aesthetics were the material-contextual frame to cause m_1 , by which means would m_2 be caused? It seems that craft-aesthetics would always direct attention towards 'itself' and its material basis rather than towards mindfulness-of-other. But perhaps the craft-aesthetics could direct attention to the object's visual message? I would tentatively argue that if it would, it would usually be grouped under [applied] art objects and therefore in the contextual frame of art.

We would have to show that this were so, if we wanted to show that craft objects could cause mindfulness. However, my only aim is at this stage to establish theoretically that they are different from POs. This is not to say that the aspect of craft-aesthetics would have to exclude the

characteristics of function that I assume for the PO. We could well assume that there might be craft objects that might also be POs, even though this does not seem to be the rule. This is because on the one hand craft objects aspire to art status in that they are made for their visual qualities and for presentation rather than for use (e.g. work by Phillip Eglin or Michael Rowe, Illustrations 6 and 7); on the other hand those craft objects made for use mainly obey the rules of efficient functionality (Illustration 8 and 9). However, where the latter should show the characteristics of a disruption and thematisation of function, I conclude that they would become POs independently of their crafts-aesthetic.



Illustration 6:
'Conditions for Ornament No.18',
cylindrical vessel.
Michael Rowe, 1993.



Illustration 7:
St Anne, Virgin and Child.
Phillip Eglin, 1999.

One final consideration on this subject: so far I have been talking about aesthetics, but we also have to ask whether not the visual aspect as such can cause ml. Although for this too, I can only give an indication here, I would argue that it probably could not. This is because, on the one hand, as soon as we recognise that an object is communicating a certain kind of visual message that requires us to be mindful, we are likely to determine it as an artwork and to understand it within the institutional frame of art. On the other hand, in the context of efficient functionality the visual message would be interpreted in relation to the function of the object where it usually reconfirms the function of the object (cf. §4.2.4: 124).



Illustration 8:
'For Many Mothers',
Tea Strainer.
Lucian Taylor, 1997.



Illustration 9:
Handmade Tea Cup.

2.4.2 Summary: frame and content - an investigation by means and result (affect)

I shall now summarise the problematic of Mindfulness with regard to the methodological consequences for the remainder of the inquiry. The focal point is the emergence of the division between

- mindfulness in the sense of causing awareness (mindfulness-of: $m1$), and
- the content of mindfulness (mindfulness-of/towards-other: $m2$).

I have shown that objects in the context of ritual and art usually accomplish the first step by means of their contextual frame. They accomplish the second step by either custom/belief (ritual object) or materiality (art object). Subsequently, we had to determine how the design object (PO) could accomplish the first *and* the second step without the alerting contextual frame. I have suggested that POs can accomplish *both* steps by means of their materiality, more precisely, by means of their function. The question that is still open is whether with regard to $m2$, art objects and the POs draw on the same aspects of materiality, i.e. the visual aspect of materiality, or whether in the case of POs it is through the aspect of function. We can visualise these results as follows in Figure 5:

Object contexts	Means by which mindfulness ($m1$) is caused	Means by which mindfulness-of-other ($m2$) is caused
In ritual context	Contextual frame (ritual frame)	Ritual belief
In art context	Contextual frame (institutional frame)	Materiality (material content): thematisation based on visual aspects of materiality
In design context (PO)	Materiality (material frame): disruption of function ($f1$)	Materiality (material content): thematisation of function ($f2$)
[In craft context]	Cause $m1$ by means of materiality, i.e. material aesthetic?	May cause $m2$ by means of materiality (visual aspects)?

Figure 5: Contexts and causes of mindfulness.
(The red line marks the border between the means of context and of materiality.)

With regard to the problematic of classification, this schema of frame and content gives us the basis for further investigation. It gives us the framework for comparison by means (frame or materiality) and result (content: mindfulness). I set out the details of this framework in Chapter 3. Before I give a conceptual basis to my assumptions on function in §2.5 I will review the qualities of mindfulness.

Coming back to the question of what the user might become aware in terms of the interaction within the triangular relationship of person-artefact-person (cf. §1.2: 18), §2.4.1 has provided some more information on the content of mindfulness. In the above discussion three aspects have been implicit: the mindfulness of objects/things, of self, and of other [selves]. Finally, we also encounter the maker in the object as an expression of his ideas and personality.

Thus we can distinguish four stages of mindfulness:

- 1) mindfulness of the object (and of the maker's ideas)
- 2) mindfulness of the maker (maker's idea/ personality)
- 3) mindfulness of self
- 4) mindfulness of other and/or towards others

Mindfulness-of-the-object may occur, for example, in the case where an object through its materiality or its contextual frame captures the explicit attention of the user.

In due course, dependent on the quality of, or action with, the object, the user's engagement with the object is likely to direct the user's consciousness either towards the maker/maker's ideas of the object or towards self. *Mindfulness-of-the-maker* may be initiated, for example, by a conceptual art or a craft object. (In the following, I shall use the term 'creator', because it can comprise any, or all, of the three terms artist, designer, maker.)

Mindfulness-of-self is likely to occur when an object challenges my perception of self (e.g. Norman 2002), and as a consequence of the first point. This self-reflectiveness can usefully be described with Miller's concept of Objectification, which in social context merges with Goffman's concept of [saving] face (cf. §2.2.2: 43). This is to say, mindfulness of self can be exclusively self-directed, or it can mean a reflection on self in a social context.

The last state of mindfulness appears to be that of *mindfulness-of-and-towards-others*. It seems that mindfulness-towards will occur where mindfulness-of-self and/or mindfulness-of-other are directed towards the social consequences of the user's interaction with others. This is the main aim of the PO. The question whether we have to go through all the stages of mindfulness-of- in order to come to mindfulness-towards-others will become clearer in the discussion in Chapters 4 and 5 (in particular cf. §4.1: 112 and §5.2.2: 136) where I develop the understanding of a continuum between mindfulness-of (*m1*) and mindfulness-of-and-towards (*m2*).

2.5 *The Design Context 3: designing mindful interaction through function*

In §§ 2.3 and 2.4 I have made the claim that the design object is suited to cause Mindfulness on the basis of its function, i.e. which if understood in the traditional functionalist sense normally prevents mindfulness. I have further proposed that design can cause Mindfulness on the basis that a disruption of function will cause a disruption of our preconceptions and that this will cause mindful awareness.

This raises the questions why we should consider function as the relevant means to create POs; how function could cause a mindful approach; and – first of all – what is function and what does it mean to claim ‘a disruption and thematisation of function’?

In §2.5.1, I explain those aspects about which I have made assumptions so far. For this purpose, I review the concept of function and re-define it in the context of consumption. This provides the basis for developing the concept of function with regard to the aim of materially causing Mindfulness. From this basis, I develop the concepts of disruption (*f1*) and thematisation (*f2*) of function (§2.5.2). While §2.5 aims to provide the theoretical basis, later in Chapter 4 and 5, we shall see its application with an analysis of examples as well as with an element of practice, which will contribute substantially to the theoretical understanding of function.

2.5.1 Re-defining the concept of function in the context of consumption

At the end of §2.3.2 (48), I have conjectured that, if function is the preconception of a plan of action, and Mindfulness is caused by a disruption of preconception, a disruption of function could cause a disruption of preconception (of the plan of action) and thus cause Mindfulness. From this, I have concluded that function could serve as a means to cause Mindfulness in design. The conclusion is further based on the recognition that design objects are mostly approached with an understanding of efficient functionality.

We have three main assumptions here that this section needs to address. Firstly, that design objects are mostly approached with an understanding of efficient functionality. Secondly, that this preconception determines function as a ‘plan of action’; and thirdly, that therefore a disruption (precisely: a disruption and thematisation) of function could cause Mindfulness. I approach the first two issues in the following discussion about what is function (or what it appears to be in the understanding of different people in different fields at different times). This will prepare us to answer the question what is the disruption and thematisation of function in §2.5.2 (67).

I have spoken of a change of function in the form of a disruption. Before I can make a change, I need to know/recognise the starting point. I have proposed that this starting point with regard to design objects is an understanding of function in the sense of efficient functionality. I examine different definitions and usages of the term 'function' as well as the relation between function and use with regard to this. If I have determined what function and use are, I should be able to determine how function with regard to the characteristics of POs can differ from the function of ordinary design objects. This should further serve to clarify how POs differ from ordinary design objects, e.g. what the difference is between an ordinary/standard drinking glass and a glass designed as PO.

The notion of function in design commonly designates the object's practicality in use. I have touched upon this already in §2.3.1 (45), where I have discussed User-centred Design, which employs user-participation to reach the optimisation of design with regard to use. However, to find direct references is difficult, because efficient functionality is taken so much for granted. Thackara (1988: 23) simply states that "design has always had a functional element". In a more general sense, he explains that objects are increasingly researched and designed to fit consumer needs and wants (20-21). Dormer (1990: 124) expresses the optimisation of products with regard to their function more polemically:

This is what differentiates the 1980s from 1890, 1909, and even 1949 – the ability of industrial design and manufacturers to deliver goods that cannot be bettered, however much money you possess... Beyond a certain, relatively low price ... the rich cannot buy a better camera, home computer, tea kettle, television or video recorder than you and I.

Dunne (1999: 28) turns this statement into a challenge for the designer:

The most difficult challenges for designers of [...] objects now lie not in technical and semiotic functionality, where optimal levels of performance are already attainable, but in the realms of metaphysics, poetry and aesthetics where little research has been carried out.

If we now accept that effective functionalism is the rule, we still have to find out what the essence of function is, in order to determine what a change in function means, or even a disruption of function. Although function is widely discussed in literature on design (e.g. Baudrillard 1996; Buchanan 2001; Greenhalgh 1990; Krippendorff and Butter 1993; Michl 1995; Papanek 1974; Pye 1982), it is far from being a clearly defined term. The discussion mainly focuses around the modernist dictum "form follows function", which has prevailed since it was coined by Louis Sullivan in 1896 (Michl 1995). The strong faith in modernist beliefs, above all that of "metaphysical function" where function was understood as an "'objective demand' imputed either to God, to Nature or to History" (Michl 1995, unpaginated), has provoked much criticism in the postmodernist era. Thackara (1988: 23) reflects that

[t]his particular debate, in which modernism and functionalism are conflated, has tended to divert attention from the aesthetic to the tactical; there is nothing inherently 'modern' about 'function' – design has always had a functional element.

Post-modernist criticism of modernist functionalism (e.g. Greenhalgh 1990: 1-25) may be traced back to an overemphasis on the structural and physical aspects of function [or its interpretation] in that era. Ligo (1984) calls these aspects, which were implicit in the dictum “form follows function”, “structural articulation” and “physical function”.

Indeed Ligo (1984) shows that function is not a one-dimensional thing. Ligo classifies five aspects or levels of function: “structural articulation” which refers to the object’s material structure (21); “physical function” which refers to the utilitarian task/value of the object (37); “psychological function” which is explained as pertaining to the user’s emotional response to the object (49); “social function” refers to the nature of the activity that the object provides with regard to the social dimension (61); and “cultural-existential function” as a more profound cultural symbolic which includes the existential being of the individual (75). Ligo understands the distinction between the five levels of function as a theoretical one and that in reality “their experience is unitary” (96).

Ligo’s classification seems very useful in that it explicates the various aspects of function. I have grouped these five aspects into two areas according to their different nature. These areas are the physical and the symbolic dimension of function. I call the physical dimension of function the *operational function*. It refers to the physical embodiment of the “plan for action”. The *operational function* embraces Ligo’s “structural articulation” and “physical function”. I call the symbolic dimension the *symbolic function*. The *symbolic function* comprises any aspects related to the symbolic dimension, including Ligo’s “social function”, “cultural-existential function”, and – arguably – the “psychological function”. Finally, the operational and the symbolic function together constitute what I call the *generic function*, which I understand as the generic underlying “plan for action”. It allows us to recognise an object for what it is, regardless of its shape and surface appearance (Figure 6).

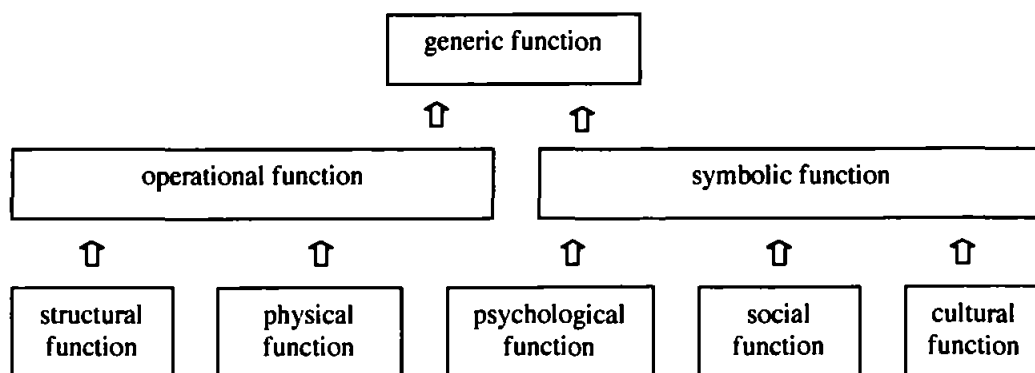


Figure 6: A system of function.

The possibility to distinguish five levels of function seems to make it difficult to grasp the nature of function, because it is not 'present' in the same way as for example form. Although the material form is one mode through which function becomes apparent, function is not equal to the form nor is it fully visible in the form. Rather it becomes fully visible in its second mode, in action/use, which is pinpointed in the definition of function as "the special kind of activity proper to anything" (OED 2004: §3). The definition emphasises function as an immaterial quality that is bound to the dynamic use of the object. This has two implications dependent on the perspective. Firstly, function might be understood as "the plan of action that the object represents" (Pearce 1995: 166) and where designer and user share their understanding about the intended purpose of the object. Secondly, it might be understood as the perception of use-value, which emphasises the appropriation of the object through the user according to their needs.

This consideration indicates that function has its counterpart in use, which means, although function and use are normally assumed to converge in the contextual understanding of efficient functionality, they do not necessarily have to do so. The problematic of *function–use* arises because the reading of function from an object's form – function as subject to the designer's intention (Ligo 1984; Michl 1995) – is open to interpretation. Consequently, function itself is open to wilful appropriation within use and subject to the intentionality of the user (Cummings 1993: 13-28).

So how can we gain from this ambiguous understanding of function an understanding of function as a norm against which to establish a deviation? Because of its elusiveness, function is often regarded as a 'designer-illusion'. However, the question whether the discussion about function is merely a designer-illusion and redundant once it comes to use is countered by Pearce (1995). She pinpoints the somewhat ambiguous relationship of function and use that is dependent on the user's expectation, experience, and intention.

Objects do not exist in pre-established form; on the contrary, the perception of an object has within it the idea of a series of experiences which an individual might have, or hope to have, if he carried out the plan of action the object represents. Objects then are not inert (166).

This description shows that, although function is very much an intentional construct of the designer that the user can subvert, there remains the potential for action with and through the object and that is based on the physical characteristics of the object. For example, it may be difficult to imagine that a cup may serve for knitting wool or, vice versa, that knitting needles may serve as a drinking vessel (other than drop by drop). Therefore in the context of efficient functionality, it seems appropriate to accept function in the understanding as "plan for action" as the norm. However, the aspect of appropriation within and through use may not be unimportant, because it may lead to some insights about the nature of a disruption of function. I shall therefore dwell a little longer on the aspect of use and its relation with function.

It seems that function can enable the active involvement of the user and their creativity as a fundamental characteristic of action (Joas 1996) in the form of use or abuse. Current approaches to the aspect of use by Dunne (1999), Dunne and Raby (2001), and Wentworth (Cummings 1993: 52f) are concerned with this aspect, i.e. that the object itself is always open to interpretation and thus not only to use, but also to “misuse” or “abuse” (Dunne and Raby 2001: 6). In the context of this thesis, I suggest using the notion of ‘inventive use’ rather than that of ‘abuse’ because the latter carries a negative connotation. With inventive use I understand the constructive use of an object in a way not previously intended or anticipated. For example, although we might recognise a simple water glass (or wineglass) as such, we might well use it as a flower vase, a penholder, or a sound instrument (e.g. Droog Design’s wineglass door bell, Illustration 10). We could use it for various games or even as a weapon. Wentworth (1993: 52f) gives a series of rather surprising and often amusing examples, playing with our understanding of the purpose of objects and of efficient functionality. Here are some examples:

- Sew buttons on heavy coats or other garments with dental floss.
- To find a contact lens on the floor or carpet, cover your vacuum nozzle carefully with a nylon stocking to keep the lens from being drawn in. Gently move the nozzle over the floor.
- In an emergency, sharpen a pencil with a vegetable peeler.



Illustration 10: “Bottom’s up Doorbell”
Peter van der Jagt, 1994.

Biggs (2003) suggests that more research is needed in this field of inventive use in order to complement the understanding of the intentional mode of the designer with the interpretational mode of the user. Dunne (1999) voices the same request with regard to his particular field of interest, the electronic object:

Design research should explore a new role for the electronic object, one that facilitates more poetic modes of habitation: a form of social research to integrate aesthetic experience with everyday life through ‘conceptual products’. In a world in which practicality and functionality can be taken for granted, the aesthetics of the post-optimal object could provide new experiences of everyday life, new poetic dimensions. (29)

Dunne suggests that, in form of the “post-optimal object”, the potential of industrial design could be employed to “more socially beneficial ends” (12). He proposes using a kind of subversion, which he calls “user-unfriendliness”. He explains:

If user-friendliness characterises the relationship between the user and the optimal object, user-unfriendliness then, a form of gentle provocation, could characterise the post-optimal object. The emphasis shifts from optimising the fit between people and electronic objects through transparent communication, to providing aesthetic experiences through the electronic objects themselves. (38)

In this sense, “user-unfriendliness” does not mean user-hostility, but rather a poetic becoming aware of the language (here: the object) itself. Stimulating the user’s imagination through “user-unfriendliness”, Dunne aims to explore ‘what might be’ and to achieve a quality of experience similar to the aesthetic quality of poetry and of poetic language.

I am dwelling a little more extensively on Dunne’s work, because I see some parallels, but also differences, with my own work. The parallel clearly is the subversion of experience and preconception in order to give design [objects] new meaning. However, he understands his approach as an approach of “conceptual design”, which he also equates with applied art or industrial art (Dunne 1999: 12). He thinks that conceptual design can live comfortably in the gallery space, and that it “can only exist outside a commercial context and, indeed operates as a critique of it” (68). This positions his objects clearly in the institutional frame of art, which means that the role of his objects as design does not appear to be satisfactorily resolved.

I would like to conclude the discussion of Dunne’s work with a brief consideration on positioning the concept of the category of PO in relation to Dunne’s thoughts. Dunne uses a number of different terms that are not clearly defined in relation to each other: post-optimal design/object, conceptual design/object, critical design/object. Although he has described critical design as a subcategory of conceptual design (private correspondence with the author, August 2002), its relation to the notion of the post-optimal design/object is still open. Tentatively, I would like to suggest that the latter category could be the highest in the order, which would allow understanding of both conceptual design/object and performative design/object as parallel subcategories (Figure7).

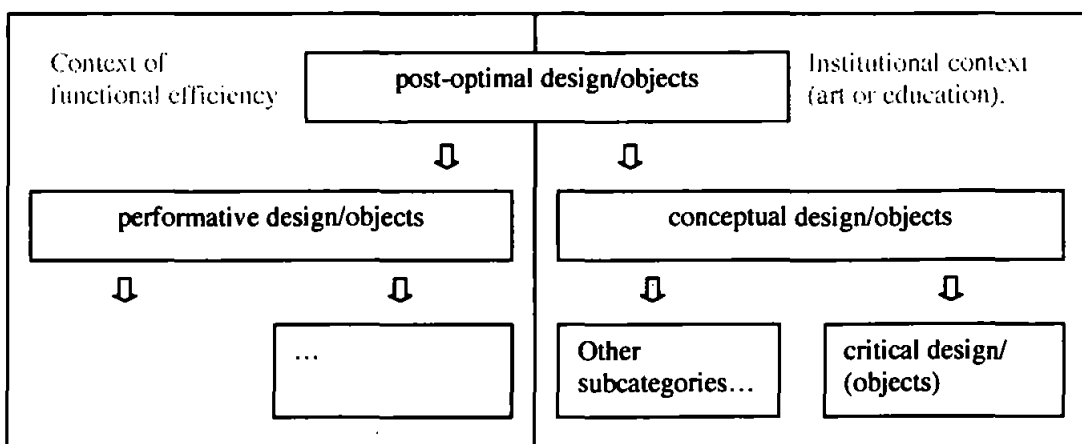


Figure 7: Categories of Post-optimal Design.

To conclude this section, I want to give one more example of the relation and meaning of function and use. It is the *Zen-Anecdote* from the chapter “So” in Barthes’ *Empire of Signs* (1983: 83):

...the master awards the prize for definition (what is a fan?) not even to the silent, purely gestural illustration of function (to wave the fan), but to the invention of a chain of aberrant actions (to close the fan and scratch one's neck with it, to reopen it, put a cookie on it and offer it to the master).

Barthes’ description of the “aberrant” use of the folding fan vividly describes the additional social dimension that use can acquire. Although this social dimension of use is somewhat related to the function of the object, the question is whether we can embody ‘the plan of action’ for this kind of social dimension through function? The insight from the above discussion that function operates on a physical as well as a symbolic level offers the promise that it should be possible. This is supported through the understanding that function provides the plan of action, even though use can subvert it at times.

Finally, having distinguished the physical and symbolic level of function, I assert that we can relate these two levels of function to the two levels of modification of function, i.e. to the disruption and thematisation of function which I have suggested as the necessary means to cause Mindfulness (cf. §2.4.2: 59). In §2.5.2, I discuss how the different levels of function and its modification relate and how the modification of function can be developed.

2.5.2 Materialising mindfulness: developing the concept of function

The task of this section is to trace how function can be used deliberately to realise Mindfulness. I have distinguished two elements of mindfulness (cf. §§2.3.2 and 2.4: 48ff); the frame (*m1*) as the attentive state of mind through which attention is directed towards the content (*m2*) of experience and reflection. I have proposed that *m1* could be caused through a disruption of function, because it causes a disruption of the pattern of action and thus of experience. I have further proposed that a thematisation is necessary to guide any subsequent action and reflection (*m2*).

Of interest now is what ‘a disruption and thematisation of function’ actually means. Above, I have distinguished two levels of function, operational and symbolic, and I have conjectured that the disruption is linked to the operational, and the thematisation to the symbolic level of function. Let me explain this. With design objects, we seem to take the operational function for granted. Although surely we can say that every object also has [or can be assigned] some kind of symbolic dimension, the notion of symbolic function is more complex. Imagine the ‘army’ of tea mugs that we have in shops, in the home etc. The majority of them have the same cylindrical shape, similar in size to all and with handles that show only slight variations (Illustration 11). Where is the symbolic function here?

This points to two levels. One is the generic level of the mug as a particular functional object, with particular characteristics concerning use in a social context. This is the level which Heidegger (2000) describes in his reflection on the jug. The other is the specific level of the individual design. In the example of the mug, it often comes down to a mere variation of the visual aspect (often a piece of [cheap] decoration) which is usually entirely disconnected from the object's generic function, and the aim of which seems to be to add some kind of emotional value. We can probably talk of a psychological level of function, but that seems subordinated to the more generic and profound social and cultural levels of symbolic function that evolve from the operational function. Therefore, I am not so much interested in this visual aspect, in attaching yet another picture-image to yet another mug. My concern is how we can employ the much more powerful level of generic symbolic function that arises from the operational function, to focus on specific meanings in a socio-cultural context.



Illustration 11: 2 Mugs.

I want to trace this concern in thinking about what it means to have a disruption of function. The disruption is aimed at raising our attention through a change. This change is basically a deviation from the norm, i.e. from the plan of action. The change must be on the level of the operational function (rather than the generic function) in order to maintain the recognition of the category or norm, i.e. of the generic function of the object. In this sense, the generic function is responsible for meaning classification, but in turn is also learned through classification, which we need to make sense of the world (Langer 1989: 115-131). Function thus indicates both the purpose of an object and the way we [are] expect[ed] to use it. For example, if we had not learned the function of a pencil, we might well use it to stabilise a flower, or as core to make a spring from a piece of wire, and so forth. An un-conditioned learning-process makes one mindless, a conditioned one mindful (Langer 1989: 120). POs might help us to break through our un-conditioned perception by questioning us in our pre-established attitude to the use of an object. In this sense, the deviation needs to be neither more nor less than is needed to achieve the disruption of experience and of subsequent attention, which is based on the recognition of the norm (generic function) and the deviation of that norm (operational function).

If the disruption of operational function causes awareness, the thematisation must provide the content of that awareness. The question is how. In the case of art objects, we found that the message lies in the visual theme, in other words, that the thematisation is rooted in the visual-material aspect of the object. With regard to the PO, this could mean that the visual aspect gets special meaning through the disruption of function. However, although using these two different means together seems to be possible, i.e. using function to cause the disruption and the visual aspect for the thematisation, it also seems to disconnect the two processes.

I would argue that it is more useful if both processes of disruption and thematisation are caused by function. This is because we need a means of 'compensating' for the disruption of function. For example, we might think of the case of a broken glass or a door that does not open (Norman 2002: 3f). It seems that the visual cues cannot achieve a satisfactory resolution with the actual physical condition. It can comment on it and guide our attention, but as long as the actual experience of use stays unsatisfactory, we will put the object aside. In some cases, perhaps, it might serve as a conceptual design object instead but it seems unlikely that it will work as a PO. What we seem to need is a complementary process that uses function to offer alternative solutions of use. In the example of the "Social Cups", the disruption of 'not-standing' is complemented by the added connector-pieces, which allow the user to 'compensate' for the disruption. The important point is that the additional action required aspires to the symbolic level of understanding to provide guidance for reflection (Illustrations 12 and 13).



Illustration 12:
"Social Cups"
Kristina Niedderer
1999.



Illustration 13:
"Social Cups" (detail).

Consequently, one can assume that disruption and thematisation of function must be linked by that aspect of function which is disrupted. One can further assume that they have to be linked in a way that compensates for the disruption on an operational level, and that this 'compensation' creates a symbolic level of action. In other words, a thematisation may be achieved through the choice of aspect that is being highlighted through the disruption and in which way. This will determine in which way the disruption will be experienced. It must be possible to read the deviation in a symbolic way. I explore the potential of function for disruption and thematisation further through the practice ("Series I") in Chapter 4 (§4.3: 125).

Having discussed the disruption and thematisation of function as necessary and sufficient conditions to cause a PO, I can now define *performative function* as any function in an object that fulfils the criteria of disruption and thematisation and therefore causes the object to be a PO.

In conclusion, we can say that function can be understood as a basis for the dynamic element of action. However, any action entails consequences and therefore requires responsibility, especially in a social context. This links function potentially to inter-action. We can also say that, because function entails action, and because any action requires responsibility, function is closely connected with ethical and mindful intent. This supports a view that function would be the appropriate means to support the realisation of the *performative object*.

2.6 *The concept of the performative object*

I have now introduced and discussed all aspects that are relevant to building up the concept of the *performative object*. The task of this section, finally, is to explain and justify my choice of the notion of 'performative object' and to draw the strands of the discussion together. In §2.6.1, I review uses of the notion of 'performative object' in order to show that it has not been widely used, that these uses have had various meanings, and that the category of POs has not been formally defined. Following on from this, I review the notion of 'performative' and 'performative utterance' in relation to which I can then explain the notion of 'performative object'. In §2.6.2, I conclude the discussion of this chapter with the full concept-hypothesis of the PO.

2.6.1 Function and the performative: reviewing the notion of 'performative object'

Hand in hand with the attempt to classify a series of objects as a separate category also comes the need to name the new category. Finding an appropriate name is not all that easy. Firstly, the name should most strikingly describe the category or main characteristic of this category. Secondly, the name should not already be in use or imply another category. In the following, I show that the notion of 'performative object' has not yet been used in any systematic way and I explain why I have chosen the notion of the 'performative object'.

In the review of the notion of the 'performative object', we find that the notion appears spread throughout several disciplines that include the study of human or technical performance. The main areas that use the term 'performative object' are anthropology and performance art; we also find a mention in the area of computer performance and technology. However, overall, there exists relatively little in terms of literature (few journal articles, no books). What we do encounter is the notion of 'performative utterance' which seems related to the notion of 'performative object' and which I therefore take into account in the following discussion where appropriate.

Probably the most substantial use of the term 'performative objects' is a journal article by Strother (2000) in the area of anthropology. Under the title "From performative utterance to performative object: Pende theories of speech, blood, sacrifice and power objects", Strother "explores why it is that [the Pende, an African tribe] ... privilege speech in the composition of power objects (50). Although Strother at first uses the term 'performative object', she immediately replaces it by the term 'power object' (49). She says about power objects that

[t]hese objects, whether in the form of statuettes or packets of leaves and animal parts, are enabled by speech to work on the physical world, often to heal, to protect, or to render justice" (50).

This clearly positions her interest as an interest in fetish-objects in the sense of Durkheim (1995). The fetishist object may be regarded as a sub-group of the ritual object (cf. §2.4.1: 53). It is assumed to represent a god and/or to have supernatural powers. Through these powers, which are usually associated with its material, the fetish is believed to serve as a protector of the owner[s] (Durkheim 1995: 35-36 and 176-177).

The second area in which we find the notion of the 'performative object' occasionally being used is that of computing. However, it is not used systematically. It can variously refer to aspects of programming, to email, or to the computer as used in audio presentation (e.g. Stuart 2003). Finally, the notion of the 'performative object' is also used in performance art, where again it can variously mean an object used within a performance, the body of a performance artist, or some kind of artefact-related outcome of the performance (e.g. Butler 1977, 1990, 1993; Meskimmon 2004).

In summary, the review of the available material has indicated that the PO has not yet been established as a specific category and that there is no systematic understanding of what a PO is or should be. In order to develop the understanding and meaning of the notion of 'performative object' in the context of this study, in the following I look at some definitions of 'performative'. To start with, the OED (2004) classifies 'performative' in a general sense as an adjective "of or pertaining to performance" (§A). Performance in turn is defined as

the accomplishment, execution, carrying out, working out of anything ordered or undertaken; the doing of any action or work; ... (§2.a).

This definition is rather general. It allows for the scope to understand the notion of 'performance' both as the function/operation (performance) of the object and the action (performance) of the user. In the context of design, the former appears to be the more common use of the word, while in the context of this thesis it is the performance/[re-]action of the user that is of interest.

In order to find further clarification about the meaning of 'performative', it is useful to turn to the notion of 'performative utterance', which we find in the philosophy of language. In the linguistic definition of 'performative', which the OED additionally offers, 'performative' is defined as

designating or pertaining to an utterance that effects an action by being spoken or written or by means of which the speaker performs a particular act (§A.spec).

A common example of a performative utterance is a promise, where the promise is contained in, or effected by, the act of speech itself. It seems to me that the (performative) function of an object, in the way it is semiotically communicated through form, bears comparison to the linguistic meaning. Function would correspond to the meaning-content; form would correspond to the spoken word. Further, and perhaps more importantly, it seems to me that the aspect of performativity could also pertain to the symbolic dimension of the action that is performed with a PO with the meaning laying in the symbolic action (gesture) itself.

Going back to the definition of the OED, if we shift the context of this definition and place it in the context of design by replacing the notions of *utterance*, of *speaker*, and of *spoken* with those of *object*, of *user*, and of *used*, we get a complementary definition of 'performative' with regard to the *performative object*. The notion of 'performative object' is then

designating or pertaining to an object that effects an action by being used or by means of which the user performs a particular act.

As a note of caution to the interpretation of the definition, I have to add that, in this use of the definition, the notion of 'act'/'action' refers to the symbolic level of action within the use of the object. If we use the definition as referring to real/physical action, it no longer pertains to performativity but performance.

When using the definition in the latter sense, it emphasizes that it is not the object's performance that is important, but the user's performance, which is activated and directed by the object's qualities, in particular by its function. The grounds for this shift from *use of* to *performance with an object* are laid by the modification of function, which is assumed to modify the user's action in a socially meaningful and responsible way.

2.6.2 The concept of the *performative object*

I now draw the different strands of the discussion together in order to provide a full picture of the concept of the *performative object*. In Chapters 1 and 2, I have introduced and discussed three key concepts: interaction, mindfulness and function in the context of design. These are the basic concepts that together serve to build up the conceptual and theoretical foundations of the PO.

The discussion on interaction has led me to an understanding and investigation of use in the context of design from the perspective of consumption rather than that of production, in order to accommodate the understanding of a triangular relationship of interaction. In order to account for and to link the aspects of human-human interaction and human-object interaction within this relationship, I have introduced relevant concepts of interaction from sociology and material culture.

The discussion of interaction has led me to characterize the aim of the PO as the stimulation of mindful interaction with and through the object. In relation to the idea of the PO, I have defined the concept of mindfulness further as mindfulness-of-and-towards-others to relate it to aspects of consideration and responsibility within social interaction. With function, I have found the means that I assume to be the most useful for causing mindfulness through the materiality of the object.

In summary, on the conceptual level of interaction and mindfulness, the PO is thought

- to make the users become mindful (*m1*) of their interaction (with the object, self, other)
- to cause the users to mindfully reflect (*m2*) on the nature of their interactions
- to reshape their perceptions of their interaction both with other persons and with objects (in consequence of the above) towards a higher level of consideration and responsible social action, which I call the *humane dimension*.

The realisation of the *performative object* on a physical-operational [and behavioural] level is thought to be based on a modification of function and further on

- a disruption of function to cause questioning, reflection and creative action based on a disruption of the normal pattern of action
- a thematisation of function to guide reflection and interaction towards ethical/mindful consideration

Alongside the concept of the PO, I have introduced the problematic of the classification of the PO. Concerning the probability of the concept, there is the need to show how the two aspects of function, i.e. disruption and thematisation, relate to the two stages of mindfulness (*M*), i.e. frame (*m1*) and content (*m2*). Concerning the originality, there is the need to compare the concept and potential examples of the PO with examples from other categories, the frame for the comparison being the aspects of means (context, materiality) and result (mindfulness). To describe the methodology of the testing (analysis and comparison) and the testing itself is the task of the following chapters.

2.7 Summary

In this chapter, I have discussed all the elements that are needed to substantiate the initial concept hypothesis, which we can now reformulate as the full concept hypothesis:

that we can design artefacts that communicate and cause Mindfulness ($m1$ and $m2$) in the context of human interaction by means of a modification of function, i.e. a disruption and thematisation of function ($f1 + f2$), and such artefacts should be called *performative objects* (POs).

In the following Chapters I describe the testing of the concept hypothesis. In introducing the problematic of the classification of the PO, I have already established the need to test not only the originality but also the probability of the concept. This includes the need to demonstrate that/how function can cause mindfulness through the object, and that no other category of objects has been recognised as causing the two stages of mindfulness by means of function, i.e. by its materiality rather than by an external frame. This schema of cause and effect/affect gives us the basis for further investigation. It gives us the framework for the comparison by means (context or materiality) and result (mindfulness). I set out the details of this framework in Chapter 3.

Chapter 3
Critical Methodology

Chapter 3: Critical Methodology

3.1 Introduction

The aim of this chapter is to set out the methodology for testing the PO. In §3.2, I give an introduction to the problematic of testing and propose two processes: the critical concept analysis and the comparative analysis. In §3.3, I discuss the concept analysis as a means of testing the probability of the concept. In this context, I introduce the problematic of the description of objects as a basis for the analysis and comparison of examples. In §3.4, I extend this problematic with regard to the interpretive reading of objects and their use.

In §3.5, I develop the framework for testing by comparative analysis. Despite the different aims of the conceptual and comparative analysis, they have emerged as essentially complementary processes. The two processes have therefore merged into one framework, the comparison, i.e. in the investigation by means (function), and the result (mindfulness). In this way, they are used to support each other. In §3.6, I conclude with a discussion of the choice of specific examples for subsequent testing.

3.2 *The problematic of the testing: conceptual and comparative analysis*

In §1.7 (24), I have introduced the problematic of the study as the naming and classification of POs, and I have indicated the need for testing the probability and originality of POs through conceptual and comparative analysis. In Chapter 2, I have developed details of the concept of the PO, such as mindfulness and function, thereby providing a basis for a potential framework for testing (cf. §2.4: 53).

The task of Chapter 3 is to analyse the problematic of testing and to develop the framework for testing with regard to its application and conduct in Chapters 4 and 5. With regard to testing the originality and probability of the concept of the PO, the thesis needs to defend 'what' is the PO and 'how' it relates to other [classes of] objects. Thus the investigation through conceptual analysis (testing probability) corresponds to the question 'what', and the investigation through comparison (testing originality) corresponds to the question 'how'.

The conceptual analysis addressing the question of what is the PO (research question 1, cf. §1.6: 23) is guided by the additional set of meta-questions (cf. §1.6: 23). They guide the internal logic of the analysis of the concept of the PO. Accordingly, the conceptual analysis needs to show that objects can be found that cause mindfulness and that therefore it is not unlikely for POs to cause

mindfulness. Therefore the analysis has to investigate the stages *m1* as caused through disruption and *m2* as caused through thematisation.

With regard to the question of how the PO relates to other kinds or classes of objects (research question 2, cf. §1.6: 23), we have to look at matters of classification. Foucault (1970: xv - xxiv), who is concerned with the logic of taxonomies in human sciences (rather than natural sciences), proposes that we need to establish a common basis for things we want to relate to one another, because taxonomies are not natural but a mental construct. Only on some prior established basis can we determine whether or not things are of the same order. Because the most relevant criteria for characterising the PO are the aspects of function (means/cause) and mindfulness (result/affect), this seems to direct us towards a comparison by means (function) and result (mindfulness).

Before applying both processes in combination for the tests in Chapters 4 and 5, in this chapter I discuss each of the two processes independently. I first discuss the conceptual analysis: its content and logic, the mode of description, and theories of interpretation that are the basis for the analysis. I then turn to the comparative analysis. I develop the framework for the comparison by means and result, and I explain how the conceptual analysis is merged into this framework for the testing in Chapters 4 and 5. I conclude the discussion with the selection of examples.

If the discourse on conceptual analysis may at times seem like a detour before I proceed to the discussion of the framework for the comparison, this may be because of the complexity of the material. I am dealing basically with [at least] two parallel strands that I had to bring into a linear order. The reader may visualise the structure of the methodology in its parallel argumentative form as follows in Figure 8. Figure 9 shows the linear narrative structure of the discussion of Chapter 3.

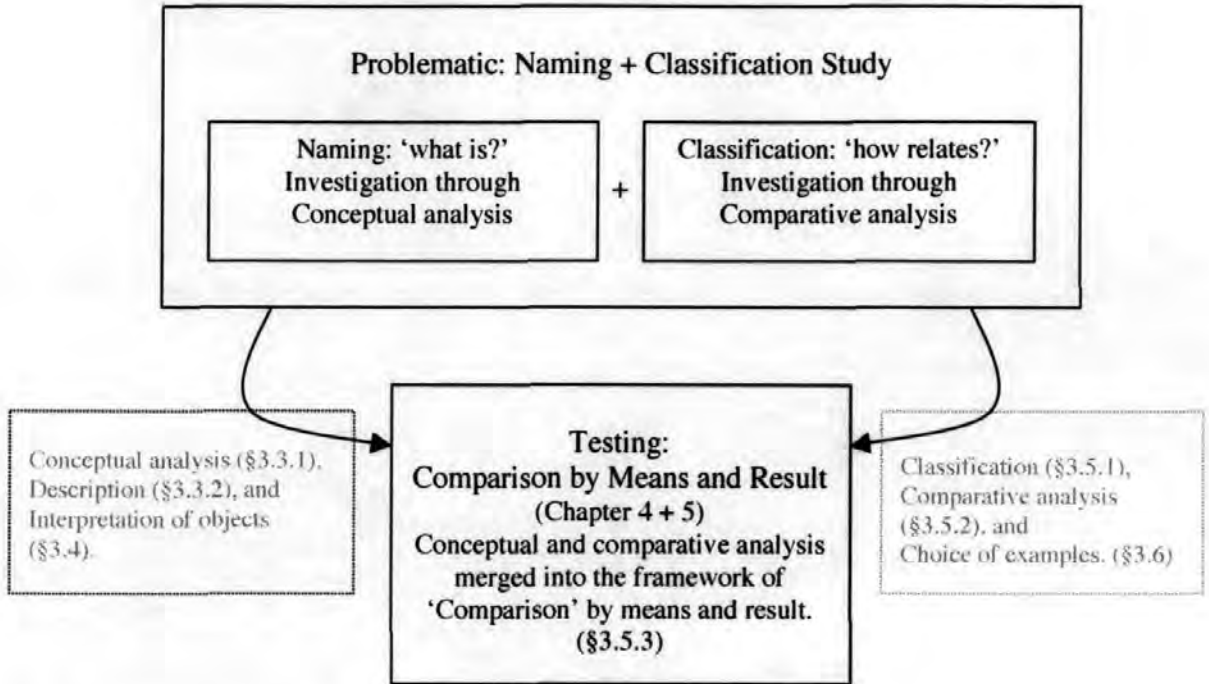


Figure 8: Parallel structure of the methodology.

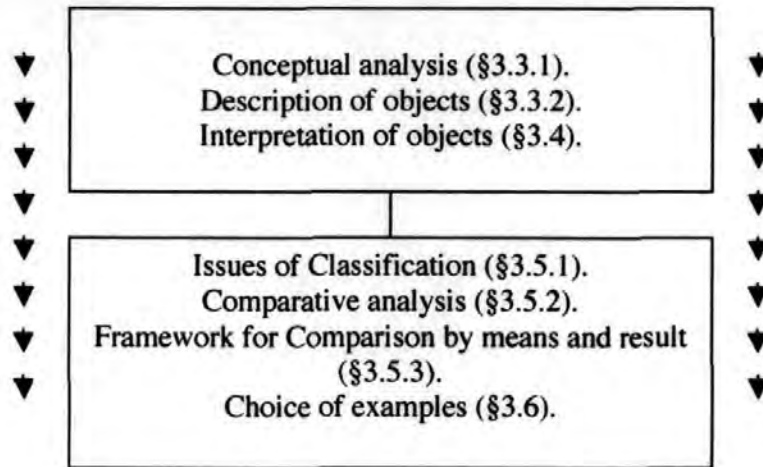


Figure 9: Linear structure of Chapter 3.

3.3 *The problematic of the conceptual analysis*

3.3.1 Content and logic of the conceptual analysis

As an introduction to the discussion of the conceptual analysis, I approach the question of what is the PO by reviewing the meta-questions (1a-1c) which guide the internal logic of the inquiry (cf. §1.6: 23):

1a: Can design [objects] modify behaviour?

1b: Can this behaviour-modification cause mindful reflection?

1c: Can this behaviour-modification (beyond mindful reflection on human-object interaction) encourage mindful reflection on interpersonal interaction?

Question 1a seems more of a rhetorical question that sets the stage, because it seems clear that many design objects (e.g. mobile phones) can influence and shape behaviour. Important in this respect is that the change of behaviour (physical action with the object) is largely based on function.

For question 1b we have to investigate whether objects can be designed to influence and shape behaviour in a mindful-reflective way, i.e. whether the cause for this mindful reflection can be rooted in the object. The question arises because causing mindful reflection seems commonly associated with the context of art, ritual, or education rather than with design (design objects) as such. The indicator that objects can be designed that influence and shape behaviour in a mindful-reflective way is based on the behaviourist theory that increased mindfulness could be indicated by a change in behaviour (i.e. not only behaviour with objects) and that mindfulness can only be meaningfully discussed to the extent that it is manifest in [altered] behaviour (cf. §3.4: 83). Through the analysis of examples, in the following we need to show how POs can provide mindful experience and reflection outside of traditional art or ritual contexts.

Question 1b looks at the immediate impact of the object and the interaction with it, which can be equated with $m1$ through the disruption of function. Question 1c is concerned with the content of that reflection, i.e. with $m2$ as caused through a thematisation. Assuming that the object is causing mindful reflection and socially-responsible action, we might argue that this automatically includes interpersonal reflection. However, if we take a more sceptical stance to it, we might argue that the interaction still stays bound to the object rather than superseding it. So, once we have clarified that the PO can cause mindful reflection of the object and self, we will have to approach this aspect to complete our understanding of the characteristics of the PO.

In Chapter 2, I have approached these questions from a theoretical point of view in order to draw out the underlying concepts that support the theory of the PO and to create a basis for the understanding of the probability and originality of the PO. I have argued

- that Mindfulness (M) in general is possible.
- that Mindfulness (M) is constituted of [at least] two components: mindful awareness ($m1$) and mindful content ($m2$), i.e. $M = m1 + m2 + [\dots]$.
- that, usually, mindful awareness ($m1$) seems to be caused by the context.
- that, usually, mindful content ($m2$) seems to be caused either by belief or by materiality as in the case of ritual or [visual] art objects.
- that POs can cause both aspects of Mindfulness by means of its materiality, i.e. a disruption ($f1$) and thematisation ($f2$) of function.

In Chapters 4 and 5, we need to test this argument in order to gain full evidence for how POs can cause Mindfulness, and in order to show that in this way it can be distinguished as a separate category of objects. Because the study aims to establish a framework that allows for the systematic distinction and classification of examples, I have chosen theoretical testing. Therefore, we now need to look at the conditions that enable such theoretical testing in the form of the conceptual and comparative analysis of objects. If the conceptual analysis should serve to illuminate how the PO is thought to work, we need examples of the two aspects of Mindfulness ($m1$ and $m2$) in order to show its possibility. For the comparative analysis, we need examples that demonstrate how other objects differ from POs either in their means or in their result. Thus we need to select examples and we need to describe and interpret these examples as a basis for the two analyses. This means that we have to determine the right modes of description and interpretation that enable us to see and identify the relevant phenomena.

3.3.2 Different modes of description as a basis for the conceptual analysis

The task of this section is to consider how the description of objects can serve as a basis for the conceptual and comparative analysis. I start by looking at the purpose of the description in order to determine what needs to be the content and mode of the description.

The purpose of the description is to elicit the characteristics related to the PO, i.e. aspects of function and mindfulness, in such a way that they are being made accessible for analysis and comparison. The problem is that mindfulness is essentially an experience that is not likely to be apparent in object description, but rather in contextual descriptions of interaction. It seems that a suitable contextual description could only be achieved through experiments and through user

interviews or extensive observation in the context of use. This raises the question how we can conduct testing on a theoretical level through object description?

I have indicated earlier that, in this context, mindfulness can only be meaningfully discussed to the extent that it is manifest in [altered] behaviour, i.e. in the form of an engagement with the object (cf. §1.7: 24 and §3.3.1: 79). My understanding of the validity of this interpretation is based on the reading of function as a plan for action. On this basis, [potential] actions and changes of action in the engagement with the object can be read from the form-function-complex of the object. From the relation between a commonly known norm[ative behaviour] and [altered] actions/gestures it is possible to receive the symbolic meaning of the [altered] action and to conclude on mindful experience (cf. §3.4: 83).

Being concerned with the cognition, use, and experience of objects, the description needs to embrace aspects of the cognitive perception of objects as well as the reflective and mindful experience that users/participants may have of these objects. The content description needs to elicit aspects of form and function (e.g. disruption and thematisation), as well as action (from function as plan for action), and symbolism from which to conclude on a potentially reflective and mindful interaction and experience.

During the process of analysis, we therefore need to engage with different modes of description, e.g. experiential and interpretive modes. The mode used for experiential description is phenomenological description. It depicts the object as a phenomenon rather than as e.g. 'scientific unit'. In his text "Das Ding [The Thing]", Heidegger (2000) gives an excellent example of the phenomenological description of objects. His description shows how function and meaning are related and can be made explicit by means of description. Van Manen (1990) differentiates the use of language further in his "attempt to introduce and explicate a hermeneutic phenomenological approach to human science research and writing" (p. ix). Van Manen defines

[h]ermeneutic phenomenology ... as a *descriptive* (phenomenological) methodology because it wants to be attentive to how things appear, it wants to let things speak for themselves; [and as] an *interpretive* (hermeneutic) methodology because it claims that there are no such things as uninterpreted phenomena. The implied contradiction may be resolved if one acknowledges that the (phenomenological) 'facts' of lived experience are always already meaningfully (hermeneutically) experienced. Moreover, even the 'facts' of lived experience need to be captured in language (the human science text) and this is inevitably an interpretive process (p.180-181).

He also states that

interpretive phenomenological research and theorizing cannot be separated from the textual practice of writing. Thus, a semiotic inspired dimension is part of this research approach (p. ix).

Van Manen makes explicit what is implicit in Heidegger's text. In this way, he makes the means of phenomenological description accessible as a method and a basis for the analysis of objects.

However, he is also aware that this inevitably contains a process of interpretation, which is part of the reading of the object. For the purpose of this thesis, I therefore extend the initial phenomenological description of objects by a semiotic description in order to elicit the cognitive and reflective process inherent in the engagement with objects. For example the semiotic understanding is necessary in order to be able to determine a deviation from the norm as a disruption of function. I use semiotics and its terminology in the sense of Morris (1971).

Having discussed different modes of description, the last aspect to consider is the perspective with which to approach the description. This concerns only the semiotic description, because phenomenological description by its nature cannot take a perspective. To establish the perspective for the semiotic reading is important because it is directed by the context and therefore it provides the basis that makes the comparison possible.

In §2.4 (53), we have established that POs cause M without an institutional context. Instead POs are situated in the common context of design, i.e. the context of efficient functionality. It seems essential to examine all objects within this context in which we would expect to find the PO. In this way, in the comparison we should be able to identify objects with the characteristics of function ($f1/f2$) that we have said could cause $m1/m2$ and to determine these objects as POs. All other objects should lack either or both of the criteria of function (disruption and/or thematisation); e.g. art and ritual objects would be dependent on the institutional context for causing $m1$. Key to being able to distinguish POs from other objects by whether or not they satisfy these criteria seems to be the ability to describe all objects from the perspective of efficient functionality, i.e. 'stripped' of their potential social/institutional contexts.

In the next section, I discuss the relation between reading and interpretation of objects with regard to social meaning within action and interaction.

3.4 *Supporting the conceptual analysis: methods of reading and interpreting objects and interactions*

So far, I have made the assumption that we can read mindfulness from a change of behaviour based on and initialised by the engagement with the PO. I use this section to substantiate this assumption by reviewing some models of reading and interpreting objects with regard to subsequent action, interaction, and behaviour as indicators of mindfulness.

In Chapter 2, I have distinguished Mindfulness as mindfulness-of (*m1*) and mindfulness-of-other (*m2*). Both *m1* and *m2* are based on physical-cognitive and cognitive-behavioural processes. As mindful awareness through disruption of experience, the first stage (*m1*) is mainly linked to physical means and cognitive processes. As reflection on the content of this mindfulness, the second stage (*m2*) is more closely linked to behavioural and mental processes in the sense that consciousness is directed towards mindful reflection and interaction. In the testing, the first and the second stage are therefore dealt with separately in Chapters 4 and 5 respectively.

In the following two sections, I discuss the theoretical basis of these cognitive and behavioural processes in order to allow for a subsequent interpretation using these models. I discuss Kazmierczak's model of cognitive semiotics (2003), which offers a method for the interpretation of phenomena on a cognitive level, and I introduce ideas from behaviourist theories that sit at the intersection between social and cognitive psychology.

Theories from behaviourism offer tools for the interpretation of behavioural phenomena with regard to their meaning. Of particular interest are theories of nonverbal communication (e.g. Patterson 1999; Richmond and McCroskey 2000) that deal with action and gesture as indicators of behavioural attitudes and that are "central to an understanding of social interaction" (Patterson 1999: 317).

In its efforts to explain behaviour and cognition within social interaction, behaviourist theory of self-perception comes close to sociological theories of the social construction of self (e.g. Goffman 1967) in that it "proposes that we often come to understand ourselves the same way we come to understand others" (Patterson 1999: 329). On this basis, I reuse the sociological theories that I have introduced in Chapter 2 again in Chapter 5 in combination with behaviourist theories to conclude on mental processes.

3.4.1 Using cognitive semiotics and behaviourism as methods for interpretation

Kazmierczak (2003) conjectures that “[d]esign needs to be freed from the preoccupation with appearances, and to advance to an alternative theoretical model, which relates physical form to cognition and comprehension.” (47). She sees cognitive semiotics as providing this alternative model, which enables her to understand design as an interface with “intended, constructed, and received or re-constructed meaning” (45). Design in turn “is the activity that directs the[se] processes, and enables the correspondence between the three.” (45) She argues that this shifts the understanding of design from “designing of objects for certain uses to focusing on the cognitive processes that underlie the reception of those designs” (45), i.e. from the designing of objects as fixed units to objects as trigger. Although this model is developed for communication design, Kazmierczak sees a fit with the wider field of design. She suggests that it would equip designers with the adequate tools “to bridge the gap between meaning and design decisions” (45), which they traditionally lack. She further explains:

The consequences of defining design as the receiver’s meaning-making are enormous. It forces a paradigm shift from focusing on designing things to focusing on designing thoughts ... Those thoughts are interpretive, and they result in subsequent behavior ... The content of a design is no longer sought in the artefact itself. It becomes a receiver’s thought which is constructed through the receiver’s contact with a design ... Technically speaking, there are as many proper meanings of the design as there are reconstructions of it, but they share a certain denominator common to all receivers ... But the receiver is not in full or arbitrary control of meaning. It is induced in the receiver, by the design and specified by its structure (48) ... Thus, the static notion of a content that is literally and explicitly expressed in the design is replaced by the dynamic notion of design as inducing and guiding cognitive processes in the receiver. (49)

Kazmierczak’s model supports my understanding of the role of the object in that the emphasis, with regard to the design content, shifts from the object to the interplay within the cognitive process. The object may then well be the trigger, but the meaning evolves out of the cognitive interaction between user/receiver and design.

Patterson (1999: 331) explains “that social cognitions are typically driven by pragmatic concerns about the interaction”, which means that “our thoughts are guided by the need to act”. This leads to a process of reflection that is based on the reciprocity of cognition and interaction. Patterson (1999: 326) emphasises the mutual affect of cognitions and behaviour as one important aspect of the “dynamic relationship between cognitions and behaviour”. Here we encounter the link with behaviourism in that cognitive-reflective processes are both enacted/expressed and experientially received through behaviour in the form of action/gesture. Thereby the object provides the first level of readable signs, the resulting action/gesture with it provides the second level. It seems to me that the integration of Patterson’s function-based *Parallel Process Model* (1999) would promise to offer an extended and deepened understanding of the processes discussed in the following. However, such a task seems to be beyond the scope of this thesis and may be part of future work.

If we accept that objects can influence our action and behaviour in this way, behaviour and a change in behaviour can be regarded as a source of evidence that is apparent from the objects themselves. If we consider question 1b, i.e. whether POs can cause ethical reflection, we encounter the difficulty that reflection is not observable in the same way as a behaviour change. Were we to embark on an empirical/scientific study, we might take the relevant objects, conduct a user study and collect the participants' responses telling us about their perceptions and reflections that have arisen from use with the objects. However, we are not quite that far yet. The task at this stage is to establish the framework for determining what is a PO (on the basis of which in due course future work in the form of empirical testing could be conducted). We therefore have to take a more tentative approach. As we cannot get to know the reflections themselves, we may have to think of alternative methods for how we can get to know them in an indirect way. What we have as evidence are the objects. So how can they help us here?

I would argue that, on the one hand, we could understand objects as expressive material: we can read the objects and their meaning within a culture-bound context. Here I am drawing on Taborsky's explanation about the generation of social meaning through semiotic reading (Pearce 1990: 50ff) and Kazmierczak's concept of cognitive semiotics (Kazmierczak 2003). On the other hand, the object allows us to project on the action with it. This action can be interpreted in an appropriate framework drawing on behaviourist methods. This second step makes the underlying assumption that the reflection is subsequently expressed in the action with the object. In due course we might be able to reflect on whether a change in behaviour occurs during the course of use (Figure 10).

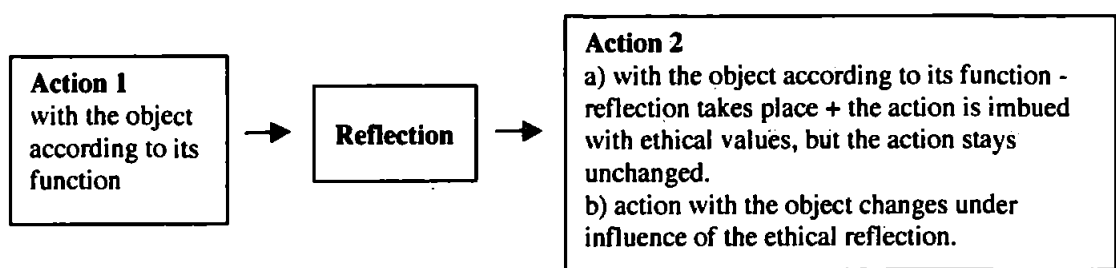


Figure 10: Action as indicator of mindful reflection.

One limitation here might be that we miss any interpersonal behaviour that, following reflection caused by the object, is not transferred back into specific actions or gestures with the object but is made unrelated to the object (Action 2a). Because of this, we might not necessarily be able to tell whether the interaction with the object can be surpassed by inter-human interaction (question 1c), but we may be able to draw some tentative conclusions.

3.4.2 Distinguishing action and gesture as indicators of behaviour

Above, I have discussed what methods might be appropriate to read and interpret behaviour and that certain behaviour might be evidence of mindful reflection, i.e. altered mental states. I now want to turn to aspects of behaviour itself.

Mental states can be expressed behaviourally through physical actions and gestures. Further, it is possible to act/make gestures while alone, to act/make gestures that are observed by others, and to act/make gestures that are directed towards others. It seems necessary to consider whether these different actions/ gestures each indicate different types of mental states. It also seems necessary to distinguish actions and gestures as different forms of behaviour and to establish the difference for the purpose of the discussion in Chapters 4 and 5.

First, I am concerned in general with the issue of encoding and decoding behaviour. Richmond and McCroskey (2000: 7) classify behaviour that is decoded, irrespective of whether originally it was intended to be communicative or not, as *nonverbal communication* and any behaviour that is not decoded as *nonverbal behaviour*. I am most interested in the area where the encoding and decoding of actions/gestures coincide, because on this basis we can interpret the behaviour with objects.

Second, literature on nonverbal behaviour/communication does not make any clear distinction between actions and gestures. However, for the purpose of this study I want to distinguish them and suggest that there is a clear difference in their nature. Since the terms 'action' and 'gesture' both have certain connotations, I shall use the term 'movement' to refer to basic physical manifestation of behaviour.

The distinction between action and gesture might be easier to demonstrate with the aid of an example. I will start by considering two examples of mindful behaviour that may occur within the context of using the drinking vessel. I will consider the examples of helping another person and showing respect. In the simplest way we could say *helping* might be accomplished by offering someone a drink. *Expressing respect* might become visible in raising the glass towards someone for a toast. The former has to be classified as action, because it is the entire sequence of movements that is meaningful. The latter has to be classified as gesture, because it is the symbolism of the one movement that is meaningful.

I would tentatively argue that gesture is normally directed towards communication while action is directed towards the accomplishment of a physical task. Thus we can distinguish four different aspects:

Firstly, gesture is a movement of symbolic character that is clearly directed towards another person and intended for communication. Such gestures include raising a glass for a toast or for clinking.

Secondly, there are movements that are conducted to complete a simple task, for example, scratching one's head. Within literature on non-verbal behaviour, these kinds of movements are classified as adaptors, i.e. as gestures of highly unintentional nature (Richmond and McCroskey 2000: 65). Although these kinds of gestures could be read and interpreted in different ways, for example scratching one's head might indicate either itching or some kind of confusion, the movement of scratching is carried out as a physical task, i.e. to stop the itching or to clear one's thoughts. I would therefore classify adaptors as a kind of action. We can read the pragmatic meaning of the movement, yet without it becoming an explicitly socially-directive gesture. Normally, it does not seem relevant whether these movements are made while alone or while in the presence of others and we may conclude that these are not the kinds of behaviour we are looking for. At this stage we have to dismiss the question whether adaptors are culturally determined, i.e. whether they are accepted or not, and whether they may have to be read as socially conditioned and as gesture, because an answer to this question is beyond the scope of this thesis. For the same reason, we also have to dismiss the psychoanalytical dimension of adaptors that gets attention in exceptional situations such as interviews etc.

Thirdly, we can distinguish an action that is conducted to complete some physical task but that is not directed to oneself like the adaptor. For example, passing on the vessel in the case of using "La Grolla" (cf. Illustration 20: 108). Although actions are not usually intended for communication per se, i.e. for symbolic action, in this case symbolic meaning can arise from reading the action in relation to the [conventional] cultural context as well as to potential consequences of the action.

Fourth, we may distinguish *Handlung* as action of a larger scale which is composed of several smaller actions. (The term *Handlung* translates as 'act' or 'action'. However, the translations do not meet the common/generic meaning of the term *Handlung*.) An example might be offering help. Although each step of the *Handlung* might be an action, i.e. a movement which is not socially but physically conditioned and as such not communicative in the sense of a gesture, the wholeness of the *Handlung* might have social consequences. With *Handlung* we are talking about a series of single actions where neither the actions nor the *Handlung* are readable in semiotic terms, but where we have an outcome that has or may have consequences that give the *Handlung* social meaning.

To summarise, action as in the case of the *adaptor* might serve as an indicator for either physical or psychological states. I shall not be further concerned with adaptors. Singular action, to which I will from now on refer to as *action*, normally has a pragmatic meaning only, but can acquire a symbolic

meaning based on the pragmatic meaning. Action may be seen as related to the operational function and thus as counterpart to gesture which is culturally and/or socially determined. Within action, we can think of a further difference. Action can be interaction with the object whereby the attention is directed towards the object; and action with the object as directed towards a further goal outside of the object. The former will always occur, the second might occur and this is where in terms of action the main interest lies. *Handlung*, finally, may be an indicator for certain aims, convictions, beliefs etc. For example, helping may indicate a mindful attitude. The question remains how far we can read these attitudes from the action or inter-action with the object. It seems that at most we could understand its potential rooted in the nature of the object, i.e. its generic function, in the sense of Heidegger's interpretation of the thing (2000).

Finally, I have argued that gesture is directed towards communication with other people, because it is a purely symbolic movement without the physical purpose of action. Thereby gesture may be accomplished without the use of any object or it may include the use of an object. However, gesture may only occur as part of [social] interaction, which may be real interaction or imagined interaction. Looking at the interpretation of gestures in semiotic terms, they are physical movements that have levels of meaning beyond the physical. They have an additional symbolic meaning. Together with *actions*, gestures will occupy us most with regard to the discussion of the *performative object*.

3.4.3 Summary of interpretive methods for the conceptual analysis

At first sight, it seems that objects as well as their accompanying actions/gestures can be read and interpreted in various ways, and it seems that only as a set of related signs can we assign them a relative meaning. However, the apparent difficulties that we may encounter in reading both objects and actions/gestures because of the openness of interpretation are countered by a number of theories that suggest that there is some continuity within the reading of their meaning.

Pearce's analysis of the interpretation of objects brings this to the point. She argues that the interpretation of objects is determined by the object's openness to multiple interpretation on the one hand, and on the other by the user's aim to limit this openness to make sense of their perception and meaning from their experience (1994: 19-29). We can conclude therefore that an interpretation is possible dependent on the user's predisposition, i.e. the culturally dependent understanding of actions and gestures.

To conclude this section, I aim to give an overview of the content structure of the conceptual analysis. Figure 11 presents the different levels of the concept analysis and the relation of the

different elements within each level. The three different elements are the aim of mindfulness, the means of function, and the internal cognitive-reflective processes that link the former two. The central link is action and interaction (i.e. behavioural processes).

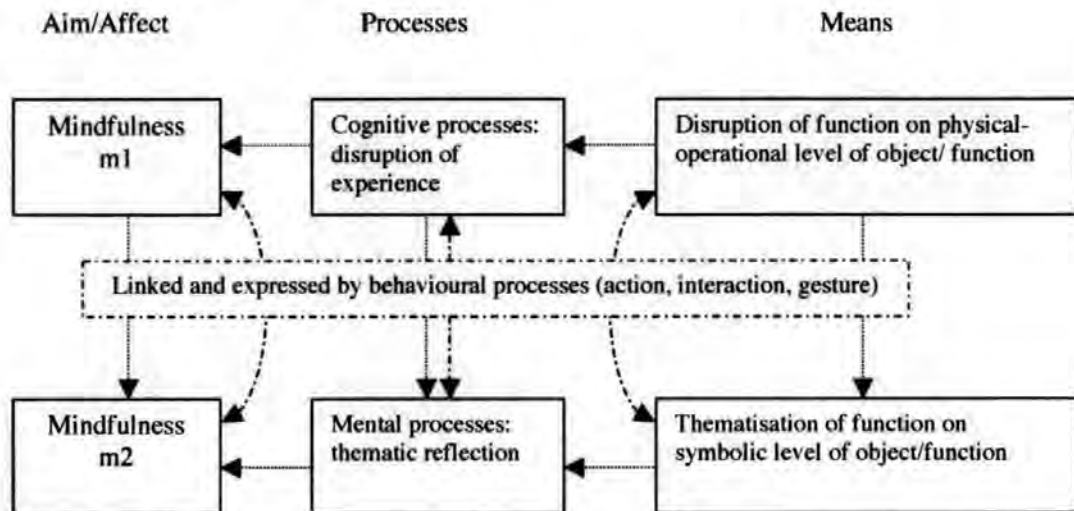


Figure 11: Interpretive methods and processes.

3.5 The framework for the comparison

3.5.1 The problematic of classification: determining content and logic of the comparative analysis

Having discussed the foundations for the conceptual analysis in the previous sections, I will now discuss the content and logic of the comparative analysis before explaining how both merge in the comparison by means and result. In order to avoid confusion with the wording, I would like to clarify here that I refer to the whole process of testing as 'comparison'. The comparison includes the two processes of conceptual analysis and comparative analysis as merged within the framework of the comparison by means and result.

The purpose of the comparative analysis is the classification of the category of the PO, i.e. to identify whether we can distinguish POs as a separate category of objects in order to show the originality of the concept. In the beginning, the need for classification seemed to stir me towards a straightforward comparison between art, design, craft, and ritual objects that might be expressed in a simple Venn-diagram.

However, difficulties with this arose: on the one hand, these object categories did not seem to be all part of the same categorical level. While design-objects, for example, seemed to be determined in their nature by the production process, i.e. the process of designing, or perhaps functionalist properties; ritual objects would instead be determined by use. Furthermore, one could imagine that any of the other three (art/craft/design objects) could become a ritual object by use. On the other hand, subcategories and sub-modes emerged that all seemed to have different characteristics. How could one take account of these and how could one possibly determine all subcategories and modes and relate them?

To illustrate the difficulties, here is a list of some examples of object categories and modes that had arisen in discussions of the subject:

- a PO,
- an ordinary (functional) design object (e.g. water glass, wineglass)
- a badly designed object (e.g. cup with two legs instead of three)
- an extremely well-designed object
- a placebo object
- a model/prototype
- a badly made object (naff)
- a broken object (e.g. broken glass)
- a kitsch object
- a ritual object (e.g. chalice)
- an art object
- a conceptual (critical) art object
- a kinetic art object
- an interactive art or design object
- an *objet trouvé*

In order to find help with distinguishing these examples and with ordering them into categories, I turned to looking at theories and systems of classification. Levi-Strauss' *The Savage Mind* (1966) and Foucault's *The Order of Things* (1970) have provided insight into the logic and application of classification theory; as well as Fawcett and Downs' book *The Relationship of Theory and Research* (1986). With regard to categorising non-scientific phenomena, Stefan Körner (1974: 692) explains:

Classification in the social sciences was and still is to some extent concerned with so-called ideal types, such as the 'typical bureaucrat', limiting concepts, which, though not exemplified in reality, serve nevertheless to explain the social behaviour of real people by concentrating on and even exaggerating certain features of people while ignoring others. Though the predominance of ideal types in the social sciences may simply mark an early stage in their development, whether they are now dispensable is controversial. From the logical point of view, a classification into ideal types is a classification of real people only insofar as real people can be ordered by the degree to which they approximate the type. And, more generally, a classification into ideal phenomena requires for its application an ordering of real phenomena.

We seem to be confronted with the same problem when we are talking about the classification of POs in relation to art, design, craft, or ritual objects. This said, it seems that it will be hard to find

objects that represent the ideal of any of these categories and it seems that it will be even harder to determine this ideal. However, recognising that we can identify certain characteristics common to all categories/examples, there is no need to determine the ideal for all categories but only for the PO. This is indeed what I have done in Chapter 2. There I have described the ideal of the PO through identifying the theoretical structures of the PO and its characteristics.

These characteristics are mindfulness (aim/result) and function (means). With these characteristics we can develop a system of differentiation that serves as a basis for comparison. This system is the comparative analysis by means and result. Selected examples need to be compared according to this system in order to establish whether there are differences between the examples and whether we can differentiate POs from other objects. Subsequently, we should be able to conclude whether we can classify the category of PO as separate/new category. A further condition for the comparative analysis is that we compare all examples in the context of efficient functionality. In §3.3.2 (80), I have explained that this condition provides the necessary basis to make the different examples comparable.

Having explained the basic logic by which to compare examples from different object categories, we also have to consider the criterion for determining the categories against which the PO will be compared. The criterion for the selection of example[-categories] results from the criteria for comparison. Firstly, we need to select and compare objects that are associated with the aim of causing mindfulness, i.e. objects with a social-institutionalised context like art and ritual. Secondly, we need to select objects that operate by means of function, i.e. objects that are associated with the context of “efficient functionality” such as design objects. The schema for the selection of example-categories can be expressed as shown in Figure 12.

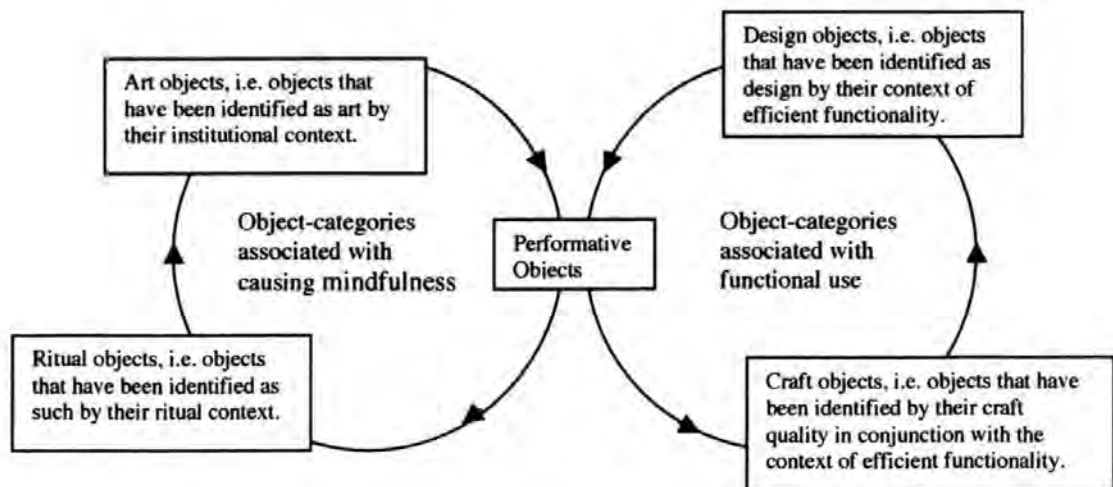


Figure 12: Schema of category-relations for choosing examples for the comparison.

In the following, I firstly describe in detail the structuring of the comparative analysis by means and result (§3.5.2). Secondly, I describe how conceptual and comparative analysis merge for the comparative testing (§3.5.3). Thirdly, I describe the selection of specific examples for that comparison (§3.6).

3.5.2 Applying the comparative framework: structuring the investigation by means and result

The task of this section is to discuss the framework of the comparative analysis with the detail that is required for its application to the testing in Chapters 4 and 5.

The decision for a comparative analysis by means and result has been prepared through the introduction and discussion in §1.7 (24), §2.4 (53) and §3.5.1 (89). Within this discussion, I have identified mindfulness (aim/result) and function (means) as the relevant characteristics of the PO on which to base the comparative analysis. I now want to show more closely how the system for testing develops from these characteristics. To begin with, I develop Figure 13 which is derived from Figure 5 (cf. §2.4.2: 59). The diagram clearly relates means and result and it reminds us that there are two stages within each. Figure 13 still represents the means of objects in all four contexts. However, it emphasises that within the comparative analysis the focus is on the design context, i.e. the context of efficient functionality, and the means related to it (highlighted). This leads to the comparison of objects by the result/affect of mindfulness ($m1/m2$) as caused by the means of the materiality of the object (disruption/thematisation).

Object contexts	Means by which mindfulness ($m1$) is caused	Means by which mindfulness-of-other ($m2$) is caused
In ritual context	Contextual frame (ritual frame)	Ritual belief
In art context	Contextual frame (institutional frame)	Materiality (material content): thematisation based on visual aspects of materiality
In design context (of efficient functionality, i.e. context of PO)	Materiality (material frame): disruption of function	Materiality (material content): thematisation of function
[In craft context]	[Cause $m1$ by means of materiality, i.e. material aesthetic?]	[May cause $m2$ by means of materiality (visual aspects)?]

Figure 13 (former figure 5, §2.4.2, p.59): Contexts and causes of mindfulness.

Theoretically, from this system it is possible to generate a framework for comparison with four options. In a simple graphic this framework looks as follows (Figure 14):

<p>1. Objects show</p> <ul style="list-style-type: none"> - same means - same result <p>Conclusion: must be PO</p>	<p>3. Objects show</p> <ul style="list-style-type: none"> - [apparently] same means - different result <p>Conclusion: is not a PO</p>
<p>2. Objects show</p> <ul style="list-style-type: none"> - different means - same result <p>Conclusion: is not a PO</p>	<p>4. Objects show:</p> <ul style="list-style-type: none"> - different means - different result <p>Conclusion: is not a PO</p>

Figure 14: Four options of the comparative analysis.

We can verbalise the four options of the framework. The four options are:

1. An object shows the affect of Mindfulness and the means of function (disruption and thematisation).
2. An object shows the affect of Mindfulness, but not the means of the disruption and thematisation of function
3. An object does not show the affect of Mindfulness, but it does show a disruption and thematisation of function
4. An object shows neither the affect of Mindfulness nor the means of the disruption and thematisation of function

Consequently, following our definition in §2.7 (74), we can define that objects that fall within Option 1 must be POs.

We can further define that those objects, which are associated with causing Mindfulness but do so by other means than the disruption and thematisation of function (Option2), are not POs.

In the same way, we can define that any objects, which seem to exhibit the same characteristics as POs in terms of means but do not cause Mindfulness (Option 3), are not POs. (However, this option is only theoretical because if the disruption and thematisation are the necessary and sufficient means to cause Mindfulness, then any object showing these characteristics of function must cause mindfulness and therefore fall under Option 1. The exception here might be that an object shows only one of the two criteria i.e. only a disruption of function).

Objects under Option 4 clearly are not POs.

As a consequence we can develop a decision-making procedure as follows:

- Firstly, all objects normally associated with the context of efficient functionality (functional/design objects) have to 'pass' through Option 3 where they are determined as PO or not. If yes, they pass into Option/Category 1. If no, they pass into Option/Category 4.
- Secondly, all objects normally associated with an institutional context (e.g. art, ritual) start in Option 2. They can either be determined as non-POs and move into Category 4 or, if they show elements of function, they pass into Option 3 for further investigation.

If we add the dynamics of investigation to Figure 14, we generate Figure 15:

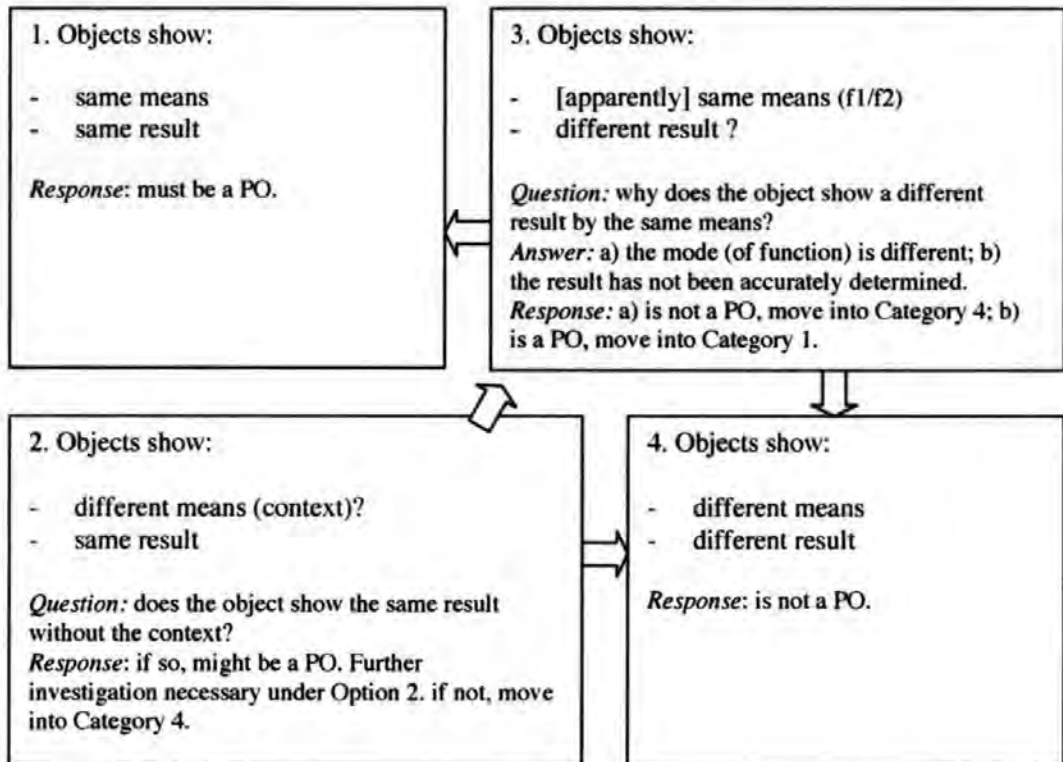


Figure 15: The dynamics of the comparative analysis.

3.5.3 Joining conceptual and comparative analysis for the testing: comparison by means and result

In this section, I discuss how the conceptual and comparative analyses are joined for the comparative testing. Because Mindfulness is made up of two stages, that is, of the frame (*m1*) and the content (*m2*), which are caused by the related stages of materiality, i.e. by disruption (*f1*) and thematisation (*f2*) of function, it seems strategically useful to divide the comparison into two parts:

- Probability and originality of causing *m1* by means of a disruption of function (Chapter 4).
- Probability and originality of causing *m2* by means of a thematisation of function (Chapter 5).

Accordingly, in Chapter 4, the concept analysis of how the PO can cause *m1* is coupled with the comparison by means *f1* (disruption of function). Consequently, Chapter 4 needs to address the following aspects:

- explain how the disruption of function works theoretically in relation to the concept of mindfulness through disruption.
- Show 'ordinary' examples from design context that do not cause disruption.
- Show that objects that cause Mindfulness in art or ritual contexts would not usually cause *m1* without that context. Thus we might filter out some objects that might show the relevant characteristics of function regardless of the frame.
- Show that there are design objects that undesirably cause disruption and how they do this.
- Show the potential of function and its disruption (examples from "Series I").

In Chapter 5, the concept analysis of how the PO can cause *m2* is coupled with the comparison of means *f2* (thematization). Consequently, Chapter 5 needs to address the following aspects:

- Explain how the thematisation works theoretically in relation to sociological concepts of self and other within human interaction and to theories of nonverbal communication.
- Discuss examples of disruptive design objects that are not POs, in order to demonstrate why they do not cause *m2*.
- Discuss examples of potential POs to demonstrate how function (thematization) can cause *m2*; and show the relation between *m1* and *m2*.
- Discuss examples of art objects in order to compare whether they cause *m2* differently from POs.
- the consequences and responsibilities of designing/proposing the category of POs.

Having discussed the structure of the comparison, we can set it into context by adding its components to the earlier Structural Map (Figure 4: 35) in Figure 16.

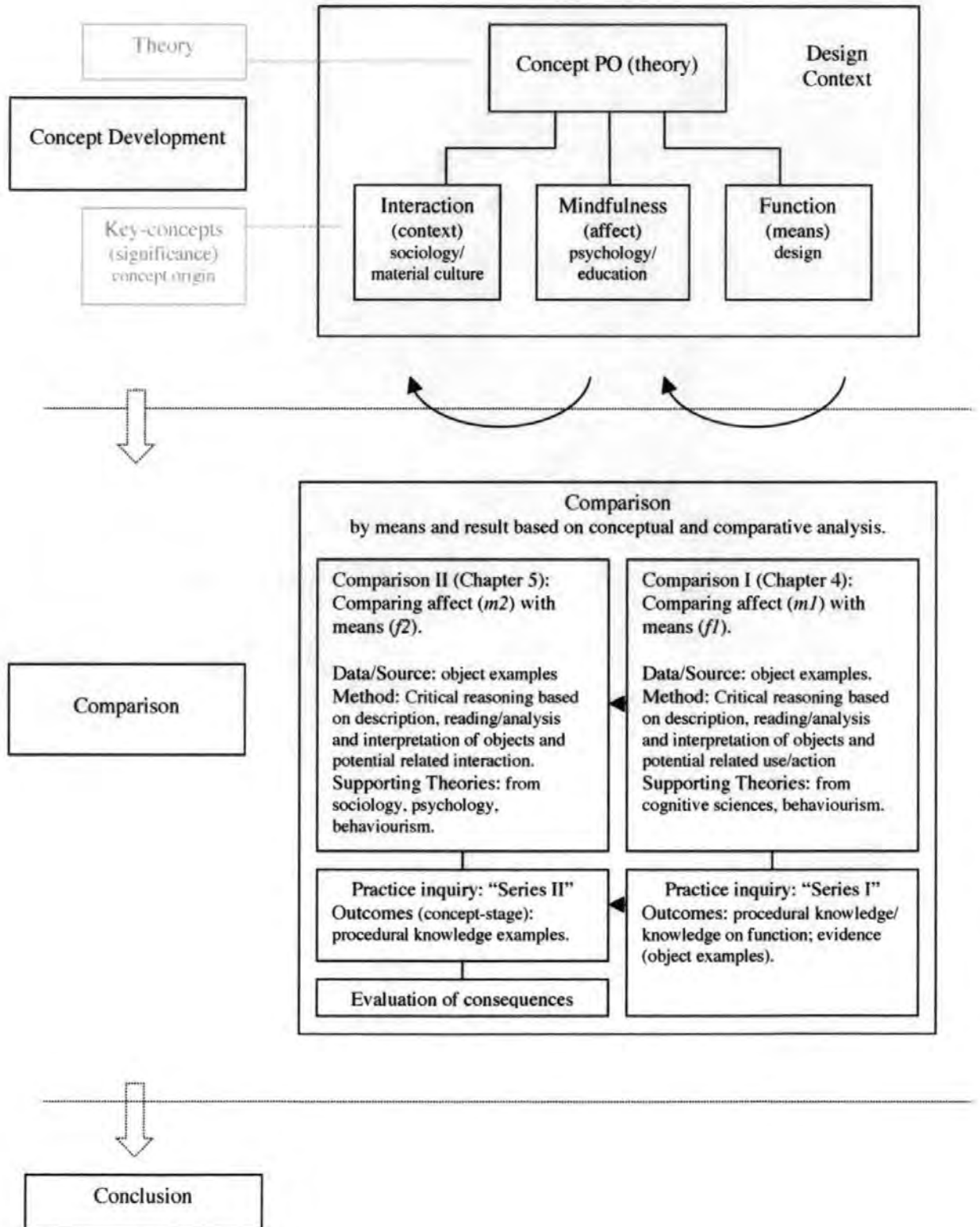


Figure 16: Structural Map (concepts and methodological framework).

3.6 *The selection of specific examples for the comparison*

The task of this last section in Chapter 3 is to select specific examples for the discussion in Chapter 4 and 5. Having determined the system of investigation in §2.5, we can now select examples accordingly.

We need to choose examples that, firstly, are representative of the relevant categories of objects as set out in Figure 12 (91). (Thereby I do not treat the category of craft/applied art objects separately in this discussion, because from the functionalist perspective, they can be grouped either under design (craft objects) or under art (applied art objects). However, I will consider the aspect of [manual] construction quality during the discussion, which leads me to draw some conclusions regarding the characteristics of craft objects in relation to the characteristics and aim of POs.)

Secondly, these examples are selected in relation to the practice specific focus of the inquiry, i.e. the drinking vessel. However, in order to relate my inquiry to the wider field of design, I also include some other examples.

Having introduced the drinking vessel as the main focus of the inquiry (cf. §1.9: 31), it seems appropriate to add some comments on the conventional classification of drinking vessels in order to account for the choice of examples.

Among publications about drinking vessels, we find various classifications. In publications in the area of art and design, drinking vessels usually are distinguished by material and style, some related to history, others simply based on single collections (e.g. Launert 1966; Clark 1990). The most comprehensive volume in this respect is the reader "Het Drinkglas [the drink glass]" published by a Dutch glass manufacturer (Brand et al. 1997). However, although the volume illustrates several aspects of drinking, drinking vessels, and drinking rituals, neither this nor any of the other volumes provided substantial support in selecting the examples for my purpose.

We find other classifications of drinking vessels in cognitive anthropology (Dougherty 1985). Taxonomies in this field typically concentrate on the formal linguistic distinction into glasses, cups, and mugs (e.g. Kronenfeld et al. 1985: 91-110). If we want to make this list slightly more comprehensive, we can further add beakers (cup or mug without handle), goblets (fine metal beaker), and chalices. This categorisation is useful with regard to the organisation (naming) of the material. However for my purpose, we have to go further and look for a classification that provides information about the function and use of the different types of drinking vessels.

We have to search for examples that follow the need and criteria for distinction. On the one hand, this is the selection according to different classes of drinking vessels dependent on their context (art, design, ritual etc. cf. Figure 12: 91). On the other hand these examples have to take into account the four possibilities set out in Figure 14 (93). Choosing object examples according to these two overlapping schemata should allow the selection of a set of representative examples. While choosing objects from an art and ritual context is a clear-cut task, choosing design objects is not quite as straightforward. This is because we are looking at a range of objects that show various deviations beyond efficient functionality. Examples that indicate a disruption of function can be tested with regard to the existence of POs. As a means to provide some consistency within the examples of the various categories, I aim to select examples from within one 'family' of drinking vessels (i.e. vessels of interrelated use: e.g. water glass, wineglass, chalice).

Figure 17 shows the selected examples (main and additional examples) and relates them to the categories under investigation. On the one hand I draw on those examples that have stirred the inquiry, on the other hand I select examples that support the need to demonstrate certain differences. Figure 18 shows how the selected examples are grouped for the comparative analysis. Most examples are depicted in the text where I refer to them as appropriate. The eight main examples are presented in large format with additional descriptions on the pages following Figure 18, because of their importance (Illustrations 14 – 21: 101).

Each description starts with a brief introduction that names the vessel and the context in which we usually encounter the vessel (if applicable), and it provides a brief phenomenological account of the object. The introduction is followed by the semiotic reading and interpretation of the object's meaning when encountered in its usual context. This interpretation is contrasted by a description of the object's characteristics as they appear in the context of efficient functionality with regard to identifying whether the vessel shows the functional characteristics of the PO.

Context	Mode	Main Examples	Additional examples
Objects in the context of design/ efficient functionality (including modes of disruption).	<ul style="list-style-type: none"> - (ordinary) functional objects - broken object - badly designed object - placebo-object/ conceptual product - interactive design object 	<ul style="list-style-type: none"> - waterglass (Ill. 14) - wineglass (Ill. 15) - broken glass (Ill.16) 	<ul style="list-style-type: none"> - doors that do not open (Norman 2002) - "Faraday Chair", "Electro Draught Excluder" by Dunne & Raby - mobile phone
	<ul style="list-style-type: none"> - potential POs 	<ul style="list-style-type: none"> - "Libation Cup" (Ill.19) - "Social Cups" (Ill.21) 	<ul style="list-style-type: none"> - electronic street sign - "Brain-Ball" by Interactive Institute Sweden) - "Come a little bit closer", bench by Nina Farkache
Objects in the context of ritual		<ul style="list-style-type: none"> - Chalice (Ill. 17) - "La Grolla" (Ill.20) 	<ul style="list-style-type: none"> - Pokal [trophy-cup]
Objects in the context of art	<ul style="list-style-type: none"> - (conceptual) art object - <i>object trouvé</i> 	<ul style="list-style-type: none"> - "Breakfast in Fur" Meret Oppenheim (Ill. 18) 	<ul style="list-style-type: none"> - "Night Clearing" by Abramovic and Ulay - "Fountain" by Duchamp - "An Oak Tree" by Craig-Martin

Figure 17: Examples for discussion

Finally, we can incorporate the 19 examples from Figure 17 into the structure from Figure 15 (94). This generates Figure 18 (the performative square), which will provide us with a clear visual map for the comparison of examples.

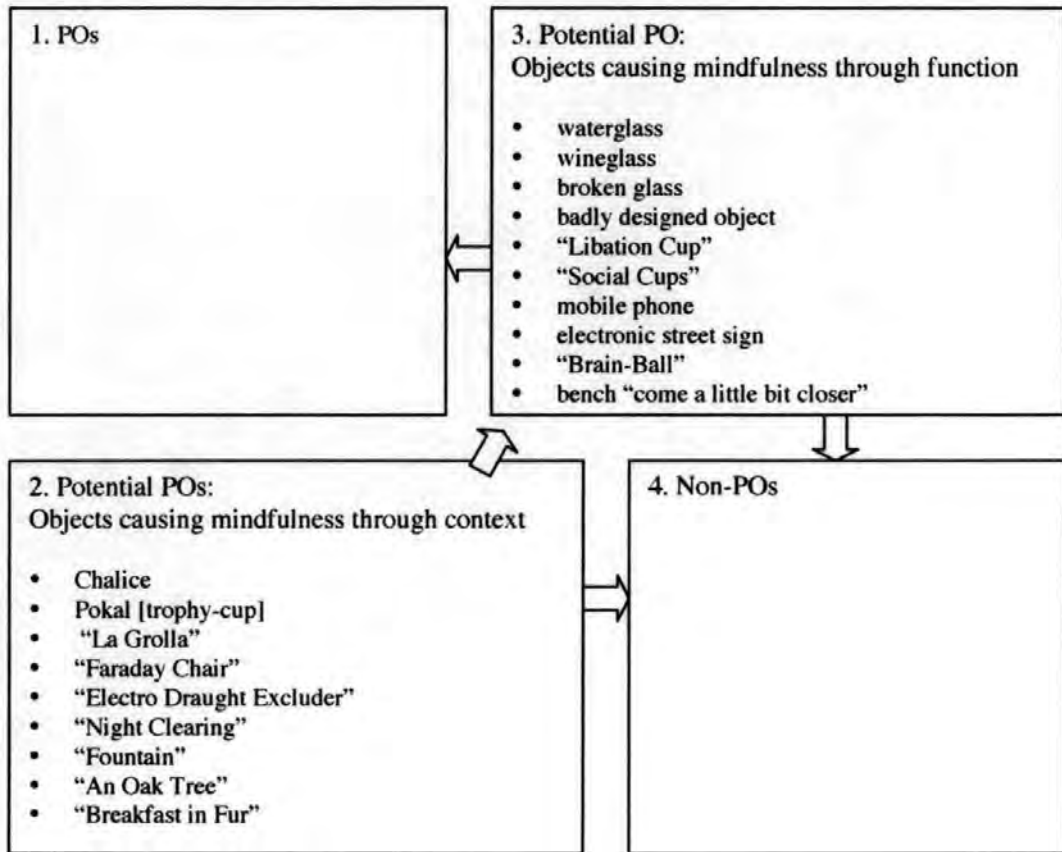


Figure18: Performative Square



Illustration 14: The Water Glass

The water glass is one of the most basic and widely used forms of the drinking vessel that we can find in western culture. The basic function of the water glass is communicated through its form. It usually consists of a simple, more or less cylindrical shape with a closed base and an open top. The quality of the material glass is from its properties a clean material, which is neutral to the beverage, because it does not take on smell or taste. Its clear-transparent appearance implies the purity and healthy state of the water. Sitting directly on the table, the glass emphasises water as the basic means of quenching thirst (hydrating the body) since it has no nutritional value. The flat and wide stand guarantees maximum stability so as not to spill the liquid, and the size of the opening shows a convenient size for pouring in as well as a comfortable size for pouring out/drinking. The volume is chosen as maximal without getting too heavy or bulky for handling. The form of the water glass fulfils all requirements of the operational [and perhaps psychological] function, from the function of the material to the aspect of standing and capacity. The operational function is 'optimised' in order for the object to serve as efficiently and unobtrusively as possible and to maximise comfort and independence of the user.

Certainly, there are many different shapes of water glasses available, some even lifted on a foot like a wineglass to show more appreciation of the liquid or the occasion. However, these variations do not change the perception of the basic function of the water glass. The basic function of the water glass also makes it versatile. It can be used in [almost] any context and occasion, and although the name designates for the use of drinking water, it can be used for any other [usually cold] beverages such as soft drinks, hard drinks, wine, or milk. We might even use it as vase or ashtray or penholder. Nothing in the function of the water glass suggests to do or not to do any of this. However, all of the uses stated remain subject to the paradigm of efficient functionality in that they do not include a disruption and thematisation, and subsequent symbolic action.



Illustration 15: The Wine Glass

Like the water glass, the wineglass is widely used in western culture. However, its use is much more specific than that of the water glass and also socially charged, which positions it as a counterpart to the water glass.

The wineglass consists of a cuppa supported by a high foot, which widens at the base to provide [relative] stability. The cuppa can be of variable size and of rounded or elongated shape. Like the water glass, usually, clear glass is used as the material for the vessel to allow the appreciation of the colour of the beverage. The varying shapes of the cuppa serve to enhance the smell and taste of the different wines. Sometimes the temperature of [chilled] wine is perceived as reason for the high foot, and accordingly properly educated people are expected to hold warm red wine by the cuppa and cold white wine by the stem. However, the invention of the high foot seems to have been made regardless of comfort for handling (which, according to personal observations, is why most people seem to hold the glass by the cuppa regardless of temperature or etiquette but for ease of handling). The invention of the high foot seems to be much more important for expressing the appreciation of the beverage as well as of the occasion. Over time, the wineglass has acquired significant social meaning, and it has generally come to mark social occasions. Through social use, the wineglass has become embedded in drinking rituals some of which draw on characteristics of the wineglass such as sound when clinking. Within other rituals, it is simply raised alongside with speech as e.g. for a toast. In the latter case, the glass comes close to the understanding of the 'power object' in the sense of Strother (2000; cf. §2.6: 70). However, despite the social significance, which has become associated with its features, and the specific role of the wineglass within certain rituals, the rituals are culturally determined rather than by the materiality of the wineglass.



Illustration 16: A Broken Glass

In the first two examples (water and wineglass) we found an understanding of efficient functionality. In §2.4.1 (53) I have indicated that there are also design objects that differ from this mode of efficient functionality, i.e. that show a disruption of function, and which we therefore need to consider although they do not seem to match the category of PO. Such objects are for example broken objects.

The image above shows two drinking glasses, one of which is broken. The broken one has turned from a clear smooth glass, which invites being taken to the mouth, into a collection of ragged edges that is hardly holding any liquid any more and that is hostile to any handling.

Upon breaking, the glass will attract my attention, at least if it is an object that we do not wish or expect to break. (If we would expect it to break, e.g. because it is badly made, it would not make us mindful, because it would confirm our view.)

Further, in its broken state, the glass disrupts my [pattern of] action. It makes me mindful of the action that I was about to complete. I cannot resume this [pattern of] action without repairing the glass. This means, we could potentially resolve the breakage and restore the glass to the aspect of efficient functionality through repair, but we could not resolve the disruption within the act of drinking because the means that would allow us to compensate the disruption meaningfully through symbolic action is not implied through the object and its disruption.



Illustration 17: The Chalice

Kelch [chalice]. Franz Anton Gutwein (?), 1765 – 1767.
Silver, gilded; stones; enamel; H 32 cm. Ottobeuren, Klosterkirche.

The chalice is one of the best-established ritual objects in western culture. Within the ritual of Holy Communion, it serves to hold red wine as a symbol for [the sacrifice of] the blood of Christ. Looking at the object in the context of this thesis, the question arises whether and how the ritual (and the mindfulness associated with it) is embodied in the chalice?

Describing the chalice from the perspective of efficient functionality, it appears similar to the wineglass consisting of cuppa and foot according to functional needs. Of course, in the example there are also differences. The chalice is about twice the size of a normal wineglass, and the foot is more developed and consists itself of three areas: stem, knot, and foot. Further, the chalice is made of precious metals, and richly decorated with stones and enamel. In this way the object seems to communicate its importance, and perhaps its status as ritual object. The imagery might even communicate what ritual it belongs to, presuming that we are familiar with the imagery through education. However, none of these visual attributes seems to be essential for causing the mindfulness contained in the ritual. This seems to be confirmed by the fact that some Christian groups use an ordinary glass in the same ritual and obviously to the same affect as others use the chalice.



Illustration 18: "Breakfast in Fur"

Meret Oppenheim, 1936. Museum of Modern Art, New York. (Krinzinger 1997).

We also encounter drinking vessels in the institutional context of art. "Breakfast in Fur" is one such example. If we bypass the various "art interpretations", which take more or less account of the properties of the object, and look instead at the object itself, we find that the basis of the creation is an ordinary mass-produced tea-cup and saucer, in other words an ordinary design object. Yet this ordinary design object has been fur-coated, which disrupts the function of the object, at least on an emotional level. The question arises therefore whether not this might be a PO?

The disruption, which the object causes in our perception due to an aversion to the association of fur and drinking, leads us to be mindful of the object and perhaps to an interpretation of its contradicting qualities, e.g. that through the fur, the cup appears to retain warmth, even radiate it, and thus makes the inanimate object appear animate, animal-like...

Further, the disruption might cause us to be mindful of self through our emotional response. However, since the user is offered no compensation for the disruption (on functional and/or emotional levels), the piece remains a conceptual object, which returns to the context of art where it is presented for contemplation and for psychological, social, and cultural interpretations.



Illustration 19: “Libation Cup”

Kristina Niedderer, 2001.

Series I, Project 1: “Holding Liquid” (cup 3).

(For description of the whole of “Series I” see Appendix A: 158).

The “Libation Cup” is one of the three vessels of “Series I” (Project 1), the aim of which is to explore the potential to cause mindfulness in the context of efficient functionality. Using the functional aspect of “holding liquid”, Project 1 investigates how function can be disrupted, how thematisation can be used to compensate this disruption, and how the interplay between both processes can cause symbolic action in order to give content to and guide mindful reflection.

The three vessels of Project 1 (Illustration 19a) explore the three states of “holding liquid”, “not holding liquid”, and the intermediate state of “deliberate holding/spilling liquid”. The first vessel (cup 1) is a complete shell which holds liquid, i.e. which fulfils the function practically, if holding the liquid is the aim. (In this sense its function is equivalent to the water glass). The second vessel (cup 2) is perforated all over, not holding liquid at all. Thus it becomes a conceptual object that we might move into the institutional context of art for interpretation. The first two cups provide the context for the third cup, which explores the state between the other two, and which is the one that I have chosen to present as an example.

This third cup has the same rounded shape as the other two cups but with five holes. These holes can be covered with the fingertips of the [left] hand. In this way the user can ‘complete’ the vessel so that it will hold liquid. We could say therefore that the vessel works within the context of efficient functionality, although it subverts it at the same time. Furthermore, the additional [physical] action of closing/opening the holes also has a symbolic dimension. That the holes can be opened deliberately to spill liquid, invokes mindfulness of the liquid and that it should not be spilled. If it is spilled deliberately, the action generates a strong meaning of the value of the liquid and that it may be precious.

In this context, I want to expand the discussion with a brief discourse on the meaning of deliberately spilling liquid, because we find the spilling of liquid in many rituals.

The importance of the ritual spilling seems to arise from the universal physical-biological need of human beings for hydration on a regular basis through drinking of [water-based] liquids. For the nature of liquids (beverages) being an 'elusive' one, some kind of container is required for collection, transport, storage, offer, and consumption. The first means readily available to man for use, was his hand, yet it was soon replaced by other means that would better suit the purpose (Canetti 2000; Whistler 1888). Over time, various forms of drinking vessels have evolved dependent on different usage, for different beverages and [social] occasions.

Drinking and the use of drinking vessels in social and ritual contexts reflect the essential need for drinking. Water was not always available or accessible so that sharing the resources often became a question of survival. History shows that in territorial struggles for power, access to water could be decisive. Thus, drinking together became a symbol for peace and solidarity. Even though this might be difficult to imagine from the point of today's western consumer society, drinking in common has maintained great social significance, which is expressed in the many customs and rituals connected with drinking, ranging from toasts and clinking glasses to the ceremony of Holy Communion.

Because of its importance, a deliberate spilling of liquid is in most cultures associated with a ritual of libation where liquid is spilled as a sacrifice and thus the vessel suggests ritual connotations. An early example is the Greek *Kylix* (Illustration 19b), a cup with a shallow bowl, a foot and two small handles that was used at the *symposium* [Greek feast/ special meeting]. In the Christian ritual, the vessel has changed its meaning and, rather than sacrifice the liquid, the chalice serves to symbolically receive and hold the sacred (sacrificed) blood. The ritual of libation is further transformed in the ritual of baptising. Most closely related to the ancient Greek ritual is probably the 'baptising' of new ships ('vessels').

As original beliefs which initiated rituals of libation are mainly lost, even without the ritual context the "Libation Cup" may question the user about their understanding of the act of drinking. In this way, it may encourage the uncovering of original practices and beliefs and/or the searching for new contents.



Illustration 19a:
Series I, Project 1: "Holding Liquid".



Illustration 19b:
Greek Kylix, 560 B.C. Altes Museum Berlin, 2001.



Illustration 20: “La Grolla”

“La Grolla” is a traditional drinking vessel from Northern Italy. It is still in use today and can be ordered in the local *trattoria* [pub]. The vessel is commonly used to serve coffee with Grappa [Italian spirit], sugar and spices. The body of the vessel is made out of wood and has the form of a shallow ellipsoid. It has a lid and a number of spouts around the body, the number ranging between three and ten spouts. “La Grolla” is served with the number of spouts according to the number of diners who pass the vessel round and drink directly from the spouts. The action symbolically links the diners. The question arises whether this is a ritual object or *performative object*. Perhaps in this case the context might be decisive. Within its traditional context, “La Grolla” might work as a ritual object, reinforcing values rather than causing reflection, moreover since it seems to offer just one way of use. On the other hand, the action seems to be embodied in the function of the vessel. Therefore, in a new context, its functional arrangement might cause reflection within use and cause participants to question their interaction; thus mediating interaction in a new way.

(For further information see references on “La Grolla”).



Illustration 21: "Social Cups"

Kristina Niedderer, 1999.

The development of the set "Social Cups" was inspired by my observations of the social use of tableware objects, in particular drinking vessels. The shape of the cups is that of the cuppa of a champagne glass, yet without the foot. Without the foot, the cups cannot stand. Therefore, they each have a little connector with them that carries two suction pads on each side and by means of which the cups can be connected. At least three cups have to be connected to build a stable unit. In this way, people are required to interact, both with the cups and through the cups with other participants, in order to operate and use them. Thereby the cups offer more than one option for action. For example, the cups can be connected as described, they can simply be held in the hand, they can be connected to other objects (e.g. the bottle... for lonely drinkers...), or they can be put on the table by themselves upside down. Since the cups offer more than one option, within the context of these options, the personal choice might achieve social meaning. Thus, the interaction might serve to explore interrelations and interdependencies.

3.7 Summary

In Chapter 3, I have discussed the problematic of the conceptual and comparative analysis. I have discussed the conceptual basis for each of the two analyses and shown how they are joined in the comparison. I have concluded this part with the selection of examples.

In the following Chapters 4 and 5, I present the comparison of object examples to test the concept of the *performative object*. I have proposed that the realisation of POs is based on a change in function that causes firstly a disruption of experience and thus mindful awareness (*m1*) through a disruption of function (*f1*), and secondly a thematisation of this experience, i.e. mindfulness-of-and-towards-others (*m2*) through a thematisation of function (*f2*).

In Chapter 4, I investigate the first step of causing mindful awareness through the analysis of *m1* in relation to *f1*. In Chapter 5, I examine the second step of mindful reflection through the analysis of *m2* in relation to *f2*. Both parts of the analysis are carried by a comparison of examples. Thus with Chapters 4 and 5, I aim to show how the concept can work and whether it is the combination of *f1* + *f2* in causing Mindfulness (*M*) that is original.

Chapter 4
The Comparison I

Chapter 4: The Comparison I

4.1 Introduction: *mindfulness-of... disrupting experience through disrupting function*

The initial assumption of *why* the *performative object* should be based on function was discussed in Chapter 2. In Chapter 4, I analyse how the process of causing mindfulness-of operates. This requires an examination of how a disruption of function can cause a disruption of experience. Using both theories and examples, I consider the physical means as well as the cognitive, mental, and behavioural processes that link both the disruption of function and of experience.

According to its complexity, the process of causing mindfulness-of consists of further sub-processes. We can talk about these sub-processes in two respects:

Firstly, we can talk about it in respect of the physical-cognitive process that is needed to cause mindfulness-of. This refers to the process of causing a disruption of experience through a disruption of the normal pattern of action, which in turn is caused by a disruption of function. Talking about the disruption of function, it seems first of all necessary to recognise the category of object, e.g. that it is a drinking vessel. It then seems necessary to recognise that it is not an ordinary object but that there is something disruptive about the form, in particular those aspects of form that are relevant for its function, and we need to recognise what is different. Finally, the user needs to reflect upon why that might be. The steps that seem to lead from disruption to reflection are accordingly the *recognition of the norm* in order to recognise *the deviation from that norm*, and the *recognition what the deviation is*. We need to consider further what makes us recognise *the disruption as intentionally meaningful* and, finally, what *means we have to evoke this disruption meaningfully*.

Secondly, we can talk about the process of causing mindfulness-of in terms of its direction. Mindfulness, as a state of consciousness, is always of-something. The of-something, I have distinguished as mindful content. I have distinguished four states of mindful content: mindfulness-of-the-object, -of-the-creator, -of-self, and -of/towards-others (cf. §2.4.2: 59). Thereby, mindfulness-of seems intrinsically linked to mindfulness-of-the-object, because of the disruption through the object that causes consciousness in the first instance (because it is the physical object that is 'in our way'). This leads to the awareness of the object and its contents, i.e. one or all of the other three states of mindfulness-of. We might become aware/mindful of the creator in terms of the intention that is implicit in the design of any object. We might become mindful of self due to the disruption of our expectations and perceptions. And finally, in questioning our *self*-perception and preconceptions of our interaction with the object and with others through the object, we might become aware/mindful of others.

These states may be perceived as an interchangeable part of the first or the second stage of Mindfulness, i.e. frame or content, dependent on the perspective. If we take it that Mindfulness always is of something, but in a kind of passive way, the four states are part of the first stage of mindfulness-of. If we perceive the four states with regard to their content as a kind of active (reflective) engagement, they become part of the second stage. This marks the different states as being important as intermediate stages between mindful awareness and mindful content, i.e. the mindful engagement with the other. They seem to link mindfulness-of (mindful frame) and mindfulness-towards-others (ultimate state/stage of mindful content). Indeed it seems useful to imagine the different objects of reflective content as grades on a continuum between mindful awareness and mindfulness-towards-others (Figure 19). In this way the two processes *m1* and *m2* link organically. I therefore trace these states and take them into account throughout both discussions, i.e. in Chapter 4 and 5.

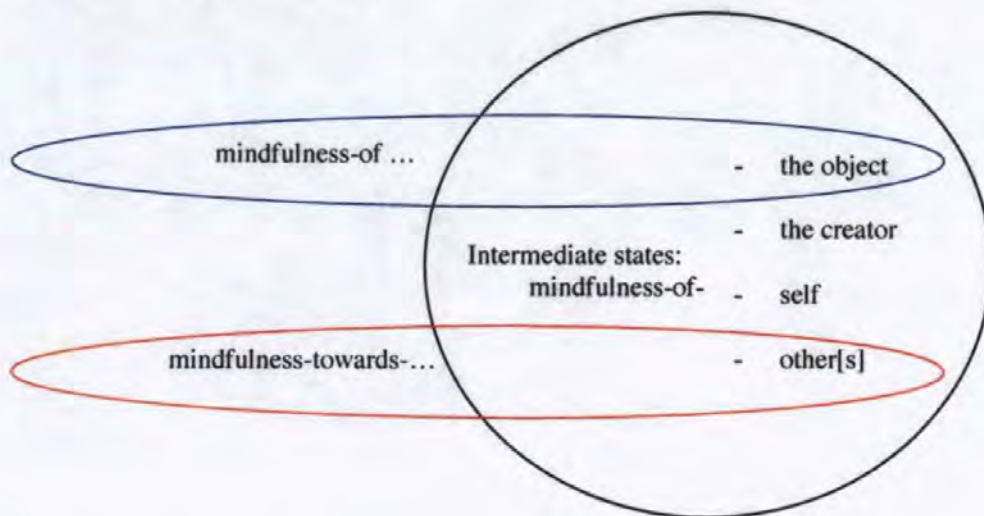


Figure 19: Mindful awareness and mindful content - a continuum.

The introduction (§4.1) is followed by the main discussion of causing mindfulness-of through a disruption of function (§ 4.2). It proceeds along the five steps indicated above concerning the recognition of norm and deviation. The discussion is supported by the analysis and comparison of examples as indicated in §§3.5 and 3.6 (89).

The discussion in §4.2 is followed by a brief description and the analysis of the results of the practice “Series I” in §4.3. The practice presents an exploration of the object’s potential for disruption, and thus a practical exploration of the preceding theoretical analysis (§4.2). In §4.3, I refer to the most relevant part of the practice and its results, but a full description of the practice “Series I” can be found in Appendix A (158). Although the practice has to be understood as a parallel process to the analysis, I have positioned it between the analyses of Chapters 4 and 5, because it presents a complex process that links both analyses.

4.2 *Analysing the conditions for the disruption of experience through the disruption of function*

The task of this section is to explain how the disruption of function works theoretically with regard to causing mindfulness-of through a disruption of experience. I start by looking at mindfulness-of-the-object, because the object is assumed to be the agent that initiates the disruption of experience through the disruption of function. Thus the inquiry follows the steps indicated in §4.1.

The steps that seem to lead from disruption to reflection are:

- the *recognition of the norm* in order to recognise
- the *deviation from that norm*,
- the *recognition what the deviation is*, and
- what makes us *recognise the disruption as intentional meaningful* and
- what *means we have to evoke this disruption meaningfully* (this last point is discussed in §4.3).

According to my findings in §3.5.3 (95), I therefore need:

- to introduce examples of 'normal' design objects that do not cause disruption in order to establish an idea of what the norm is;
- to demonstrate how design objects can undesirably cause disruption;
- to demonstrate how disruption can become a basis for the PO by causing mindful awareness; and
- to demonstrate that objects that cause mindfulness in art or ritual context would not do so without it.

4.2.1 *Recognising the norm and a deviation from the norm*

How do we recognise a thing that we encounter as what it is? If we were looking at things in a scientific paradigm, for example, we might be looking for material properties. However, in this study we are not looking at things as material but at material as things and, in our specific case, at the *performative object*.

Heidegger has concerned himself with this question of the nature of things in his text "Das Ding [The Thing]" (2000). The text provides a very short and succinct account of the essential thoughts and understanding of his phenomenological concept of things. Seeking to establish what the thing is, Heidegger uses the jug as the object of analysis. To derive the true meaning of the jug, he

considers the jug under the four perspectives of matter and making, its form in real terms and as representation within consciousness. Significantly, Heidegger uncovers the true meaning of the thing as thing foremost out of the perception and experience of its function, i.e. its generic function as traced within use. (An excerpt of the text in both original language and translation can be found in Appendix A: 158).

The generic function (cf. §2.5.1: 61) seems to be the underlying pattern or denominator of a class of objects that is recognised irrespective of the infinite variety of appearances that an object – in our case the drinking vessel – can take. Thus it seems to provide the norm by which we recognise a thing as what it is. If we think for example of an ordinary drinking glass (water glass), in western culture this will stereotypically be an object out of clear glass with a more or less cylindrical shape, a flat base, and an open top where liquid can be poured in and the user can put their mouth to drink (Illustration 22).



Illustration 22: Water glasses.

What exactly allows us to recognise the generic function, this common denominator, is difficult to identify in detail. Of course there are certain characteristics that objects need to exhibit in order to fulfil a certain function. Werner (1985: 73-90) concludes in his essay that the list of attributes that determine “cupness” is an open list (74). For the drinking vessel in general, these attributes seem to be at the minimum a somewhat concave shape with at least one opening that is big enough to get liquid in and out again. Everything else can vary, although in western culture we usually expect a drinking vessel to stand upright either through a flat base or through an appropriately located centre of gravity and to have a certain shape and size and to be out of certain materials. But these are still very wide-ranging criteria that do not seem to be enough to distinguish a drinking vessel from similar objects such as a bowl, a vase, or an ashtray, or to detect a deviation of the norm within these vague parameters.

In this respect, we can turn to Bergson (1994: 77-132) who presents the theory that recognition is routed in memory as collected recollection of repeated [lived] experience. This means that each time we encounter a thing we encounter it with all its details and particularities. Over time these layered experiences form a template of the common denominator of all these experiences of a

certain thing. In this way, repeated experience creates a template of generic function that functions as norm and on the basis of which we can classify objects and recognise any deviation.

What is implicit here is the fact that the recognition of an object is based in the first place on the interpretation of its form with regard to its function, i.e. the semantic reading (e.g. Kronenfeld et al. 1985: 91-110). Closing the circle, this semantic reading can only be accomplished when based on previous experience with the object or related experiences. The experience with the object, in turn is based on the use of the object, i.e. an encounter with the object that involves action and in due course allows us to attribute some kind of function to the object (Gedenryd 1998: 12-13). This seems to be the reason why, when we encounter a new object which we have not known before, we have to inspect it first and play with it in order to get familiar with its meaning/function. Play and creativity are well acknowledged as necessary means for recognition by Winnicott (1991) and Joas (1996: 70ff and 158ff).

While this explanation serves well as a conceptual model to explain why we can distinguish different categories, it does not allow us to say how. Moustakas (1990: 20) locates the ability for sophisticated cognitive distinction within the realm of tacit knowledge that evades verbal expression. He illustrates the phenomenon using Polanyi's example of the human ability to recognise a familiar face among any great number of faces. Thus our ability for recognition seems to rely on the interplay between the recognition of significant single features (e.g. nose) and the impression of the whole [face].

A discussion of the detailed mechanisms is beyond the scope of this text. What we can say, however, is that the recognition of the norm, and an expectation of what it does, seems to be the basis for the recognition of a deviation from that norm. In order to explain the mechanism for recognition of the norm, above I have introduced the idea of the experiential template. Where it is confirmed, we are likely to say that the object lies within the norm. Where it defies our expectations, we are likely to see a deviation.

Where the recognition of the norm is questionable because the common denominator may not be recognisable without ambiguity, naming may support recognition. With regard to the PO, we may conclude that it is a condition that we recognise the norm, whether by perception or by naming (in ambiguous cases), and that based on this recognition we are able to perceive a deviation from that norm. Whether the deviation might cause us to be mindful beyond the deviation itself is dependent on the type and meaning of the deviation. I discuss the recognition and interpretation of the type and meaning of the deviation in the next section.

4.2.2 Recognising type and meaning of the deviation

We now need to consider what deviation we are talking about, its type and meaning. The question is in which way we recognise the deviation as a disruption rather than something else in order to achieve mindful awareness in due course.

Concerning the quality and extent of the deviation, on the one hand, it seems that the deviation must not be of the type that the generic function of the object becomes unrecognisable. If the generic function becomes unrecognisable, the object we are dealing with might for example come to resemble an object of a different class rather than an object with a deviation. As a more specific example, imagine a small teacup. If the deviation were to consist of holes and the holes were grouped in the fashion of a traditional tea strainer, it might be taken for a tea strainer. In the case of the drinking vessel this means that the potential to hold liquid and to bring it to the mouth that are important parts of its generic function must not become unrecognisable.

On the other hand, neither are we interested in minor differences of form such as the different shapes of water glasses (cf. Illustration 22: 115). Differences of this kind and extent do not seem to be recognised as deviations because, or as long as, they do not affect the mode of efficient functionality that is presumed for the object/water glass. Further we are not looking for differences such as those between cups and glasses. It seems that again we would not regard these differences as deviations. Rather these differences seem to be characteristics that belong to different sub-templates of the [functionalist] concept of drinking vessel. They are sub-templates that help us to distinguish, for example, mugs from cups and cups from glasses and, further, tea-cups from coffee-cups and water glasses from wineglasses etc.

It seems that the concept of the PO can be situated within any of these sub-templates. This is to say, if we imagine a water glass designed as a PO, the glass would still be a water glass that is recognisable as such, but it would *also* be a PO. Consequently, the deviation that we are concerned with in the PO can be understood as a change in mode that can be applied to any of these sub-templates. This change is a change from functionalist to performative mode. This mode might of course also be regarded as another sub-template, even though it is of a different kind which is why it is not exclusive of those other templates mentioned above.

Having determined the kind of deviation in a general way in relation to [more] regularly occurring differentiations within classification, I now want to investigate the characteristics of the deviation more closely in relation to other more similar differentiations.

We have determined for the PO that the deviation should be a disruption of [the operational] function so that a disruption of the pattern of action is caused, and in due course a disruption of experience and of mindfulness. If we assume that the deviation within the PO is of this kind, we have to establish how the deviation relates or is different to that of other objects that are associated with a disruption of function and experience. For some of the relevant sub-categories, we have already established sub-templates. For example, if we assume that the standard norm of a water glass is functional, non-broken, and of certain standard, i.e. an acceptable quality; we may have sub-templates for broken, badly designed, or badly made glasses.

However, above (§4.2.1) I have indicated that it is very difficult if not impossible to give an account of the specific features that distinguish these sub-categories. Also, the boundaries of such distinctions are “fuzzy” and evade clear definition (compare e.g. Dougherty 1985: 15). Nevertheless, we have to try to establish some of these criteria in order to better understand the difference between POs and other objects of the same sub-category because

Experiential phenomena that do not fall centrally within an established class provide likely foci for new category prototypes (Dougherty 1985: 17).

In the next section, I therefore look at some examples and try to establish the conditions under which we recognise the differences.

4.2.3 Recognising type and meaning of the deviation within object examples

When we approach an object with the aim of examining whether or not it is a PO, we must approach it within the context that belongs to POs and that stimulates our attitude to them.

I have established that this is the same context as for design objects, i.e. the context of effective functionality (cf. §3.3.2: 80).

If we approach an object in this way, we might find that the object does not fit our expectation of effective functionality. If it still seems to belong to the class of objects with functional (rather than decorative or artistic etc.) value, because it shows the signs of a functional object (e.g. the spouts of La Grolla, cf. Illustration 20: 108), then we might ‘test’ it against our sub-templates of broken or badly made/ designed objects. If it does not belong to either the category of broken or badly made/designed objects etc, then, I might eventually classify it as something else, and (if I know about the category of PO) as a PO.

This is to say, at the point where the object withstands my expectations, it is likely to call for my attention and make me mindful of the object and its function-related use. According to Norman (2002: viii), I am likely to question either myself or the ability and care of the designer. If I find that it is either broken or badly designed – two states that are characterised as being the result of

mindlessness – my attention is likely to cease at this point (or to be redirected in a functionalist sense towards repair). If I find that it is neither broken nor badly designed, I might become mindful beyond this point, searching for a further meaning. As Norman (2002: xi) puts it:

The human mind is a wonderful organ of understanding – we are always trying to find meaning in the events around us.

For example, if we have a broken glass (Illustration 23), we have a deviation. The deviation here takes the form of a disruption of the operational function. Although the glass may still be recognisable as such, in the case of the broken glass we cannot resolve this disruption. This means, we could resolve it through repair, but we could not resolve it within the act of drinking, and it is the latter that is relevant here. The “Libation Cup” also shows a disruption of the operational function (Illustration 24). In contrast to the broken glass, with the “Libation Cup” the users can use their fingers to restore the function [of holding the beverage], which the [first time] user may discover through creative reasoning or play. The action that is needed for this compensation can in turn be interpreted meaningfully (cf. Illustration 19: 106; for the purpose of the comparison and to make it more similar to the broken glass, the reader may imagine the cup being made out of glass. Metal has been chosen for ease of production rather than for conveying any particular significance).



Illustration 23: Broken glass.



Illustration 24: “Libation Cup”.
Drinking vessel with 5 holes that can be covered with the fingers.
Kristina Niedderer, 2001.

Bearing in mind that I have assumed a disruption of function as one criterion for the category of PO, from the above examples we may conclude that there are [at least] two different options within the category of disruptive objects. There are objects where the disruption is irreversible and there are objects where the user can compensate for the disruption, which in due course can be interpreted meaningfully. We may therefore conclude that the former are disqualified as POs; they are non-POs. In contrast the latter may potentially qualify as POs, because within those objects the disruption is resolvable in terms of a creative re-definition of the pattern of action while the generic function potentially stays intact.

So far, I have spoken of the disruption of experience and mindfulness in terms of function. However in §2.4 (53), I have indicated that mindful experience can also be caused by objects through other means, e.g. by art or ritual objects. I have proposed that these cases are different in that the objects cause mindfulness (*mI*) by means of their context. One of the examples, which I have used in §2.4.1 to introduce the problematic of mindfulness in art, was the ready-made urinal by Duchamp, an ordinary urinal that has been put into the institutional context of art through both signing it and exhibiting it in an art gallery. It does not seem too difficult to imagine the same happening to a coffee cup or water glass, which indeed the artist Craig-Martin has done some years later (Illustration 25). In the institutional context of art, the operational function of an object is suspended in favour of a contemplative reception of the object; and its ordinary meaning is subordinated to an “art” interpretation. Even more ambiguous objects such as the “Breakfast in Fur” by Meret Oppenheim (Illustration 26) share this fate. Outside the institutional context of art, the question of whether this object aspires to being a PO is perfectly relevant, because of the perceived disruption of function through the fur coating. Interesting in this example is that, beyond mindfulness-of-the-object, we become somehow mindful-of-self through the perception of repulsion (upon the thought of taking the fur into the mouth).



Illustration 25: “An Oak Tree” (water glass from an installation with the same title). Craig-Martin, 1973.



Illustration 26: “Breakfast in Fur”. Meret Oppenheim, 1936.

Concerning the institutional context, we encounter a relatively similar phenomenon with ritual objects. The most prominent and powerful ritual in western culture that includes a drinking vessel is probably the Holy Communion. The ritual vessel (chalice) plays an important part in the ceremony. The question is how does the ritual object compare to a PO in terms of causing mindfulness? As before, I would argue that the mindfulness is caused by the context, in this case the ritual frame. Because, if it was not the context but the object, how could some Christian groups use an ordinary glass to the same *affect of causing mindfulness*? Or how could a Pokal [trophy cup], which shows no striking difference to a chalice of the same period (Illustrations 27 and 28),

be used in an entirely different and secular ritual? The answer is that this can only be possible if the ritual supplies both frame and content (ritual frame and ritual belief).



Illustration 27: Kelch [chalice].
Franz Anton Gutwein (?),
1765 – 1767.
Ottobeuren, Klosterkirche.



Illustration 28: Pokal [trophy cup]
Musterstück für Meisterpokal, um
1573. Nürnberg, Germanisches
Nationalmuseum (Kopie).

Having discussed objects in art and ritual contexts, I also want to look at some design objects that employ different contexts to cause mindfulness. For example, Dunne's conceptual design products can reside either in the gallery context, e.g. "Faraday Chair: Negative Radio" (Dunne 1999: 104; Illustration 29), or in the home where an educational context is provided to stimulate imagination, e.g. "Electro-Draught Excluder" (Dunne and Raby 2001: 75ff; Illustration 30).



Illustration 29: "Faraday Chair: Negative Radio"
by Dunne and Raby, 2001.



Illustration 30: "Electro-Draught Excluder"
by Dunne and Raby, 2001.

Concerning the "Faraday Chair", Dunne (1999: 104) explains:

During a project about electronic space I realised that today all space is electronic, and that the challenge to designers is to create an 'empty' space... My proposed object for presenting a non-electronic, radio-free volume would use a faraday cage to ... make perceptible the absence of radio. The object would ask: if the inside is empty, what is outside?

Although concerned with [mindfulness-of] the implications of design, in this case Dunne has used the institutional frame of the art gallery to cause mindfulness. In contrast the "Electro-Draught Excluder" was explored in people's homes. It was part of the "Placebo Project", which "is an

experiment in taking conceptual design beyond the gallery into everyday life” (Dunne and Raby 2001: 75). In the example of the “Electro-Draught Excluder” Dunne and Raby ask the users to imagine it to have a protective function concerning radio waves. The imagination of such a potential function is meant to lead people to become mindful, in this case of electromagnetic fields. They explain that

like a medical placebo, the objects in this project do not actually remove or counteract the cause for concern, but they can provide psychological comfort... We like the idea that these products would be available for rent, providing a service in the form of reflective experience (75).

In this case clearly the explanation of what the object should be imagined to do, i.e. the educational context rather than the materiality and function of the object itself, is essential to create both awareness and understanding of the project, i.e. Mindfulness.

At the crossing between design and ritual, we find another object: the wine glass (Illustration 31). Being widely used within drinking rituals, e.g. toasting and clinking glasses, it is interesting that the wineglass is an object that is only faintly associated with being a ritual object. Although it may be understood to operate within both contexts (efficient functionality as well as ritual), it seems to retain the connotation of a design[ed] object.

Yet another object used within drinking ritual is “La Grolla” (Illustration 32). “La Grolla” is served with the number of spouts according to the number of the diners who pass the vessel round and drink directly from the spouts. Being introduced to it as a traditional ritual object of Northern Italy, the question arose whether to categorise this is a ritual object or a *performative object*?



Illustration 31: Wine glasses



Illustration 32: “La Grolla”

The question arose because, on the one hand, we seem to have a PO. The one vessel with six spouts suggests shared use. Thus, the action with the object, which can be read to symbolically link the diners, seems rooted in the design of the object. On the other hand, it is difficult to determine in what the disruption of function might consist. At first sight, we might see a vessel with the addition

of a number of spouts. There does not seem to be a disruption. This is, because the apperception of the potential for disruption is culturally determined. The disruption consists in having only one vessel for several people. Therefore we could say that a social taboo is broken that concerns the issue of hygiene and pollution (Douglas 1995: 3, 7). We could also say that sharing one vessel may be perceived as a restriction, and therefore disruption, of the commonly expected autonomy of use with an object.



Illustration 33: "Social Cups".
Kristina Niedderer, 1999.

The disruption is more clearly evident in the "Social Cups" (Illustration 33). The disruption here is that the cups do not stand. Although this disruption, too, might be perceived as a disruption that is culturally dependent, it seems that 'standing upright' is a more commonly expected characteristic of drinking vessels than e.g. [not-]sharing, because it is closely related to the vessel's [essential] function of holding its contents.

In summary, we can say that we tend to distinguish a deviation of function in an object under certain conditions as disruption. Whether we perceive a deviation as disruption is influenced by our expectations [of efficient functionality] and may be culturally dependent. Where we distinguish a deviation as a disruption, we can make a further distinction into disruptions that are creatively and meaningfully resolvable within the action with the object, and others that are not. Those objects that show a resolvable disruption may be contenders for qualifying as POs.

We have also examined objects that are associated with causing mindfulness but that operate in other contexts than that of efficient functionality. These contexts are for example art, ritual, or educational contexts. We found confirmation that it is usually the context that achieves mindfulness-of rather than the objects themselves. However, among ritual objects we have encountered one example, namely "La Grolla", that even without the ritual context shows a disruption of the operational function which is resolvable in a [socially] meaningful way.

4.2.4 Recognising the deviation as intentionally meaningful

Having discussed the type and meaning of the deviation, there is still another aspect to consider. This is the need to recognise the deviation as intentional-meaningful. This is to say, if we recognise the deviation as different, i.e. as none of the known categories (in this sense broken things etc. are things that we already know and therefore we have a norm for their type of deviation), we still have to recognise this unclassified deviation as meaningful. A condition for recognising this unclassified deviation as meaningful seems to be that the user perceives the deviation as *intentional* (purposeful).

I have argued above that the difference of the deviation in the PO lies in the potential to resolve the disruption within the action with the object (e.g. the act of drinking), although I have also explained that, beyond this, it is difficult to tell exactly what allows us to recognise such subtle differences. However, with regard to the eventual aim of designing POs, we should consider this issue. We have to ask what allows us to recognise in the first instance (probably before the initial use, from a purely visual assessment of the object) that the disruption is intentional-meaningful, i.e. not broken, not caused by bad design etc. If the threshold is the clarity of intent, how can this intentionality be communicated?

There may be different possibilities to communicate intentionality by semiotic means: Firstly, we might be able to communicate the intention through semantic clarity. If the function is clearly communicated through the form and additionally the relation and the interplay between the function and the deviation, then it might be easier to understand what is happening [or supposed to happen] when it is used for the first time. It should also enhance the understanding if the disruption can be related by association to known ways of behaviour, although these behaviours might not normally be associated with the current activity (e.g. drinking).

Secondly, the communication of intentionality is likely to be enhanced by the use of indexical signs. For example, I could communicate the motive of the disruption by printing five fingerprints on the libation cup, near to the five finger-holes.

Thirdly, I can communicate intentionality symbolically through the quality of the object, because quality may indicate the investment of time and labour and therefore the thought and care of the maker. If we understand that thought has been given to the present solution (object), this is likely to lead us to interpret the disruptive deviation in an object as intentionally meaningful.

I want to link this last consideration on quality back to my earlier comment on craft (cf. §2.4.1: 53), because of the common association of the quality of making with craft. Firstly, the quality of

making does not necessarily seem to be an exclusive characteristic of the crafts but to apply equally to all high-quality design. For example, we can have a low quality manufactured silver tea set which clearly shows a lack of [design] intent and care, while we may have a steel vessel that is beautifully and intelligently designed and produced. Secondly, this leads me to assert that it is not so much the quality of the material that is important for the expectation of intentionality but rather the quality of work. This reinforces that the quality of making is important to make us perceive that a certain object has a well-intended purpose and to draw our attention to examining its features more closely in order to interpret the disruption [and thematisation] that is relevant for the recognition of the PO.

In summary, we can say that it is most important for the recognition of the intentionality of the PO that it is obviously made to look as it does. This can be achieved through a combination of different semiotic features in which the quality of making plays an important supporting role for interpreting the disruption of function. In the following §4.3, I explore what means we have to evoke this disruption meaningfully through the practice.

4.3 An inquiry into the potential of function through practice: "Series I"

Although the inquiry proceeds generally on a theoretical level, some aspects of my inquiry are deeply rooted in the physical world, in particular those concerning function. Therefore, I have explored function through the practice with regard to its potential to cause a meaningful disruption of experience, leading to symbolic action and mindful reflection. Indeed, much understanding and knowledge of what has been discussed so far has been drawn from examples and from thoughts that have been generated through my practice.

In the following, I present the summary and discussion of the results of "Series I". In terms of examples, I am referring exclusively to objects from "Series I, Project 1". The complete "Series I" is presented in Appendix A (158) in order to provide a context for "Project 1".

4.3.1 Exploring function through practice: "Series I"

Alongside the theoretical inquiry into the concept of the PO, the inquiry into the potential of function has been conducted through the practice. The aim of the practical inquiry was to explore how function can evoke the "curve of tension", i.e. awareness, reflection and subsequent creative action, through the disruption of the normal pattern of action (cf. §2.3.2: 48). Two questions arose from this aim: firstly, how can function disrupt the normal pattern of action to create mindful awareness? Secondly, how can this disruption of function direct reflection and guide action

towards the recognition and enactment of humane values, i.e. towards mindful contents? In other words, how can function be *thematized*?

In order to find out how function could achieve these goals, I decided to explore what lies between the pragmatic and the conceptual modes of the operational function of an object. By 'conceptual', I mean the suspension of the [functional-]pragmatic use value of an object (usually in favour of communicating a particular idea). Assuming the pragmatic and the conceptual as two opposite poles, I suspected I might find the *performative function* (§2.5.2: 67) or some clues towards it somewhere along the continuum between these poles.

As mentioned before, it is particularly Heidegger's phenomenological analysis of "The Thing", together with my own analysis of the "Social Cups" and a standard water glass, that has provided me with a methodological framework for this heuristic inquiry into designing. From his text "Das Ding [The Thing]" (Heidegger 2000), I have extracted a set of five different aspects of function, which I have subsequently explored through the five projects of "Series I". Using the drinking vessel as medium, each of the five projects has explored one of the five aspects of function that I had identified in the text. Thereby the five aspects of the operational function have served as the framework for the analysis of the object, i.e. for the analytical deconstruction of the object with regard to its function.

The notion of the *analytical deconstruction of function* refers to the analytical process where different aspects of the operational function are distinguished theoretically and explored through the practice. Thereby they are gradually made dysfunctional with regard to how this can change and interrupt the normal pattern of action with the object. In other words, through analytical deconstruction, the question is explored whether and how we can design [the function of] objects to encourage mindful reflection and interaction through their use.

For example, Project 1 has explored the first aspect of "[not] holding liquid" (Illustrations 34, 35, 36). With regard to the functional aspect of holding the beverage, Illustration 34 shows the pragmatic-functional drinking vessel. Illustration 35 shows the conceptual drinking vessel. Illustration 36 shows the stage of "being on the cusp". While in the conceptual vessel the operational function is disrupted so that it is not resolvable, the third vessel can be made to hold the beverage through some particular action. Because of the symbolic nature of the action required, it can cause reflection and association beyond the functional interaction with the object (cf. Illustration 19: 106).



Illustration 34:
Series I, Project 1: "Holding Liquid".
Cup 1: Drinking vessel (tumbler).
Kristina Niedderer, 2001.



Illustration 35:
Series I, Project 1: "Holding Liquid".
Cup 2: Drinking vessel (perforated).
Kristina Niedderer, 2001.



Illustration 36:
Series I, Project 1: "Holding Liquid".
Cup 3: Drinking vessel (with 5 holes
that can be covered with the fingers).
Kristina Niedderer, 2001.

A note of caution is needed here with the interpretation of the objects of "Series I": Although conducted as a heuristic inquiry, "Series I" is not about craft practice, but about function within design. I have used my own practice because it has offered an appropriate medium to realise ideas as one-off-models and to gain a better understanding of function in the process. Apparent difficulties with interpretation have emerged because the vessels do not conform to the visual norm of the drinking vessel (e.g. water glass), however they do conform from a functional point of view. Thus the three cups build a series with the norm (cup1) and two grades of deviation/disruption (cups 2 and 3). This means, while on the one hand the intentional quality of fine craftwork may invite close reading (cf. §2.4.1: 53 and §4.2.4: 124), and its visual features may support the recognition, reading, and interpretation of function by evocation of associations and context; on the other hand, its material appearance and quality of making may become so dominant that they distract from the recognition of the functional aspect of disruption.

4.3.2 The interpretation and significance of the results of "Series I"

The analytical deconstruction of function that was conducted with regard to the disruption of function was expected to show three types of impact. It was expected to create or modify, firstly, awareness and reflection through estrangement; secondly, symbolic action through the change in function away from the merely functional (i.e. away from function that generates physical action without an additional level of symbolic action); and thirdly, mindful reflection through a change in the relation of action and context.

The execution of "Series I" has shown that a disruption of function based on analytical deconstruction, which is situated rigidly within the vessel's function, can serve to cause estrangement and the disruption of the normal pattern of action. It may also possibly evoke symbolic action, i.e. to become partially thematised. However, there is little sign that it can achieve the thematisation fully with regard to mindful reflection of social concepts of interaction, i.e. mindfulness-of/towards-others without another step. What in the beginning appeared as one step

has been shown to comprise two steps. The analytical deconstruction needs to be accomplished by the synthetic deconstruction.

The deconstruction of function therefore comprises two parts: the analytical deconstruction (disruption of function) and the synthetic deconstruction (thematization of function). The synthetic deconstruction accomplishes the analytic part through a creative addition [of functional elements] that compensates for the disruption of the action and directs it in a socially reflective way. Besides serving as analytic process, in due course the deconstruction of function with its two parts becomes a process of designing that is fundamental to designing a PO.

One outstanding example for synthetic deconstruction is “La Grolla” with its multiple spouts (Illustration 37). Another example that combines more explicitly both analytical and synthetic deconstruction is the project “Social Cups” (Illustration 38) where the lack of self-standing of the cups is compensated by the possibility to link the cups to each other.



Illustration 37: “La Grolla”



Illustration 38: “Social Cups”.
Kristina Niedderer 1999.

I have only marginally concerned myself with the synthetic deconstruction of function within “Series I”, because it is principally an open-ended and creative process, while this part of the inquiry was set within a strongly defined analytical framework, derived from Heidegger’s text. Synthetic deconstruction seems rather elusive to a systematic inquiry of this kind. Within the discussion I have referred to existing examples. However, in order to explore the relation between mindful reflection and the thematisation of function further through the practice, it has seemed necessary to find other ways. An approach to the inquiry into the thematisation that would start from ‘the other end’ has seemed more promising. This means, the inquiry would need to start with determining a specific case of mindful intent [and the related behaviour] in order to trace the process backwards from there. I describe this process in “Series II” at the end of Chapter 5 in support of the second part of the comparison.

4.4 Summary

The task of this Chapter was to explain how the disruption of function (*fI*) could cause mindful awareness (*mI*). In this context, we have looked at cognitive processes (recognising the norm and a deviation from the norm) as a link between the physical and the mental dimension. By means of the examples, we have examined where a disruption of function occurs and in which form. Thereby we have seen how the disruption can be used to direct attention towards the object, the maker, or self. However, we have also seen that disruption alone is not sufficient to cause Mindfulness (*M*). In particular, through the practical inquiry it has become clear that a second [design] process is involved. Based on a synthetic deconstruction, the thematisation of function is needed to provide the content and guide the awareness of the user towards mindful reflection. The detailed examination of the thematisation is the concern of the Chapter 5.

Chapter 5
The Comparison II

Chapter 5: The Comparison II

5.1 *Introduction: mindfulness-of-and-towards... guiding mindful reflection through a thematisation of function*

In this chapter, I examine how the object can guide the user's reflection ($m2$) through the thematisation of function ($f2$). Guiding the user's reflection ($m2$) follows the first step of causing mindful awareness ($m1$) through a disruption of function ($f1$) as investigated in Chapter 4.

Thematisation is the act through which the user can compensate the disruption of function and make sense of it (cf. §2.4.1: 53 and § 2.5.2: 67). In the same way as with the disruption ($m1$), with the thematisation ($m2$) we can distinguish the process from the content towards which it is directed.

In the following, I explore the link between the cognitive-reflective processes of the disruption and the mental-behavioural processes of the thematisation. I look at cues on a semiotic and behavioural level (the latter based on function as a plan for action) in order to distinguish different levels of causing mindful reflection, i.e. mindful reflection of self and other, and towards others.

On a theoretical level, the analysis is supported by a discussion of the sociological concepts of self and other within human interaction (e.g. Goffman 1967, and Mead [Morris 1967]) as well as theories of nonverbal communication (e.g. Patterson 1999). On a practical level it is supported by the analysis and comparison of objects as well as by the development of a concept for designing thematisation through practice.

5.2 *From thematisation to mindful reflection: Analysing mental-behavioural processes.*

The task of §5.2 is to explain how the thematisation of experience/reflection is caused through a thematisation of function in relation to the process of disruption. I have claimed that the aspect of the thematisation of function leads beyond mindfulness as mere awareness (e.g. of the object), to mindful reflection of self and other, and towards others (cf. §2.4: 53 and §4.1: 112). This means, once we have recognised the deviation and its intentionality as described in Chapter 4, we also have to make meaning of its content, i.e. to recognise what is the intention.

In the following, I investigate firstly whether the awareness that the PO causes can be mindful-reflective and, secondly, what this mindfulness is about. I have distinguished different stages of mindfulness as meaningful contents of the PO. I start by looking at mindful reflection as such, which I understand as linked to both the awareness of the object and of self, because self is the

agent that is most directly experienced. I then look at how the thematisation can cause mindfulness-of-other in relation to awareness of self. Finally, I consider the phenomenon of mindfulness-towards-others.

The processes of thematisation (*m2*) that we have to consider are accordingly the processes of

- causing mindful reflection;
- causing mindful reflection of self and other; and
- causing mindful reflection towards others.

In terms of examples we therefore need to discuss examples of

- potential POs to examine how function can cause *m2* and what is the relation between *m1* and *m2*?
- disruptive design objects that are not POs, in order to examine why they might not cause *m2*?
- art objects, in order to consider how objects may cause *m2* by visual means and what might be the difference between a thematisation through visual means and through function?

5.2.1 Causing reflection

So far, I have been examining how the object can cause a disruption of experience leading to awareness of the object. I have argued that, because of the disruption, use becomes opaque. This means the disruption of the norm brings me into the moment and stops me having a preconception of a certain thing by making me perceive that 'it shouldn't do that'. This is bound to lead the user to some kind of reflection. In the first instance, this will be reflection on the object, and possibly on the creator if the object shows adequate signs such as a strong expressiveness or craftsmanship.

This is likely to lead further to the reflection on self as Norman (2002) has shown in his psychological analysis of objects (cf. §4.2.3: 118). Mainly concerned with the malfunctioning of everyday objects, he found that, where design objects do not function how we expect, most of the time we do not first question the object but our own abilities to handle them (Norman 2002: viii). Thus malfunctioning, i.e. badly designed objects, may indeed cause mindfulness of self. However, since they do not offer to overcome the disruption, the questioning of self and of the object seems bound to end in resignation or negative feelings.

Norman (2002: 3) illustrates this with an example of doors in a public building. He describes a row of six swinging glass doors immediately followed by a second row. Because the doors have no

handles and give no clues as to where to push, it is easy to get “trapped” between the first and second row causing “mild panic”.

While Norman’s analysis gives us a glimpse that indeed the disruption of the normal pattern of action can cause consciousness of self, this begs further questions of

- how the result of the disruption with the PO can become a positive and desirable [mindful] experience?
- how the perception of self and other are interrelated experiences on which the interpretation of the object, and the action with it, are based causing in turn mindfulness-of-self-and-other?
- under which conditions mindfulness-of-other may become mindfulness-towards-others?
- and finally, how those processes can be evoked by, i.e. be rooted in, the object?

The task of this section is to identify how the PO cannot only cause awareness, but how this awareness can be made a positive experience and how the resulting reflection can acquire content.

I have suggested thematisation as an additional step to accomplish the disruption and to lead further to mindful reflection. It offers the user one or more solutions to compensate the disruption through a specific action and thus to restore the pragmatic aspect of the operational function. The solutions are communicated semiotically, e.g. through the spouts of “La Grolla” or the five holes in the “Libation Cup” (Illustrations 39 and 40).



Illustration 39: “La Grolla”.



Illustration 40: “Libation Cup”.
Kristina Niedderer, 2001.

What is achieved with this thematisation is an added symbolic dimension. More precisely, the real physical action also becomes a symbolic action (gesture). This is important because in due course the symbolic action is seen to have consequences, which are of direct impact on either self or other or both, because of the underlying real action.

We can trace this through the example of the “Libation Cup”. Here, we have the strongest possible form of disruption, because of a change to an aspect of the operational function that is closely related to the generic function, i.e. the aspect of holding liquid. Assuming that we recognise and accept the cup as drinking vessel and set out to use it, our normal pattern of action is disrupted. By this stage, one will certainly be aware of the object and also one’s action with it and in due course of self. Once the user has worked out that they can use their fingers to close the holes, this is likely to give the user some kind of satisfied feeling, as in solving a riddle (Illustration 42).

Further, the cup has then caused me to perform some kind of additional action that may be read as symbolic action. The interpretation may vary according to personal experience and the immediate context of the presentation of the cup and/or the cultural context. But principally, the action and thus the symbolism are embodied in the object, i.e. in the tension between safeguarding and spilling of the beverage.

Traditionally, the aspect of deliberately spilling the beverage from the drinking vessel is associated with libation, i.e. sacrificing before drinking from the cup. For example, we find this meaning in ancient Greek culture, but also until the current day in shipbuilding (cf. Illustration 19: 106).

Admittedly, many people may not be acquainted with this symbolism in terms of any specific ritual, and therefore they may not have the associations that would lead them to a full, i.e. specific, interpretation with respect to any such ritual. Nevertheless, even without this specific knowledge it is possible to trace the [symbolic] action that leads further to reflection about a possible symbolic meaning, which is implied through the holes and the possibility to regulate the spilling by covering the holes with the fingers. Indeed, reflection may be caused by solving the practical disrupted function without reference to socially constructed symbolic applications.

What we learn from this example is that it is important to get the thematisation right in order to evoke the associations and symbolism intended. This requires on the one hand working within a culturally established knowledge and symbolic language. On the other hand it requires choosing the right complex of disruption-thematisation, because attention and reflection will be directed according to which feature is disrupted and in which way the thematisation compensates for it.

That the symbolism is embodied in the object in terms of action (based on function) is fundamentally different to other objects, e.g. ritual or badly designed or broken objects. With ritual objects, we find that both mindful frame and content are supplied externally (cf. §4.2.3: 118). With the badly designed object (as in Norman’s example above), we have – strictly speaking – no disruption of function; it only appears as if it had a disruption because the function is not well communicated. However, as there has been no disruption designed, there cannot be a thematisation by design either (i.e. a compensation for the defect).

Finally, a broken vessel (Illustration 41) does of course show a disruption of function. Therefore, we might become mindful of it, at least if it is an object that we do not wish or expect to break. (If we would expect it to break, e.g. because it is badly made, it would not make us mindful, because it would confirm our view.) However as the breakage is normally accidental, there is no 'theme' to it and no way to compensate for it. This is fundamentally different to e.g. the "Libation Cup" (Illustration 42).



Illustration 41: Broken glass.



Illustration 43: "do break" (vase); Peter van der Jagt and Frank Tjepkema for Droog Design, 2000.



Illustration 42: "Libation Cup". Kristina Niedderer, 2001.

The designers Peter van der Jagt and Frank Tjepkema have played with the idea of the broken object by designing a vase with the title "do break" (for Droog Design 2000; Illustration 43).

The vase is coated inside with silicone, which holds it together if it breaks. Droog comments on the design:

do break

Not even the worst argument can spoil the beauty of this vase. No matter how hard one throws it, although the exterior will show the vestiges of aggression, the vase will remain intact thanks to the sticky rubber interior. (Ramakers 2002: 68).

Obviously invited by the title and the commentary one is expected to break the vase. This example is interesting because it may be seen to operate in the grey-zone of the continuum between PO and non-PO. On the one hand, the user is invited to supply an attempted disruption (by instruction) but there is no compensatory action required because the compensation for the disruption is already delivered through the means of construction. This might encourage reflection beyond the interaction with the object to the user. However, the fact that the vase does not actually break might prevent me from being mindful. Alternatively, the user might become mindful because of being allowed, and indeed invited, to do something (i.e. break the vase) that normally is forbidden. The action of breaking the vase therefore has both a physical and symbolic level that may guide mindful reflection. What is questionable in this second interpretation is whether the object actually suggests the action of breaking it. This seems more due to use in an educational context, rather than to its function. I would therefore not class it as a PO.

In summary, we can say that with the thematisation, creative solution[s] are inherent in the PO in contrast with a badly designed or broken object or ritual objects. This potential for creative [re]solution is what guides mindful reflection.

5.2.2 Causing mindful reflection of self and other

When we now think about mindful reflection of self and other, we may have to consider whether mindfulness-of-self (as through the object) and mindfulness-of-other are separate or interrelated processes, and whether they appear sequentially.

From what we have discussed so far, i.e. from a cognitive point of view, it seems that mindfulness-of-self comes before mindfulness-of-other. This is because, under the cognitive perspective, we have assumed that the process of causing mindfulness is evoked through the object. Thus my engagement with the object triggers first my response to the object itself and only afterwards directs it towards others.

However, we can also imagine a scenario in which I am responding to the other [person], because of their engagement with the object. Here we might have a direct response between persons that is indirectly triggered by the object (at least for me) by virtue of the situation that the object has initiated. In this more sociological interpretation, the process no longer seems one-way but rather circular. I shall explain this further.

If we consider the process from a cognitive perspective: looking at mindfulness-of-self, we find that a disruption of the norm brings me into the moment. For example, if a door does not open as expected (Norman 2002: vii-xvi, 1-33) it disrupts my action. This makes me perceive that the thing shouldn't do what it is doing (or should do what it is not doing). In this way, it is disrupting my unconscious expectations and raising my awareness. It further scatters my usual preconception of a certain thing, which is the construct of habit and routine and in relation to which I interpret my individual experience (Morris 1967: xxvi-xxxii; cf. §2.3.2: 48 and §4.2: 114).

Because my understanding of the world momentarily has been proven wrong, it will force a reflection on self (however momentarily) because it raises doubts about my self. The disruption raises doubts, because we use objects to construct our identity (Csikszentmihalyi and Rochberg-Halton 1981; Csikszentmihalyi 1993: 20-29). Our identity in turn is based on our understanding of the world, our worldview, in the form of preconceptions (Langer 1989: 44-48), and we manage our understanding of the world through the process of objectification (Miller 1987; cf. § 2.2.2: 43).

Why do we need an objectification to understand our relationship with the world? In his introduction to Mead's work, Morris (1967: xxvi-xxxi) also implies objectification, explaining that this process is the only way to overcome subjectivity and to match the world's phenomena with our own perception. Therefore, *self* is not an autonomous concept. As much as it is dependent on the interaction with the object and re-affirmation through objectification of the material world, so it is also dependent on objectification in a social sense, because of the social construction of self which Mead proposes (Morris 1967).

If we assume with Mead that self is socially constructed, the two processes become inevitably merged and objectification gets a new dimension. Goffman (1967: 5) explains the concept of objectification in sociological terms with his concept of *face* (cf. §2.2.2: 43). His concept of face emphasises the exploration of our self-other-relationships as learning to see and experience both the own self and the other through a cycle of interaction. This interactivity consists of role taking that allows the individual to look back at him/herself. Morris (Morris 1967: xxi) explains this as follows:

The individual must know what he is about; he himself, and not merely those who respond to him, must be able to interpret the meaning of his own gesture. Behavioristically, this is to say that the biologic individual must be able to call out in himself the response his gesture calls out in the other, and then utilise this response of the other for the control of his own further conduct... The calling out of the same response in both the self and the other gives the common content necessary for community of meaning.

In this sense, Goffman's concept of face indicates a dynamic of interaction in which the perception of self is a delicate mechanism within the constant balancing of moving forces (Patterson 1999: 317-347). By impacting this cycle of interactivity, the object can affect my own understanding of my *face* as well as that of others. It also can impact my understanding of the *face* of the other and their understanding of their own. Thus it can cause a re-evaluation of self by myself and by others.

This sociological understanding of mindfulness-of-self as a circular process that includes mindfulness-of-the-object and mindfulness-of-the-other, seems more comprehensive than the simple linear understanding that a cognitive perspective would imply, and it is compatible with the understanding of the [triangular] relationship explained in the introduction (cf. Figure 1: 18). We can revise this figure now as shown in Figure 20.

Because self is perceived in relation to other at the same time as it is perceived in relation to the object, the disruption of experience through the object is bound to lead to mindfulness-of-other. The thematisation therefore has the task of providing a positive dynamic of this consciousness through a concentration on the other in the form of mindful reflection. The reflection of the other can be more or less direct. In order to understand how this mindfulness of self and other is materialised in the object, in the next section I will look at some more examples.

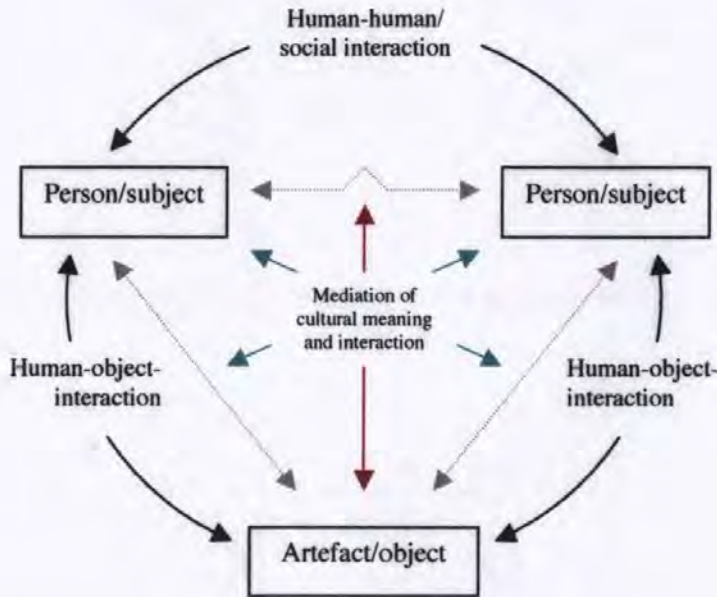


Figure 20: Circular and triangular relationship of interaction.

5.2.3 Tracing mindful reflection of self and other through examples

We can find common examples of the representation of self and the negotiation of self within the self-other-relationship. As examples we may think of clothing or skateboarding. With the former we might communicate status through choice, with the latter we might acquire and negotiate a certain social status in a certain social group through participation in the activity in general, and through demonstration of our skill in particular.

In a way both activities are an expression and enactment of social values and beliefs; they are used to negotiate and establish social order. In this sense, they can be understood as ritual (Rothenbuhler 1998; cf. §2.4.1: 53). However, this process of negotiation seems more competitive than mindful-reflective. The PO in contrast aims to offer a medium for mindful social-interpersonal reflection to make interaction an inclusive rather than exclusive and competitive way of *saving face*.

Bearing in mind what we have discussed in §5.2.2 about the mechanisms of the self-other-relationship within interaction, we now have to ask how the PO can supersede a communication and negotiation of status and thereby cause mindfulness-of-and-towards-others. In this section, I examine object examples with regard to the mindfulness-of-self-and-other; in §5.2.4, I consider how this mindfulness-of-other can become mindfulness-towards-others.

With reference to objects within ritual, we have already discussed both the wine glass and the chalice with regard to mindful awareness (*ml*). Although if considered as exhibition pieces – in the home, in the museum, or in the church – their appearance and style communicate status or prestige (Pearce 1995: 13ff), when considered from a functionalist point of view, they adhere to expectations of efficiency, i.e. serving as prop rather than to provide social content to the rituals surrounding them.

In comparison, we have seen that the “Libation Cup” (Illustration 44) causes us to perform both the physical and symbolic action of closing the holes in the cup with our fingers. By this action we are confronted mainly with mindfulness-of-self in relation to the object. Beyond this, dependent on our interpretation of the object, we may also indirectly encounter the other through the connotation of sacrifice.



Illustration 44: “Libation Cup”.
Kristina Niedderer, 2001.



Illustration 45: “La Grolla”.

In “La Grolla” (Illustration 45), we encounter the self-other-relationship more directly, because of the interaction involved. If we analyse “La Grolla” in terms of the relation between function and behaviour, we can see that the motivation to action that becomes symbolic action is manifest in the object.

Looking at this in more detail, “La Grolla” is a wooden vessel with a lid and a number of spouts. Whether we find out how it works by ourselves or whether we are introduced to it, the multiple spouts of “La Grolla” semiotically invite its use in shared drinking without cups, i.e. to pass the vessel round among the group of users. The disruption is that we only have one vessel for several people from which participants drink directly. This is a disruption because it does not conform to our norm of having a personal vessel for each individual, or of decanting from a shared vessel such as a teapot into individual vessels such as cups. We encounter the thematisation in form of the added spouts, through which the act of sharing becomes manifest through the form of the vessel.

Through the disruption and thematisation, the object entails *real action* such as drinking from the spouts and passing the vessel on for use. In relation to common behaviour with ordinary glasses that are designed for autonomous action, this action becomes socially meaningful. Thus the action of passing the vessel, and of several people drinking from the same vessel, becomes the *symbolic action/gesture*. This encourages *reflective reading*, meaning that the drinking vessel not only suggests drinking, but that a vessel with six spouts suggests 'communal' or shared use, which, within a common western cultural background, is perceived as a restriction in the commonly expected autonomy of use with an object. This disruption of the normal pattern of action then encourages *symbolic reading*. In this case it is perceived that a social taboo is broken that concerns the issue of hygiene the rules of which are "set aside for the sake of friendship" (Douglas 1995: 7). By association we can also relate the sharing to ritual sharing as it occurs in the Holy Communion. This finally allows us to conclude on an *ethical/reflective content* that in this case suggests solidarity and/or equality. In this way, it may change the perception of being a user into that of a participant. It seems that we have here awareness of self as well as of other through the [extra-ordinary] interaction.

Before I look at two more examples I will briefly summarise the findings of the first two. Although clearly there are differences between them, both vessels exhibit a disruption and thematisation of function. I would therefore argue that we could classify them as POs. The differences seem to be part of the continuum of the mindful content within the category of PO, which stretches from mindfulness-of-the-object via mindfulness-of-self to mindfulness-of-other. This is to say, while the "Libation Cup" generates mainly mindfulness of human-object interaction, "La Grolla" encourages mindfulness of human-human interaction and thereby a feeling of solidarity and/or equality.

An example similar to "La Grolla" but which is not a drinking vessel, is the bench "Come a little bit closer" by Nina Farkache (Lovegrove 2002: 62f; Illustration 46). The design plays with people's habitual behaviour in public places, which is to keep a certain distance from people whom we do not know and therefore to sit down at opposite ends of a public bench. In the way the seating shells are not fixed to the frame of the bench but glide on the ball bearings, the design allows us to physically move closer and indeed becomes a symbolic suggestion to do so if, in a waiting situation, we might wish to take up contact. In this way, the bench questions and makes us mindful of our perception and behaviour towards other people in public.

Concerning the interpretation of this object, while previously (cf. §2.2.1: 38) we were able to appreciate the design for its clever and witty solution, we are now able to understand and explain its underlying [conceptual and functional] mechanism. This means we can relate the underlying behavioural concept (people keep distance) to specific functional elements of the object (seating shells are not fixed [disruption] but glide on the ball bearings [thematisation]). With this

understanding of how conceptual ideas and physical phenomena link, both the design and the scope and social significance for potential application of POs have become clearer.



Illustration 46: bench
"Come a little bit closer".
Nina Farkache for Droog
Design, 2001.

Illustration 47:
"Social Cups".
Kristina Niedderer,
1999.



One aspect that I wish to discuss further and that is common to all three examples discussed above is that the interaction appears in some way mechanical-stereotypical, because the objects allow for only one specific (real/symbolic) action (closing/opening the holes; passing the drinking vessel on; moving along the bench).

The example of the "Social Cups" (Illustration 47) on the other hand, is more sophisticated, because it offers several solutions. The distinction between disruption and thematisation is clearer in this example. Instead of a foot (disruption), the cups have each a little connector by means of which the cups can be connected (thematisation). At least three cups together build a stable unit. In this way, people are encouraged to negotiate with each other in order to operate and use them. Very clearly, here we have a disruption and we have the connectors to compensate for the disruption. This is opposed, for example, to the use of a wineglass where I am autonomous respective to the act [and ritual] of drinking. Further, in the example of the "Social Cups" we have a choice between different actions, and therefore expressions, which we do not have with "La Grolla". The "Social Cups" offer a set of choices that allows us to a certain extent to become creative. The "Social Cups" require the user to decide how to work them, thus implying some kind of responsibility because of the consequences of the action. This causes questioning, reflection, and finally action that becomes socially meaningful, because of the social context, and because of the choice with regard to action, which creates a symbolic reality that is socially directed. Participating in the use of the "Social Cups" thus becomes a literal 'play of dependencies' that emphasises social awareness of the other.

I have now shown four objects in which we can identify the functional characteristics of the PO, i.e. the disruption and thematisation of function and which we can therefore identify as POs. I want

to complete this part of the comparative analysis with a discussion of one example from the context of art to consider the thematisation by exclusively visual means. In other words, I will examine how the object can cause $m2$ in the context of art through the visual aspect of its materiality.

In §4.2.3 (118), I have introduced “An Oak Tree” by Craig-Martin (1990), which is simply a water glass presented in an art-institutional context (Illustration 48). In the same section, I have established that if the art object is no different than its design version clearly the context is what causes mindful awareness ($m1$). The concern now is whether and in which form a thematisation might occur in this example?

Illustration 48: “An Oak Tree”
(water glass from an installation with
the same title). Craig-Martin, 1973.



The thematisation in the art context seems to lie in what is presented and how, rather than in any specific process, e.g. such as synthetic deconstruction. Therefore it is simply the context that draws attention to what is/what is presented. Thus the requirement for a disruption and a compensation for this disruption in the form of a thematisation of function as we have it within the PO is irrelevant for art objects. We can further say that there is a difference between causing the thematisation by visual means or through function. The differences between visual aspects and function lie in the kind of symbolism, which they generate. While with art objects the visual aspect at the same time is the symbolic aspect, in the case of the PO, the function generates symbolism in the form of action, which receives its meaning and impact from the consequences that follow the action.

In summary, we can say that we have examples in which we can identify the disruption and thematisation of function, and which we can thus distinguish as POs. We further found that these POs can be variously positioned on the continuum between mindfulness-of-the-object and mindfulness-of-other, dependent on the kind of thematisation and disruption. The question that remains unanswered at this point is whether the thematisation can also cause mindfulness-towards-others. The question arises, because until now I have grouped both aspects together under $m2$, caused by the thematisation ($f2$). What we have to clarify in the following is in which way is mindfulness-towards-others different to mindfulness-of-other (is it part of $m2$?), and whether the identification of mindfulness-towards-others is essential for distinguishing the PO?

Above, I have been able to distinguish objects that are causing mindfulness-of-other, through a disruption and thematisation, from any other categories of objects. Therefore we have to conclude that the disruption and thematisation are sufficient criteria for distinguishing the objects in question as POs and to defend the category of PO. Consequently for the purpose of the thesis, it does not seem essential to distinguish mindfulness-towards-others. However, since I have brought it into the discussion, it seems appropriate to investigate the potential that might be subsumed in the aspect of mindfulness-towards even if we can conclude that it is not an essential quality of POs. I will therefore examine mindfulness-towards-others in the following section.

5.2.4 Mindful reflection towards others

This section is concerned with mindfulness-towards-others and how it might occur. I have formally defined that mindfulness-towards-others occurs where mindfulness-of-other is directed towards the social consequences of the interaction with others (cf. §2.3.2: 48 and §2.4.2: 59). I have further related it formally to the other stages of Mindfulness describing it as one extreme point of a continuum (cf. §4.1: 112). Now we need to be more specific to answer the following questions:

- are mindfulness-of-other and mindfulness-towards-others the same or are they different, i.e. are they both part of m_2 , or should we further distinguish them as m_2 and m_3 ?
- if mindfulness-of-other and mindfulness-towards-others are different, can the thematisation (f_2) cause both or do we also need to find an f_3 corresponding to m_3 ?

By understanding mindfulness-towards-others as mindfulness-of-other directed towards the social consequences of the interaction with others, mindfulness-of-other seems to indicate a somewhat 'neutral' awareness and consciousness while, when transformed into mindfulness-towards, it becomes an active engagement, a re-action, that holds an intentionality of care. Although we can obviously distinguish mindfulness-of and mindfulness-towards on a theoretical level, we need to clarify whether we can trace this difference within the examples. The crucial question therefore is how can this 'neutral' awareness become transformed into an intentionality of care, i.e. [how] can this intentionality be invoked through an object? Answering this question should help us to determine whether mindfulness-towards is caused by the thematisation or whether we have to seek further causes.

I am using once more the example of "La Grolla". "La Grolla" requires the action of passing the vessel on. Previously, we have established that "La Grolla" causes an action which is symbolically meaningful and which can be seen to cause mindfulness-of-other (cf. §5.2.3: 138). The question is whether we can say that it also causes mindfulness-towards if causing mindfulness-towards is dependent on directing mindful awareness towards the social consequences of the interaction with

others? In order to illustrate the potential of [a series of] action[s] to become socially consequential, in §3.4.2 (86) I have introduced the example of helping someone, e.g. by offering a drink to someone. I have considered “helping” as *Handlung* where the motivation normally lies outside of the action[s] with the object. However, considering a single action as the smallest possible form of *Handlung*, it might be possible to regard the action of “passing ‘La Grolla’ on” as “helping”.

Analysing the action with “La Grolla” under this premise, we may say both that the action of helping is communicated through the object, its form and function, and that it is, to a certain extent, consequential for social interaction. We might add that, if I pass the vessel on, the actual act that I do pass on “La Grolla” might be considered as mindfulness-towards since I have the choice to do so or not to do so; and whether I do or not might show my consideration. In this sense the action would compare to the example of helping as a socially consequential action, even though we do not have very strong consequences here.

At this point we may ask, whether or not we always have this choice of acting with an object that requires consideration? We can answer “yes”, but the difference is that we are not normally conscious of it unless we have to make a very far-reaching decision where we aim to consider every aspect. Even then we might only consider the consequences our action might have for ourselves rather than for others. The aspect of decision and consideration becomes more explicit in the example of the “Social Cups”, because of the variety of ways of acting which it offers the user (cf. §5.2.3: 138).

Looked at it in this way, we may say that mindfulness-of-other and mindfulness-towards-others collapse in the action with the object and therefore both belong to m_2 as caused by f_2 . However, is this really the intentionality of care sought after at the beginning? I am raising the question anew because, considered critically, with regard to mindfulness-towards, the action with “La Grolla” can be considered simply as a reaction to the design of the object. Here our method of interpretation seems to trap us. Thus we seem to have arrived at the point where we would need empirical testing to find out whether mindful reflection actually occurs/is perceived to occur for the users themselves. Without this evidence, taking a critical stance, we must conclude that we cannot say whether the object can cause mindfulness-towards (as part of m_2 or as m_3) and whether f_2 would be a sufficient means. However, if we conclude practically that the example does not cause mindfulness (m_3), what would we theoretically propose m_3 to be and how might it relate to the object?

With regard to this, I want to consider one more example that emphasises the consequences of a related action by implying the potential negative consequences of mindless acting. For this purpose we have to leave the context of the drinking vessel for a moment. My example is the speed-

sensitive street sign. Many motorists will have encountered one of these signs. They are speed signs beside or above the road that light up if the driver is travelling too fast, thus reminding and demanding that the driver slow down (Illustration 50 and 51).



Illustration 49: Street sign.



Illustration 50:
Speed-sensitive street sign.



Illustration 51:
Speed-sensitive street sign.

In the widest sense, we might consider this kind of object as a potential PO even though the analogy is not exactly obvious. This is because the disruption of function does not seem to lie singularly in the sign but more in the interaction between driver and sign. The action here is driving. Normally, the inanimate sign is expected to cause mindfulness through the educational and/or lawful context in which it is situated. Since it is too often ignored, because it has not the power to physically affect the action of driving (e.g. to slow the vehicle down), other ways are needed to reach the consciousness of the driver. In this case it is by the sign lighting-up in relation to the speed of the passing car. This is unlike the ordinary sign (Illustration 49), because it is a reaction to the individual driver. The speed-sensitive sign thus causes a disruption to the consciousness of the driver with the intention of an effect on the action of driving. The numerical symbol that communicates the [lawful] speed may be perceived as the thematisation.

The sign obviously achieves awareness (*m1*) of the regulation of speed and mindfulness-of the height of the advisable/allowed speed. However, the actual reason for the speed-limit, i.e. of potentially endangering the other, is only implicit in the legal signification of the sign in that the law is a reflection of a social demand for certain actions concerning the welfare of others. In this sense mindfulness-of-other (*m2*) and of the consequences for the other is implicit in this example. Although we encounter the other here only indirectly, it is in a strong way because it reveals the other as the subject of the consequences of my action; i.e. in the context of road traffic the other might become the victim of my actions. Through imagining [and fearing] the consequences of the same action of the other for myself, I perceive the consequences for others through empathic projection. Thereby the communication of the speed might be enhanced by addition of

symbolically depicting the potential consequences of speeding, e.g. crashing cars, which would more directly point to the potential consequences of the driver's action.

However, this projection is rather a wish of what the sign should communicate and achieve in the perception of the driver. In reality we know that it does not and that we therefore need the lawful context as reinforcement. Nevertheless the example shows two things. Firstly it emphasises the [potential] consequences of an action and the need for mindfulness not just as awareness but as commitment to mindful re-action. I suggest that this commitment could be understood as mindfulness-towards-others ($m3$). Secondly, if we define this understanding as mindfulness-towards-others ($m3$), we must conclude that it cannot be caused by the thematisation ($f2$) but that we would need a third element ($f3?$). Consequently, we might ask whether we could embody this kind of ethical-reflective understanding in an object that does so without the supporting context and by which means, i.e. what would be $f3$?

Perhaps a glimpse of an answer to this question we might find in the example of "Brainball" which I have introduced in Chapter 2 (cf. §2.2.1: 38). In the way that the players can only move the ball when *more relaxed* than their counterpart, the game requires the participants to adopt a new attitude (in this case of being more relaxed). This might compare, for example, to a fictitious scenario where we could only start/drive our car when relaxed or with the intention of driving according to speed-limits etc. It seems that while in the case of the street-sign the action is imposed through the obligation to law, in "Brainball" it is made obligatory through the functioning [or non-functioning] of the object itself. This principle does seem to offer interesting further possibilities, the applicability of which may be explored through future research.

In summary, the differences between mindfulness-of-other and mindfulness-towards-others, which have emerged during testing, indicate that it is useful to make a further distinction between the two. Consequently, I have defined mindfulness-of-other as $m2$, and mindfulness-towards-others as $m3$. Mindfulness-towards-others ($m3$), then, is an aspect of the PO that we can imagine and which appears desirable, but for which we have not yet found for certain an equivalent means of embodiment ($f3$). To find out whether it is possible to embody $m3$ in an object or whether such an object stays dependent on an educational/institutional context for achieving this will have to remain the task of future work because I have established that the embodiment of $m3$ does not affect the establishment of the category of PO.

Having discussed the different aspects and levels of mindful reflection ($m2 + m3$) on a theoretical level, in the following I consider how mindful reflection ($m2$) could be further explored with regard to a realisation through thematisation. These considerations evolve in relation to the concept from a further element of practice because of the physical character of the thematisation.

5.3 An inquiry into the specifics of mindful intent through practice: “Series II”

I want to use this section to advance our thinking about POs in terms of designing mindful intent through thematisation. If we assume that the end result of [symbolic] action with the object is some type of mindful intervention, we may have to determine the specifics of this mindful intervention in order to be able to investigate how it may be initiated through the object. I have indicated this in the discussion of the example of the bench by Farkache (cf. §5.2.3: 138). This seems also confirmed by any attempt to design a PO, which reveals three major difficulties that we need to engage with in order to succeed:

- observing people’s habits in order to identify a gap where a PO might be necessary and useful;
- determining the specific mindful intent that could improve the situation;
- finding ways of implementing the selected mindful intent through the object by means of a disruption and thematisation of its function.

In the same way in which I have used “Series I” to explore the disruption of function, I have developed a concept for “Series II” to reflect on this problematic and to investigate the relation between mindful reflection and thematisation. Thereby I follow the conclusions from §4.3.2 (127) by starting with a specific mindful intent and trying to match appropriate mechanisms of function to it. Using “Series II” to think about the potential realisation of the PO, in §5.3.1 I develop some general thoughts on the nature of mindful intent. In §5.3.2, I give an indication of a possible approach to designing this intent through thematisation. As indicated in §1.8 (27), this second practical project has remained at a conceptual stage because of the limited scope of this research project.

5.3.1 The specifics of mindful intent

If we imagine attempting to design a PO, it seems the first and most difficult part would be to determine an existing lack of mindfulness in relation to social interaction as a starting point for the subject of any PO. Thereafter, we would have to decide on the mindful intent that might serve to improve the interaction/situation. In order to accomplish these two steps it seems useful to look at a range of possibilities of mindful intent.

So far, I have talked variously about mindfulness, and I have looked at mindful content/reflection both theoretically and through object-based examples. From these examples we can extract some specific mindful intents. For “La Grolla”, we established the intent of *solidarity and/or equality*, for the “Social Cups”, *co-operation* and the exploration of interpersonal *dependencies*. The intent for the bench from Droog Design could be defined as the overcoming of prejudice (that all strangers

are potentially dangerous etc.) and thus as establishing *trust*. If we ask what other specifics of mindful intent we might have, we can find more examples in various areas, but most explicitly in sources from law (e.g. constitutions) and education. Looking at these terms and identifying them in examples is useful because they make the understanding of what constitutes mindfulness more tangible. This is because they are specific, whereas mindfulness *per se* is not.

For further inspiration (in case the reader wants to design a PO), I have collated a list of mindful intents (Figure 21) from several sources, including education (Teaching Values 2003; Josselson 1996), and Human Rights treatises (Deutsches Grundgesetz 1949; Constitution of the Republic of South Africa 1996.). I have sorted the entries according to the four (five) objects of Mindfulness (object, creator, self, and other (of and towards); cf. §2.4.2: 59). I have added one column "Mindfulness of state of relationship" listing all the terms that seemed to pertain more to the relationship between persons rather than to one side. The entries are suggestive rather than final, and some entries could well be exchanged or occur under two or more categories.

Mindfulness of the object	Mindfulness of the creator	Mindfulness of self	Mindfulness of others	Mindfulness towards others	Mindfulness of state of relationship
Object characteristics:	Reflection on personality, feelings and concepts...			Motivation...	Characteristics of relationship:
	...of creator:	...of self:	...of other:	...towards others:	
Simplicity, Perfection, etc.	Personality: Dignity* Pride (duty to self)* Humility	Personality: Dignity* Honour (duty to wider social unit)* Pride (duty to self)*/ Humility	Personality: Dignity* Honour (duty to wider social unit)*, to honour Pride (duty to self)*	Consideration Concern to care to help to protect to promote	Autonomy Independency Dependency Equality Solidarity Democratic Social fair / just
Object evokes:	Thoughtfulness Integrity Courage Determination Striving Perseverance	Self-respect, (self-esteem) Self-awareness Self-control Self-discipline Responsibility Accountability	Openness Awareness Alertness Respect, to respect Tolerance, to tolerate Acceptance Appreciation	being tactful being responsive being co-operative giving in giving way being honest	Trust Attachment Mutuality Embeddedness Holding Tending and care
Attraction Focus Concentration Thoughtfulness	Feelings: ... Concepts: ...	Moderation Modesty Sincerity/unpretentious Restraint Discernment Calmness Inner peace Optimism Enthusiasm Contentment Confidence	Tact Courtesy Co-operation Receptivity Esteem Gratitude Thankfulness Forgiveness Patience Truthfulness Honesty	Caring Compassion Gentleness Kindness Helpfulness Sharing Generosity Magnanimity Mercy Good intentions	Understanding Harmony Balance Hope Faith Devotion Love
		Concept: Freedom	Concept: Freedom		

* in the sense of Goffman (1959)

Figure 21: An indicative list of specific mindful intents.

This list, or 'reservoir', of terms gives us an idea of what we might be looking for with mindful intent. We could now imagine proceeding to realise a chosen intent through an object. For this we would have to think about how to embody this intent in the object through a change in function. In the next section, I discuss how this may be achieved.

5.3.2 Developing a concept-strategy for the inquiry into the physical means of causing mindful reflection

In order to materialise any specific mindful intent, we have to look at a change of function in the form of the disruption and thematisation of function. As indicated before, I have suggested the thematisation of function as something that gives content (symbolic meaning) to the disruption. This gives us two starting points for describing the thematisation:

- Thematisation will be successful when function is disrupted in the right way, i.e. when the right aspect of function is disrupted in the right way.
- Having described the disruption in the first part of the practice as analytic and/or synthetic deconstruction (§ 4.3: 125), this means that function can either be directly disrupted (analytic deconstruction) or it can be obstructed (synthetic deconstruction) according to the theme or intent chosen. This thematic deconstruction has to be creatively resolvable.
- As an outcome of the thematic deconstruction, the thematisation has to create symbolic action through an additional function/action that operates both on the level of a physical reality entailing certain consequences and on a symbolic level, which is relevant for creating meaning.

In summary, thematisation may be achieved through the choice of aspect that is being made aware of, and in which way. This will determine in which way the disruption will be experienced. We may now question whether this thematic deconstruction is at all possible. On a theoretical level, we seem to be able to describe it, but is it also practically possible or is it too difficult and complex a matter to realise through practice? Since we have seen some indicative examples, of course it should be possible to design a thematisation (thematic deconstruction), although it appears not to be an easy task. If we would attempt a practical inquiry to investigate this matter, possible steps to follow might be:

- to determine a specific situation with a perceived lack of mindful interaction or intent;
- to determine a specific mindful intent;
- to investigate through which symbolic actions we can express it;
- to clarify whether we have any means to express and cause this symbolic action through the object? (this needs to take context and cultural specifics into account);
- to find out whether the object offers the potential to do so naturally (analytic deconstruction) or can it become imbued with it (through synthetic deconstruction).

These are only brief instructions that need further development, which I believe can only be achieved through the practice of designing itself. The reflection on the process at this stage therefore can give only an indication of the full process and problematic of designing POs.

5.4 *Designing mindful interaction through artefacts: consequences and responsibilities*

With this section, I want to finalise the discussion of the PO by reflecting on the consequences of recognising and designing *performative objects*. Raising some of the issues around the question of its consequences may indicate some of the potential and implications for both society and designer.

5.4.1 Mindful reflection and materiality: social interaction and its consequences

The centre around which the following considerations revolve, and which is pivotal to the nature of the PO, are the consequences of the engagement with and through the PO, i.e. of the action and interaction that is facilitated through the object on a level that is both physical and symbolic.

In combining both physical and symbolic levels of [inter]action, the PO entails not only functional consequences but also social consequences. Dependent on the kind of disruption, they can reach deep-rooted perceptions, attitudes and social habits. For example, “La Grolla” may question attitudes of sharing and community through a disruption of perceptions of hygiene/pollution; the bench “Come a little bit closer” (Nina Farkache for Droog Design, 2001) questions perceptions of fear and trust and how we encounter strangers in public spaces; and the project “Brainball” (§2.2.1: 38) counters and disrupts deep-rooted perceptions of stress and relaxation questioning them in relation to attitudes of competitive behaviour.

It is especially in the last example, “Brainball”, where the players can only move the ball when *more relaxed* than their counterpart, that the fundamental nature of the issues raised becomes explicit. In this example the effect seems particularly striking, because the action [of moving the ball] can only be accomplished when actually achieving the ‘new’ attitude [of being more relaxed], which additionally and dramatically reveals the psychology of the participants. Questions arise such as ‘Can we feel relaxed on demand in order to win, or do we lose the aim to win when we are relaxed enough that we might be able to win, or do we even have to give up the wish to win in order to achieve the necessary state of relaxation?’ thus revealing what is at stake. This is not just another object, another function, but it essentially questions what we understand by function, by how things work. With regard to the object, it questions our outcome-related thinking and directs it towards process-related thinking (which Langer proposes with regard to achieving Mindfulness,

1989: 33). This in turn questions my understanding of how I relate to the other participant, because my ordinary understanding of more determination being needed to succeed does not work any longer. Thus my essential understanding of having to compete (which indeed is one of the most elementary drives of any animal), and relating to the other through competition, is being questioned.

It seems that in this sense, POs can have ethical implications that impact our social values, our interactions and interrelations, and thus on society as a whole (cf. §2.3.2: 48). It seems also that the concept of the PO is applicable in a number of different contexts. Although I have only been able to deal with a small number of examples with primary focus on the drinking vessel, I have been able to include a small variety of other examples from digital and non-digital design. Thereby the last example from digital Interaction Design raises expectations of a fertile field for application.

With regard to using examples from both digital and non-digital design, I have indicated in the beginning of the thesis that there might be differences between digital and non-digital design [POs] in terms of impact (cf. §2.2.1: 38). I have not explicitly distinguished this in the subsequent discussion. Therefore, I want to note in this context that differences seem to emerge due to the responsiveness of digital object/technology. However, these seem to be differences in the way disruption/thematisation of function is situated and mindfulness achieved rather than any fundamental differences in nature. In other words, the differences are not necessarily differences in kind but perhaps more on the level of the impact of a PO due to different modes of operation.

Altogether there seems to be a broad field of application for the concept of the *performative object*, providing ample scope for future inquiry with regard to potential benefits for society. Being a powerful concept, the concept of the *performative object* will also require some regard for the responsibility of the designer, concerning which I give an outline in the next section.

5.4.2 *Performative objects* and the consequences of designing function: the responsibility of the designer

This impact on social life, which I have described above, clearly puts heightened responsibility on the designer. The responsibility of the designer arises because the concept of the PO is powerful in that it aims to educate and that it takes an ethical stance. For the same reason it bears the danger of misuse where the concept is used lightly and without full understanding. The problem that arises from this may be best summarised in the question “who gives the designer the right to design mindfulness?”

This question cannot be answered easily (if at all). A justification might be perhaps that the designer as part of society feeds back and builds on society through his/her work. Moving the focus onto the social dimension of design, accordingly, means that designing POs requires a shift concerning the understanding of what is design and of what is its purpose. Mindful Design [Social-Interaction-Design] then is not just form and function, style and aesthetic, production and sales. It even goes beyond aspects of ergonomics and sustainability. The aim and attitude that designers of POs may have to adopt may perhaps best be described as an attitude of social-ethical reflectivity and responsibility with regard to the mediation of human interaction through design.

For the individual designer this new attitude requires a radical shift and expansion in the understanding of the purpose of design, its potential and capabilities, in order to achieve the level of imagination that is required for designing POs and that starts with an intimate look at social life. It means not only to “plan action” and to “create a concrete form of experience” including the evaluation of the consequences of this action (Buchanan 2001b: 11), but to focus explicitly on the social dimension of this action and its consequences in order to grasp, develop, and enhance “how human beings relate to other human beings through the mediating influence of products” (11).

What can we say about the consequences of suggesting the category of PO? Does the PO bring us closer to the vision for design to have an ethical-educational value? I hope I have shown throughout the thesis that the PO offers a potential towards this ethical-educational vision for design. I further hope that the development of the framework of the PO will allow designers in future to draw more actively on the potential of the PO through recognising its existence and understanding its nature.

5.5 Summary

In Chapter 5, I have analysed how mindful intent can be embodied in the object through thematisation and how the thematisation in due course can invoke mindful reflection ($m2$). The theoretical discussion of the analysis has been supported through a comparison of examples, and through a conceptual approach to designing POs by means of thematisation.

In the course of the discussion we were able to distinguish objects with the characteristics of POs from other categories of objects. The difference is based on a combination of disruption and thematisation of function ($f1$ and $f2$) causing Mindfulness (frame [$m1$] and content [$m2$]). What has remained un-evidenced is whether the PO could also cause a third aspect of Mindfulness, i.e. mindfulness-towards-others or mindful concern ($m3$), although this outcome was shown not to be essential to the argument.

Chapter 6
Conclusion

Chapter 6: Conclusion

6.1 Summary of the research

In this thesis, I have undertaken the identification of the *performative object* (PO) as a new category of definable design objects. The initial hypothesis (cf. Chapter 1, 1.5: 23) was

that we can design artefacts that communicate and cause mindfulness of other in the context of human interaction by means of a modification of function and such artefacts should be called *performative objects* (PO).

My claim [was further] that the PO has not yet been re-cognised as a separate category and therefore it has not yet been put to its full potential use.

This initial hypothesis was analysed and found to contain three unsubstantiated assertions. Firstly that there are POs. Secondly, that they are a separate category of definable design objects. And thirdly, that these objects have not yet been put to their full potential use. In order to approach these three assertions, they were reformulated as the three research questions (Chapter 1, 1.6: 23):

- 1: What are *performative objects*?
- 2: Can we distinguish *performative objects* as a separate/new category?
- 3: What are the consequences of designing them?

This thesis has subsequently sought to address and answer these three research questions. In response to the initial hypothesis and the three research questions this study set out to define the characteristics of the PO, to investigate representative examples with regard to these characteristics, and to distinguish the PO from other classes of objects. Presenting a naming and classification study, the development and testing of the concept have been approached theoretically and supported by practice where appropriate.

In Chapter 2, I have discussed the three key concepts [interaction, mindfulness, and function] as a basis for the theory of the PO. Through conceptual analysis, I have determined the characteristics of the PO. In particular, I have established the characteristics of function ($f1 + f2$) and mindfulness ($m1$ and $m2$) as necessary and sufficient criteria to distinguish the PO as separate category. Subsequently, at the end of chapter 2, these criteria have been incorporated into the initial hypothesis to constitute the full concept hypothesis (cf. §2.7: 74), i.e.

that we can design artefacts that communicate and cause *Mindfulness* ($m1$ and $m2$) in the context of human interaction by means of a *modification of function, i.e. a disruption and thematisation of function*, and such artefacts should be called *performative objects* (POs).

In Chapter 3, I have developed the methodological basis for the subsequent testing of the concept in Chapters 4 and 5. I have discussed the conditions for the analysis and comparison of objects, i.e. the context, the mode of description, the framework for the comparison, and the selection of examples. Thereby the characteristics of the PO, as stated in the full concept hypothesis, have provided the basis for the comparative framework.

In Chapters 4 and 5, the testing has been conducted through the analysis and comparison of examples. The task has been to test the concept towards its probability and originality, i.e. how the PO works and that we can distinguish it from other categories of objects.

More specifically in Chapter 4, I have investigated the first step of causing mindful awareness in relation to the disruption of function. In Chapter 5, I have investigated the second step of causing mindful reflection of and towards concluding with some final reflections on the potential consequences of introducing the category of POs.

6.2 Outcomes

The outcome of the thesis is that we can identify and distinguish the *performative object* (PO) as a separate category of definable design objects.

In confirmation of the full concept hypothesis, I have shown that we have objects which exhibit a *disruption* ($f1$) and *thematization* ($f2$) of function, and that we can distinguish these from other categories of objects. I have also shown that objects with these characteristics of function cause *mindful awareness* ($m1$) and *mindfulness-of-other* ($m2$).

This is sufficient to define objects with the relevant characteristics ($f1/m1$ and $f2/m2$) as POs and to distinguish them as a separate category of definable design objects.

However, the ultimate aim of *mindfulness-towards-others* could not be fully evidenced. Originally, I had grouped mindfulness-of and -towards together as $m2$. The differences between the two, which we have discovered during testing, indicate that it is useful to make a further distinction between mindfulness-of-other and mindfulness-towards-others. Consequently, I have defined mindfulness-of-other as $m2$, and mindfulness-towards-others as $m3$.

Mindfulness-towards-others ($m3$), is an aspect of the PO that we can imagine and which appears desirable, but for which we have not yet found the equivalent means of embodiment ($f3$). Further work will be required to find out whether or not it is possible for the PO to cause $m3$.

Finally, I have considered the consequences of proposing the category of PO. In the current state of the research, any answer to this question has to remain speculative but an elucidation of the question may indicate ethical implications. In designing POs, there are consequences for both the designer and society:

- Concerning the designer, the main question is who gives the designer the right to design mindfulness? The concept is powerful in that it aims to educate and in that it takes an ethical stance. At the same time it calls upon the responsibility of the designer, because it bears the danger of misuse where the concept is used lightly and without full understanding.
- With regard to society the aim of the PO is to shift consumption towards a more mindful, i.e. socially-reflective approach, thus transforming the role of the user into that of the participant.

6.3 Original contribution

The original contribution of this thesis is the identification, description, and classification of the PO as a category of definable design objects.

As part of this, I have identified mindfulness and certain aspects of function as the relevant characteristics for distinguishing the PO.

In so doing, I have introduced the concept of mindfulness into the context of design, and I have developed a new and extended understanding of the concept of function.

I have also reconsidered the meaning of the concept of interaction in the context of design. This has shifted the perspective from that of production to that of the consumption of artefacts.

Using a perspective of consumption has allowed me to harness sources from material culture and sociology for the development of the design concept. In connection with mindfulness, this has further allowed me to introduce an ethical (socially-reflective) approach to consumption.

Finally, concerning applied research in design, in order to be able to discuss the theory of the PO with regard to the potential application through designing, I have adopted Fawcett's (1999) understanding of the relation of theory and practice in research. This has allowed me to establish a clear position for the practice within my thesis. Because this understanding formally clarifies the use and position of practice within research, in a more general sense it may offer a contribution to the debate around practice-based doctorates.

6.4 Scope and limitations of the research

There are a number of limitations to this study, concerning the theoretical development and the choice of examples.

The concept of the PO is clearly a concept that is culturally dependent. POs may therefore not be transferable from one culture to another without losing their identity as PO; however, the concept itself, i.e. the disruption of consciousness and mindful reflection through artefacts, is understood to be transferable.

Further, using the drinking vessel as an example has provided on the one hand coherence and therefore clarity in terms of the comparison. On the other hand, when we look at the transfer of the concept to other kinds of object groups (e.g. computer-related objects), a modification might be needed concerning the relation between function and context. In this study, I have only been able to indicate this matter through isolated examples from interaction design and other product design areas (e.g. "Brainball").

Finally, the PO has not yet been empirically tested in terms of its impact. Rather this research has aimed to provide the theoretical basis for such a study. The design, development, and empirical evaluation of the PO should become the subject of future work.

6.5 Potential for further work

This study offers a number of possibilities for further research into the concept of the PO.

Firstly, it provides the theoretical basis for empirical testing; including the design, development and empirical evaluation of the concept of the PO with regard to the established characteristics of $f1/f2$ and $m1/m2$. Secondly, it invites enquiry into the further analysis of the PO, i.e. into its potential further characteristics ($f3/m3$).

Thirdly, future research may be concerned with the application of the concept, for example its application to interactive design might be of particular relevance. Other areas where we can imagine applications include areas of service design or design for crime prevention, because the aim in these areas is to achieve mindfulness. Fourthly, future research may also be concerned with the exploration of the ethical issues which arise with regard to the responsibility of the designer.

Finally, in the longer term a study might aim to assess the benefits for society concerning sociability and community.

Appendix A

Appendix A

Practice “Series I”: Introduction and Visual Representation of the Project

A1.1 Introduction to the documentation of the complete “Series I”

The aim of Appendix A is to supply the full context to §4.3 (125) by providing an overview and record of the complete practice “Series I”.

“Series I” has been conducted to explore the potential of function to cause mindfulness and evoke the “curve of tension” (cf. §2.3.2: 48), i.e. awareness, reflection and subsequent creative action, through the disruption of function. Two questions arose from this aim: Firstly, how can function be modified through disruption to cause mindful awareness? Secondly, how can the disruption of function be *thematized* in order to guide [inter]action towards mindful reflection?

In order to find out how function could achieve these goals, I decided to explore what lies between the pragmatic and the conceptual modes of the operational function of an object. By ‘conceptual’, I mean the suspension of the [functional-]pragmatic use value of an object (usually in favour of communicating a particular idea). Assuming the pragmatic and the conceptual as two opposite poles, I suspected I might find the *performative function* (cf. §2.5.2: 67) or some clues towards it somewhere along the continuum between these poles.

Heidegger’s phenomenological analysis of “Das Ding [The Thing]” (Heidegger 2000), together with my own analysis of the “Social Cups” and a standard water glass, has provided me with a methodological framework for this heuristic inquiry into [designing] function. From his text, I have extracted a set of five different aspects of the operational function, which I have subsequently explored through the five projects of “Series I”. Using the drinking vessel as medium, each of the five projects has explored one of the five aspects of function that I had identified in the text. These five aspects of the operational function have served as the framework for the analysis of the object, i.e. for conducting the analytical deconstruction of the object with regard to its function.

The notion of the *analytical deconstruction of function* refers to the analytic process where different aspects of the operational function are distinguished theoretically and explored through the practice. They are gradually made dysfunctional with regard to the normal pattern of action with the object. In other words, analytical deconstruction is the means through which I explore whether and how we can design [the function of] objects to encourage mindful reflection and interaction.

In the following, I provide an excerpt from Heidegger's text "Das Ding [The Thing]", both in the original language and in translation (§A1.2 and §A1.3), that has become the basis for the framework of the analytical deconstruction employed in the five projects "Series I". In §A1.4 I introduce the 5 projects. I explain how the five aspects of function have emerged, and I also briefly reflect on the nature and importance of the heuristic inquiry as a medium within this study. Finally, I give brief descriptions of each of the 5 projects (§§A1.4.1 – A1.4.5).

A1.2 Martin Heidegger: "Das Ding"

DAS DING

...Wie steht es mit der Nähe? Wie können wir ihr Wesen erfahren? Nähe läßt sich, so scheint es, nicht unmittelbar vorfinden. Dies gelingt eher so, daß wir dem nachgehen, was in der Nähe ist. In der Nähe ist uns solches, was wir Dinge zu nennen pflegen. Doch was ist ein Ding? Der Mensch hat bisher das Ding als Ding so wenig bedacht wie die Nähe. Ein Ding ist der Krug. Was ist der Krug? Wir sagen: ein Gefäß; solches, was anderes in sich faßt. Das Fassende am Krug sind Boden und Wand. Dieses Fassende ist selber wieder faßbar am Henkel. Als Gefäß ist der Krug etwas, das in sich steht. Das Insichstehen kennzeichnet den Krug als etwas Selbständiges. Als Selbstand eines Selbständigen unterscheidet sich der Krug von einem Gegenstand... Doch von der Gegenständlichkeit des Gegenstandes und des Selbstandes führt kein Weg zum Dinghaften des Dinges...

Das Dinghafte des Kruges beruht darin, daß er als Gefäß ist. Wir gewahren das Fassende des Gefäßes, wenn wir den Krug füllen. Boden und Wandung des Kruges übernehmen offenbar das Fassen. Doch gemacht! Gießen wir, wenn wir den Krug mit Wein füllen, den Wein in die Wandung und in den Boden? Wir gießen den Wein höchstens zwischen die Wandung auf den Boden. Wandung und Boden sind wohl das undurchlässige am Gefäß. Allein das undurchlässige ist noch nicht das Fassende. Wenn wir den Krug vollgießen, fließt der Guß beim Füllen in den leeren Krug. Die Leere ist das Fassende des Gefäßes. Die Leere, dieses Nichts am Krug, ist das, was der Krug als das fassende Gefäß ist. Allein der Krug besteht doch aus Wand und Boden. Durch das, woraus der Krug besteht, steht er. Was wäre der Krug, der nicht stünde? Zum mindesten ein mißratener Krug; also immer noch Krug, nämlich ein solcher, der zwar faßte, jedoch als ständig umfallender das Gefäßte auslaufen ließe. Doch auslaufen kann nur ein Gefäß...

Das Dinghafte des Gefäßes beruht keineswegs im Stoff, daraus er besteht, sondern in der Leere die faßt. Allein, ist der Krug wirklich leer?

Die physikalische Wissenschaft versichert uns, der Krug sei mit Luft angefüllt und mit alledem, was das Gemisch der Luft ausmacht. Wir ließen uns durch eine halbpoetische Betrachtungsweise täuschen, als wir uns auf die Leere des Kruges beriefen, um das Fassende an ihm zu bestimmen...

Worin beruht das Krughafte des Kruges? Wir haben es plötzlich aus dem Blick verloren und zwar in dem Augenblick, da sich der Anschein vordrängte, die Wissenschaft könne uns über die Wirklichkeit des wirklichen Kruges einen Aufschluß geben. Wir stellten das Wirkende des Gefäßes, sein Fassendes, die Leere, als einen mit Luft gefüllten Hohlraum vor. Das ist die Leere wirklich, physikalisch gedacht: aber es ist nicht die Leere des Kruges. Wir ließen die Leere des Kruges nicht *seine* Leere sein. Wir achteten dessen nicht, was am Gefäß das Fassende ist...

Wie faßt die Leere des Kruges? Sie faßt, indem sie, was eingegossen wird, nimmt. Sie faßt, indem sie das Aufgenommene behält. Die Leere faßt in zweifacher Weise: nehmend und behaltend. Das Wort «fassen» ist darum zweideutig. Das Nehmen von Einguß und das Einbehalten des Gusses gehören jedoch zusammen. Ihre Einheit aber wird vom Ausgießen her bestimmt, worauf der Krug als Krug abgestimmt ist. Das zwiefache Fassen der Leere beruht im Ausgießen. Als dieses ist das Fassen eigentlich, wie es ist. Ausgießen aus dem Krug ist schenken. Im Schenken des Gusses west das Fassen des Gefäßes. Das Fassen bedarf der Leere als des Fassenden. Das Wesen der fassenden Leere ist in das Schenken versammelt. Schenken aber ist reicher als

das bloße Ausschütten. Das Schütten, worin der Krug Krug ist, versammelt sich in das zwiefache Fassen und zwar in das Ausgießen. Wir nennen die Versammlung der Berge das Gebirge. Wir nennen die Versammlung des zwiefachen Fassens in das Ausgießen, die als Zusammen erst das volle Wesen des Schütters ausmacht: das Geschenk. Das Krughafte des Kruges west im Geschenk des Gusses. Auch der leere Krug behält sein Wesen aus dem Geschenk, wenngleich der leere Krug ein Ausschütten nicht zuläßt...

(Auszug aus: "Das Ding" in *Vorträge und Aufsätze*. Heidegger 2000:157-175.)

A1.3 Martin Heidegger: "The Thing"

THE THING

What about nearness? How can we come to know its nature? Nearness, it seems, cannot be encountered directly. We succeed in reaching it rather by attending to what is near. Near to us are what we usually call things. But what is a thing? Man has so far given no more thought to the thing as a thing than he has to nearness. The jug is a thing. What is the jug? We say: a vessel, something of the kind that holds something else within it. The jug's holding is done by the base and its sides. This container itself can again be held by the handle. As a vessel the jug is something self-sustained, something that stands on its own. This standing on its own characterizes the jug as something that is self-supporting, or independent. As the self-supporting independence of something independent, the jug differs from the object... But from the objectness of the object, and from the product's self-support, there is no way that leads to the thingness of the thing...

The jug's thingness resides in its being *qua* vessel. We become aware of the vessel's holding nature when we fill the jug. The jug's bottom and sides obviously take on the task of holding. But not so fast! When we fill the jug with wine, do we pour the wine into the sides and bottom? At most, we pour the wine between the sides and over the bottom. Sides and bottom are, to be sure, what is impermeable in the vessel. But what is impermeable is not yet what does the holding. When we fill the jug, the pouring that fills it flows into the empty jug. The emptiness, the void, is what does the vessel's holding. The empty space, this nothing of the jug, is what the jug is as the holding vessel.

But the jug does consist of sides and bottom. By that of which the jug consists, it stands. What would a jug be that did not stand? At least a jug *manqué*, hence a jug still – namely, one that would indeed hold but that, constantly falling over, would empty itself of what it holds. Only a vessel, however, can empty itself...

The vessel's thingness does not lie at all in the material of which it consists, but in the void that holds. And yet, is the jug really empty?

Physical science assures us that the jug is filled with air and with everything that goes to make up the air's mixture. We allowed ourselves to be misled by a semi-poetic way of looking at things when we pointed to the void of the jug in order to its acting as a container...

In what does the jug-character of the jug consist? We suddenly lost sight of it – at the moment, in fact, when the illusion intruded itself when science could reveal to us the reality. We represented the effective feature of the vessel, that which does its holding, the void, as a hollow filled with air. Conceived in terms of physical science, that is what the void really is; but it is not the jug's void. We did not let the jug's void be its *own* void. We paid no heed to that in the vessel which does the containing...

How does the jug's void hold? It holds by taking what is poured in. It holds by keeping and retaining what it took in. The void holds in a twofold manner: taking and keeping. The word "hold" is therefore ambiguous. Nevertheless, the taking of what is poured in and the keeping of what was poured belong together. But their unity is determined by the outpouring for which the jug is fitted as a jug. The twofold holding of the void rests on the outpouring. In the outpouring, the holding is authentically how it is. To pour from the jug is to give. The holding of the vessel occurs in the giving of the outpouring. Holding needs the void as that which holds. The nature of the holding void is gathered in the giving. But giving is richer than a mere pouring out. The giving, whereby the jug is a jug, gathers in the twofold holding – in the outpouring. We call the gathering of the twofold holding into the outpouring, which, as a being together, first constitutes the full presence of giving: the poured gift. The jug's jug-character consists in the poured gift of the pouring out. Even the empty jug retains its nature by virtue of the poured gift, even though the empty jug does not admit of a giving out.

(Excerpt from "The Thing" in *Poetry, Language, Thought*. Heidegger 1971: 165-168.)



Illustration A52: "Series I", Projects 1 & 2. "Holding Liquid" & "Standing". Kristina Niedderer, 2001.

A1.4 Introduction to the 5 projects "Series I"

In the text "Das Ding", Heidegger (2000) sets out to establish what makes the thing a thing, i.e. its *thingness*. Within his analysis of the thing towards its *thingness*, this *thingness* emerges as what I have called the generic function, i.e. as the essential meaning of the object that is rooted in its function and which is independent of any specific characteristics. Concentrating on the function of the thing, Heidegger draws on five different aspects of [the operational] function. He talks about the stand and the handling of the object, of the receiving (taking-up/pouring-in) and releasing (giving-up /pouring out) of the wine and, most centrally, he talks about the holding of the wine.

Using the jug as example, his example seemed closely enough related to the drinking vessel as to adopt those five aspects for "Series I". Subsequently within "Series I", the analytic deconstruction is applied to these five different elements of [operational] function. This means I have identified 3 possible states of function in the object correlating to the 5 different aspects. Firstly, function may be fulfilled, in the sense of providing the most efficient performance. Secondly, function may not be fulfilled to test the limits and see what are the characteristics of function being 'fulfilled'. Thirdly, there is the question of the intermediate state.

"Series I" in due course consists of 5 projects according to the 5 aspects of function. Each project consists of [at least] three objects representative of the three different states. In the course of the investigation, besides the logically constructed findings, a-logical findings have arisen out of a combination of the different aspects, in particular for the handling, because of the flexibility within use. Illustrations A52-A54 show an overview of the Projects 1+2 and 3+4 respectively, as well as some of the "a-logical" results.



Illustration A53: "Series I", Projects 3 & 4. "Receiving Liquid" & "Giving-up Liquid". Kristina Niedderer, 2001-2.

In terms of the actual process, the possibilities within the analytical framework have first been explored through drawings, from which I have subsequently selected the examples for realisation through the practice. (Illustrations A55 and A56: Drawings "Series I").

Before I proceed to the description of single projects, I want to briefly reflect on the form of the inquiry, the way in which it contributes to the study as a whole and the way in which it contributes to gaining a deeper understanding and knowledge of function in particular.



Illustration A54: "Series I", Projects 3 & 4. "Receiving Liquid" & "Giving-up Liquid" ('a-logical' results). Kristina Niedderer, 2001-2.

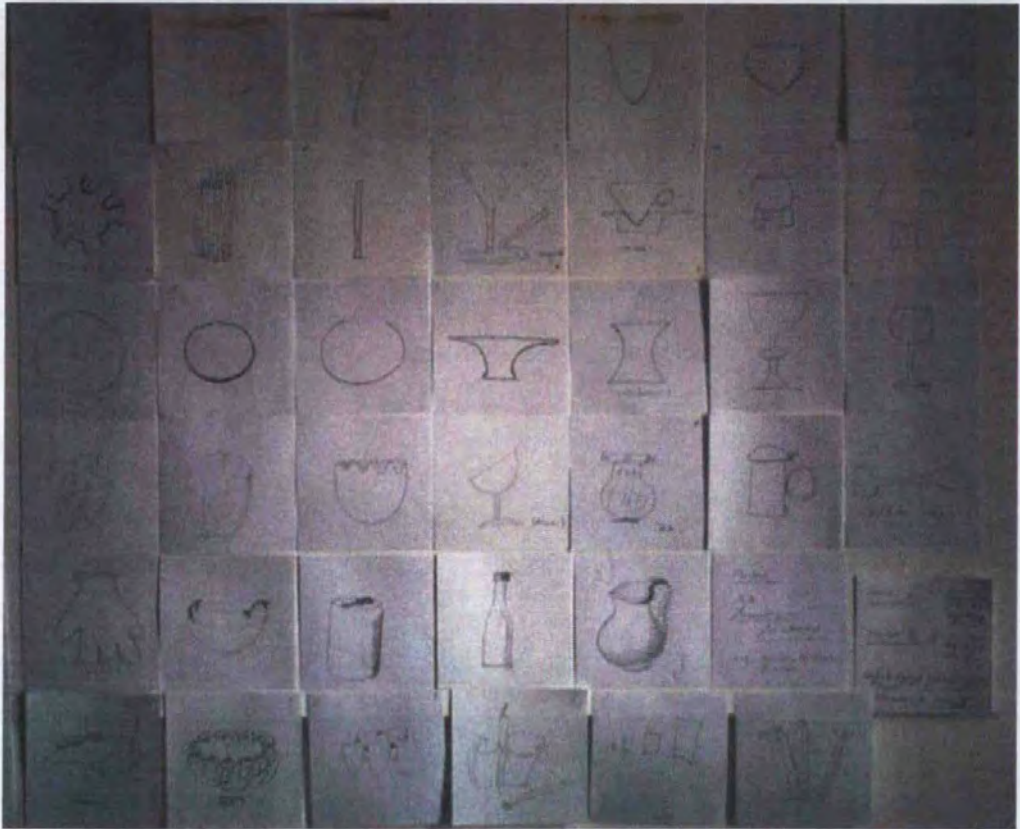


Illustration A55 & A56: "Series I" (drawings). The plates were originally positioned side by side, the upper on the left, the lower on the right, which allows them to be read as a continuum, beginning from the top left hand corner. Kristina Niedderer, 2001-2.

The contribution to the inquiry as a whole is most obvious through providing data/evidence in terms of examples. Given that function can only really be experienced within and through action, through the creation of examples with certain characteristics of function, it has become possible to experience them. This experience, as well as reflection on function through the process of making, has been the means to gain a deeper understanding of function, in particular the relation between operational and symbolic function.

Thinking about designing function, it is the question of what is the starting point within the design process. The question arises because function per se never manifests itself. It always appears in the form of something that can be grasped, e.g. the generic function of the vessel of holding liquid is grasped through an understanding of both content (liquid) and purpose (containing).

In an abstract sense, I (as the designer) can say that I take my view from the perspective of function, because I have decided to do so. Indeed, it is my contention that, as long as I am to design a functional object, I will start with considering the [generic] function of the object even though I might not be aware of this. Further, as a maker I have learned that there is not one function, but many [aspects of it]. Only a few of these are subject to physical-material constraints (cf. §2.5: 61) and therefore function is in its nature open to intentionality. Intentionality then guides the process of making as well as the perception and interpretation of function. Function may refer to operational or symbolic function or both, dependent on the kind of object created. For the design object, the process usually starts with the requirement of the operational function to be fulfilled, dependent on the typology. This means, if I want to design a drinking glass it has to fulfil certain functional requirements within which form and purpose may be varied.

Through the process of designing/making that is directed towards the exploration of function, it is possible to gain new insights and new meaning towards both form and function by taking both function and process to their limits in terms of efficient functionality and form. This is on the one hand, because in the process characteristics may be intentionally accepted for the object that would not be accepted otherwise, thus extending the understanding of the object. On the other hand, the tacit understanding of the material and its qualities enables a new interpretation of the object and its function through the way it permits a certain form and therefore function. A new understanding of function arises allowing for the development of forms the sense of which arises out of the function and the development of which would have been rejected with a traditional understanding of function.

In this sense, "Series I" has served to create an extended understanding of [designing] function through the merging of both conceptual and perceptual understandings of function in the process of designing and making.



Illustration A57: Project 1 "Holding Liquid". Kristina Niedderer, 2001.

A1.4.1 Project 1: "Holding Liquid"

The aim of Project 1 is to explore the functional aspect of "holding liquid". The three vessels explore the three states of "holding liquid", "not holding liquid", and the intermediate state of "deliberate holding/spilling liquid". The first vessel (image left side) is a complete shell, which functions practically, if holding the liquid is the aim. The second cup (image right side) is perforated all over. Thus it holds no liquid at all. The third cup (image middle) explores the state between the other two. It has the same rounded shape as the others but with five holes. These holes can be covered with the fingertips of the (left) hand. In this way the user can 'complete' the vessel so that it will hold liquid.

From reflection on the work during the process of designing and making, it has become clear that within the aspects of the operational function there exists a certain hierarchy with regard to their expressive potential. The aspect of the function, which is ultimately necessary for an object being put under the typology of the drinking vessel, is that of "holding liquid". A change within this aspect of function shows therefore the most striking result. Where the vessel fulfils the function of holding the beverage, it is rarely noticed (other than perhaps for its visual appearance). Where the vessel does not under any circumstances fulfil the function of holding any liquid, but is recognised as a drinking vessel or presented as such, a strong symbolic meaning is attached that can be seen to arise from the valuation of the liquid/beverage as something precious and life preserving (cf. Illustration 19: 106). While in the second cup the operational function, through disruption, has been completely transformed into symbolic function, the intermediate state (as in the third cup) involves an action that operates on both pragmatic and symbolic levels.

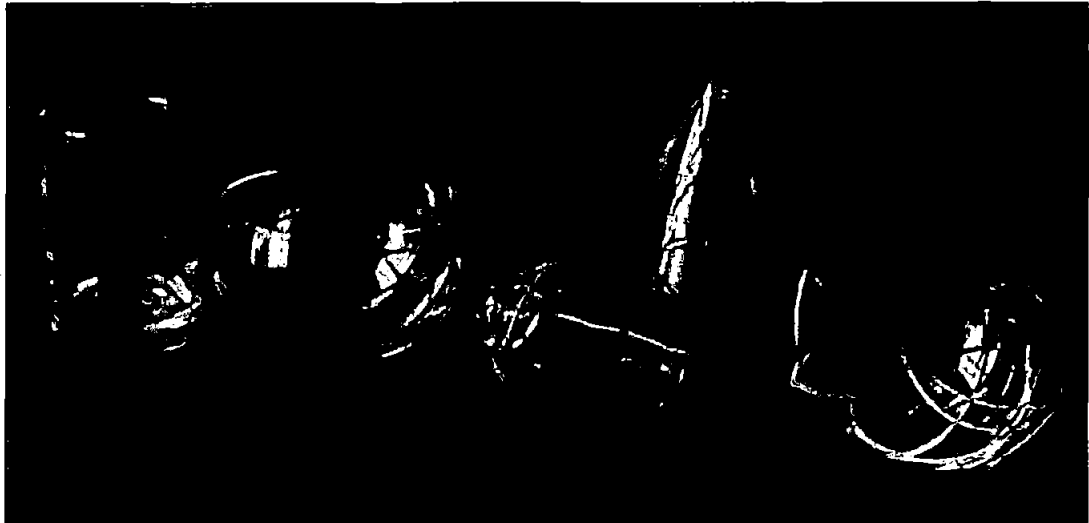


Illustration A58: Project 2 “Standing”. Kristina Niedderer, 2001.

A1.4.2 Project 2: “Standing”

Project 2 consists of a small series of glasses that explores the aspect of “standing”. In the same way as in Project 1, the aspect of “standing” may oscillate between the two ends of fulfilled and not-fulfilled [operational] function. Yet a change away from the standard of fulfilled function, does not seem to deteriorate the notion of the vessel as a drinking vessel so strongly as with the former. As Heidegger (2000: 161) concludes, the jug that would not stand would still be a jug, because it would pour itself out, which is the intrinsic characteristic of the jug (and, more broadly, of the [drinking] vessel).

Therefore the importance and norm of standing is perceived in relation to the aim of “holding liquid”. The water glass with the flat base (left) shows the standard, safe, and common solution. The cup (2nd left) still stands firmly enough to stay upright when holding liquid. The parabolic shaped cups (3rd and 4th left) cannot stand and therefore cannot be put down when filled with liquid. Because the vessel needs some kind of external support, e.g. the hand or another object, where the function of handling is not fulfilled any more, the aspect of dependency is raised that may serve to investigate social interrelations.

The broken glass (right) is situated between both Project 1 and 2 and a comparison between the steel vessel and the broken glass brings differences to mind between the designed and the non-designed object. Both do not hold liquid any more. Yet, the former clearly shows itself to be intentional and therefore makes us search for meaning, the latter we would declare as spoilt and throw it away if it were not in the present comparative context that gives it meaning.

“Standing” is primarily a relation between the vessel and the table or other surface on which it is to stand. Only where the vessel is without a foot, and therefore has to be held in the hand, does the matter of the stand become related to the human hand. Here the aspects of stand and handling overlap with the result that drinking habits are being impacted.

There exist for example drinking horns, drunk from before the hunt when already mounted on the horse and therefore not meant to be set down at all. Replicas of traditional drinking horns made from leather can still be found today. The horn points to the forthcoming event: the hunt. These vessels, the shot glasses as well as the drinking horns, tell us about the use and expression of the users interrelations and beliefs.

In the “Tazina” coffee cups from Andrea Branzi, the phenomenon has been adapted in a playful way for production.



Illustration A59: Drinking Horns. Leather. (commercial).



Illustration A60: “Tazina”. Andrea Branzi for Alessi, 1995.



Illustration A61: Project 3 “Taking and Giving”. From right to left: vessel with nil, with one, and with two holes. Only the last can be used [sensibly] to take up and release liquid. Kristina Niedderer, 2002.

A1.4.3 Project 3 and 4: “Taking-up Liquid” and “Giving-up Liquid”

Taking-up and giving-up liquid are features that are closely interlinked. The function can here take two directions towards the boundary of non-function. One extreme is the closed vessel (Illustration B10, right), the other extreme is the vessel opened to the full, i.e. the flat surface (cf. Illustration A72: 172). In the extreme, the vessel is not recognisable any more as such and therefore is unlikely to evoke symbolic function and action. In a more moderate state, taking-up and giving-up liquid are regularly occurring themes within drinking vessels with more or less symbolic function. An example of how the vessel may guide action within use is shown in the comparison between the “Kendi Drinker” and the use of the vessel with two holes.



Illustration A62: Vessel with two holes. Project 3. Kristina Niedderer, 2002.



Illustration A63: “Kendi Drinker”. (EE 1991: x).

We find further applications of the aspect of giving-up liquid, especially with regard to functionally efficient use of providing liquid in small quantities, e.g. for the care of children and the sick (ancient and contemporary, Illustrations A64 – 66).



Illustration A64: Children-suckle-cup, ancient (attic 800 B.C.). Altes Museum, Berlin.



Illustration A65: Children-suckle-cup, modern.



Illustration A66: Posset Pot. British, 1696. V&A, London.

On reflection, these examples (A62 – A64) may convey some formal symbolism but there is little within their function that would suggest a symbolic action, because there is no disruption.

This emphasises once more the task of the practice, which is to search in a systematic way for how function can be employed and modified to cause mindful awareness and guide reflection. In particular, the focus is on the modification of function in the form of disruption, and how this can cause compensatory action that also has a symbolic level, which is needed to guide reflection.

Although the analytical part of the practice (i.e. “Series I”) did not generate any new solutions, to strip away the usual formal context did allow thinking about how the inherent function could become disrupted as a basis for symbolic action and to recognise and explain the phenomenon within existing examples such as the “Social Cups”, “La Grolla”, or the “Libation Cup”.



Illustration A67: Project 4 "Taking and Giving". Kristina Niedderer, 2001-2.

Project 4 (Illustration A67) puts more emphasis on the aspect of giving-up liquid, i.e. on drinking from a vessel. All three vessels can easily be filled, but the function of releasing liquid in the sense of drinking is in some way obstructed. Interestingly, we find these solutions being used in traditional 'joke-vessels' that serve for social merriment such as the "Puzzle-jugs" (Illustration A68) or the "Yard of Ale" (Illustration A69).



Illustration A68: "Puzzle-jugs".
English 1700-1750. V&A, London.



Illustration A69:
"Yard of Ale".



Illustration A70: "Sponge-Cup". ("a-logical", additional results of Project 3 and 4). Kristina Niedderer, 2001-2.



Illustration A71: "Die Einsetzung des Abendmahls [Last Supper]". Justus van Gent 1473-74. (Malereilexikon 1986: 370).

A number of 'a-logical' objects have evolved alongside those that follow the system of deconstruction as outlined in the beginning. Some of them are associated with ritual, as in the case of the sponge, which offers association with the Passion of Christ. However, many of them escape any established meaning and to offer them for use might show how people engage with them and where they stimulate symbolic action and creative use.

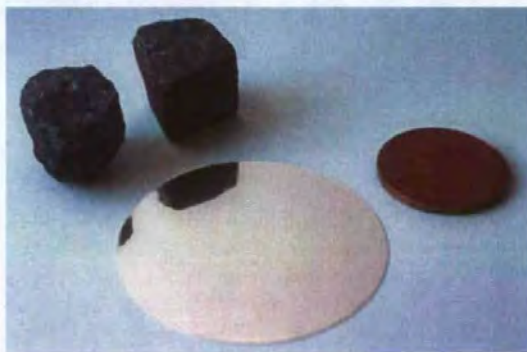


Illustration A72: "a-logical" (additional results of Project 3 and 4). Kristina Niedderer, 2001-2.



Illustration A73: "a-logical", (additional results of Project 3 and 4). Kristina Niedderer, 2001-2.

A1.4.4 Project 5: "Handling"

Handling itself is the most flexible of all aspects identified, because of being intrinsically linked to use and because of the dexterity and flexibility of the hand. For the aspect of handling, it is therefore not in the same way possible to determine extremes/absolutes as for the other aspects of operational function. However, it is possible to determine examples that are more suitable to handling than others (A74 and A75). Handling can therefore take on a whole variety of meanings. It seems always involved, where other aspects start contributing to symbolic action and interaction. In further combination with other aspects, it bears great potential to produce unexpected results in the form of creative use (e.g. as in "La Grolla").



Illustration A74: "Landscape Beakers".
Morris, 2000.



Illustration A75: "Small and Large". Project 5.
Kristina Niedderer, 2001-2.

A1.5 Summary

The aim of the documentation of the complete "Series I" in the Appendix has been to provide the context for the [abstracted] discussion of the practice in §4.3 (125) as well as for the examples of "Series I" that are presented in the main text. In due course the main summary of the outcomes and contribution of the practice is presented in the main text (cf. §4.3.2: 127). At this point, I shall therefore only give a summary of the method and use of the practical inquiry.

The aim of the practice "Series I" has been to explore the potential of function to cause mindfulness. Heidegger's text "Das Ding" has provided the framework for the analytical inquiry from which the method of analytical deconstruction was derived. During the course of the inquiry it occurred that the analytical deconstruction was matched by a second element: the synthetic deconstruction. This led to the new understanding that the disruption of function also was matched by a second element: the thematisation of function.

The main finding of the practice “Series I” was the recognition that I was dealing with two processes (disruption and thematisation of function) rather than one, which has substantially contributed to developing the understanding of the characteristics of the PO and its realisation.

Conducting the practical inquiry has further shown that the analytic [and synthetic] deconstruction, which were originally only developed as method for analysing function, can also serve as a method for designing. This aspect has subsequently provided a basis for the tentative outlining of a process for designing POs as described in §5.3 (147).

Acknowledgement:

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