

# OBJECT THEATRE - A PLAYFUL UNDERSTANDING OF DESIGN

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## ABSTRACT

This paper investigates how four perspectives from Object Theatre can enhance interaction design in the early stages of a product design process. We propose these perspectives as a playful approach for designers to gain embodied understanding and perception of objects to enable new design possibilities to emerge. We present a study in which the Object Theatre approach is applied to redesign socially shared everyday products that are located in public places. This project demonstrates how Object Theatre offers a broad perspective form which to explore and present product interactions. In particular, it emphasises the understanding of a product by relating and changing perspectives, and takes into account context of use and diverse social settings.

## INTRODUCTION

There is a rising interest in applying embodied theatre methods and techniques in design processes to improve designers' understanding of the richness of human behaviour and knowledge (Klemmer et al. 2006, Schleicher et al. 2010, Sirkin & Ju 2014). Klemmer et al. (2006) discuss five themes salient for designing and evaluating interactive systems: thinking through doing, performance, visibility, risk and thick practice. They propose that embodiment and physical actions can be a faster and more nuanced way of exploring technical systems. To become an expert in designing interaction, and eventually movement, requires both experiencing and doing while designing (Klooster et al. 2007).

We add to this discussion by presenting a novel concept of Object Theatre which shifts the focus from the individual use of a product to the role of the product in social settings. The playful exploration also provides a wide range of ideas for physical interaction with the product. We disclose our findings using a case where the Object Theatre approach has been applied in a design process with a group of IT product design graduates.

## THEATRE WITH OBJECTS

Object Theatre is a part of the Postdramatic form of theatre, a theatrical form which does not revolve around the text (Lehmann 2006). It can take as a starting point, for instance, a sound, theme, experience, or object. It may be perceived as a modern form of Puppet Theatre, which has long traditions in making physical objects come to life (Callesen 2005, Carrignon 2000, Jurkowski 1998). A puppet may be considered an archetypical way of representing human life through a medium, *independent of material and context of use* (Lund 1995).

In Object Theatre puppeteers or actors use *ready made* objects in storytelling to create a performance (Carrignon 2000, Jurkowski 1998). Objects are utilised either as they are or by being transformed into fictional characters through the manipulation and speech of the puppeteer(s) (Lund 1995, Jurkowski 1996, p. 12). Objects may even be large-scale constructions, making use of steel, cardboard, wood sticks or even robots and machines (Lehmann 2006, p. 72).

## A THEATRICAL APPROACH TO INTERACTION DESIGN

In comparison to existing explorative interaction design techniques we look upon Object Theatre as a way to gain embodied social understanding of a product. Different combinations of theatre, including: role-play, bodystorming, gaming, improvisation, life action role-play and scenario based designing, have been applied in design education and research with growing interest (Sirkin & Ju 2014, Schleicher et al. 2010, Klemmer et al. 2006). Role-playing and bodystorming may be considered a relevant pathway towards embodied design thinking. Designers perceive physical objects by interacting with them to gain insights about human response (Schleicher et al. 2010, Sirkin & Ju 2014).

Design approaches typically focus on exploring the interaction between a user and the product/user interface in a specific context (Preece et al. 2011; Sato & Salvator 1999, p. 37). We present the Object Theatre approach as a way to explore the effect of a particular product for social practices.

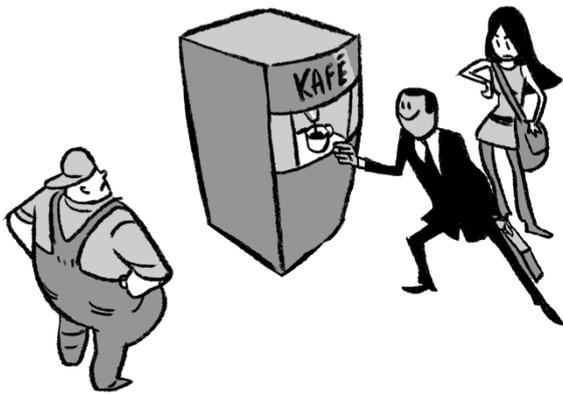


Figure 1. A product surrounded by stakeholders and multiple interactions. (Illustration Thomas Nöhr)

#### FOUR PERSPECTIVES FROM OBJECT THEATRE IN DESIGN

In this paper we move beyond traditional Puppet Theatre toward Postdramatic definitions of theatre by reframing Object Theatre in a design context as both theatre **with** objects and theatre **around** objects. We present here four perspectives we have found to be particularly useful for interaction design: Object Agency, Stakeholder Drama, Spatial Staging, and Physical Theatre. These perspectives were established within the context of a master degree course, with the intention of exploring possibilities of theatre in design processes. The aim of the course was to study different social interactions with objects and products, exploring what kind of design this approach might lead to.

The graduate students were presented with each perspective accompanied by a two-hour workshop, thereafter applying each perspective to a product. In total the Object Theatre approach was applied to four socially shared everyday products located in public places: A coffee machine located in a university open kitchen; a smart projector system in a classroom; a desk lamp in a group work area; and an electronic door sign placed outside a classroom.

Figure 1 and the small icons below present the different level that each perspective provides for the product.

#### OBJECT AGENCY

Exploring product agency, tellability and narrativity.

What might observers read from an object, observing their shape, colour, movement and other characteristics? Is it possible to design certain behaviours and expressions into objects?

This perspective was supported by a workshop utilizing objects to create puppet theatre and perform small plays, where students related to objects by creating voice, movement and the characteristics of an object, such that they represented human beings.



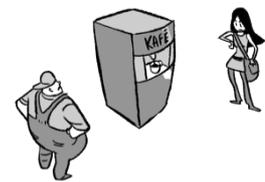
**STAKEHOLDER DRAMA**  
Emphasising the role of products in social settings. Based on an assumption that a single person does not use products alone, but a social network may be influenced by the existence of each product. How are relations between people dependent on products? Which voices might be involved?



Social dimensions were explored in a workshop with an activity called Stakeholder Drama where students mapped and acted out potential relations and opinions of different stakeholders to a certain product.

#### SPATIAL STAGING

Considering the space and location of a product. Exploring the effect of environment, physical space and precise location of a product – on the product itself, as well as on the environment and context. How does staging of a product affect interpretations and convert user interaction?



In a workshop run to explore spatial factors the students indicated objects in a studio space and staged them to create different spaces, and observe multiple interpretations and experiences.

#### PHYSICAL THEATRE

Exploring physical movement to create unforeseen bodily experiences. Interacting with a product without predefined assumptions to qualify “proper” use of the product, at the same time enabling new meanings to emerge. Exploring the types and qualities of movement and bodily interaction that shape, weight, colour, material, surface or user interface create?



A workshop was conducted to explore these different characteristics of objects. In the workshop students were touching, moving and sensing objects in different ways to change the perception of an object and create surprising user experiences.

As a final deliverable, the groups presented their design concept in the form of postdramatic performance, to illustrate how the redesigned product would function and the kinds of social interaction it might create. The aim of the performance was to engage participants to actively experience and interact with the concepts. Participants were students and research personnel from the design department in the university.

## OUTGOING COFFEE MACHINE

The case material is derived from a two-week teaching exploration with four teams of graduate design students, each working with a socially shared everyday product. The case study is focused on how one of the teams, creates a conceptual redesign of a coffee machine by applying the four Object Theatre perspectives. The emphasis in their design project was to create a coffee machine with socially engaging characteristics. For comparison an example from another team working with a smart projector system is also included in the case study.

Interim outcomes consisted of short ‘one shot’ videos where students were performing puppet plays, and acting out with the coffee machine and other objects. These videos were approximately 90 seconds long, recorded with smart phones to capture findings relevant to each perspective. The group also kept rehearsal and explorative video material for us to investigate. The final deliverable was a live performance where the group members acted out the functions and personality of a human sized cardboard coffee machine, by becoming the soul and engine of the product. The performance embodied the findings of the design exploration.

Inspired by A-frames (Clark 2007, p 102) a selection of screenshots from the one-shot videos were framed on A3 paper one picture for each, accompanied by a heading and description. The structure for this selection was based on three values thought useful for investigating the four perspectives: *social settings*, *decontextualizing* actions and *embodied understanding*. Next, the picture frames were gathered and compared with the final performance of the new design concept of the socially engaging coffee machine. Through careful analysis we identified actions from the final performance that were linked to the A3 frames, from each of the four perspectives.

When comparing the picture frames with the performance we found representations of decontextualisation, embodiment and social settings. This method provided us with interesting links between the early exploration videos and the final presentation. To verify the findings a co-analysis session was conducted where the coffee machine design team made sense of small video ‘snippets’ which were isolated from the final performance recordings. The ‘snippets’ worked as reflection material for the graduate students to assist in analysis of the design process. This approach enabled us to establish connections between the students’ sense-making around how their ideas emerged through the exploration of the four Object Theatre perspectives. The co-analysis with the graduate students was video recorded and transcribed, providing us material with which to verify or dismiss first assumptions made linking the four phases to the final performance.

## DISCUSSION

This section sums up the design process of the coffee machine student team through the four perspectives and conduct a small evaluation of each perspective.

### OBJECT AGENCY

In the early exploration of Object Agency the team created a puppet play about a sensitive coffee machine that failed to function if the environment seemed too hostile. The machine was perceived as purely reactive, its function being to cease functioning. To challenge this view of agency the team created an influential and powerful coffee machine that, to some extent, was able to dictate to whom and when and which conditions it would serve a person coffee. This notion of agency was made clear in the final performance when the coffee machine demanded users to accomplish tasks, such as singing or dancing while music was played, in order to receive a coffee.

### STAKEHOLDER DRAMA

Stakeholder Drama was not present in the final performance as a sole event. Rather it was intertwined with the three other perspectives. The coffee machine team discovered the benefit of this perspective in broadening the awareness of social factors around the machine. Inspired by the Agency perspective, students explored Stakeholder Drama through a different puppet play where the coffee machine broke down because the stakeholders argued about the use of machine. The sensitive machine needed comfort and collaborative support from the stakeholders to enable it to function again. In the final performance this coffee machine had the same ability to affect people's readiness to unite and relate to each others. For example, when the coffee machine asked the audience to work together to spell out words, the group who gave the right answer first was rewarded with coffee.

### SPATIAL STAGING

When analysing the final performance material of the coffee machine team, no obvious links were found to the Spatial Staging perspective. In a co-analysis session the students acknowledged: “the only thing that we didn’t do much was the space”. Although the team worked hard with this perspective, spatial staging didn’t contribute directly to their process. Does this lead us to the conclusion that the perspective of Spatial Staging is not beneficial as a method? If we broaden the scope by observing other graduate student teams, one example that contradicts this conclusion. A team exploring an outdoor projector system by a small stream began to question the physical setting of teacher/students interaction in a classroom. Inspired by the boundaries along the stream, the team experienced the value of not being along side, rather than in opposition to the teacher. The findings around Spatial Staging made by this team greatly influenced their final design outcome.

## PHYSICAL THEATRE

To explore Physical Theatre the coffee machine student team acted around their coffee machine, which was located in a small open staff kitchen. The team improvised actions, individually and as a group, inspired by the shape, functionalities and composition of the machine. This exploration created an array of decontextualized physical interactions with the coffee machine, and resulted in the students relabeling the attributes of the product in a new way. Importantly, the students were able to forget their product's limitations, by treating it as an object. The perspective of Physical Theatre created a playful atmosphere where the group seemed comfortable exploring many different scenarios without questioning the value at an early stage. They rather fully engaged in multiple scenarios. In doing so, they were able to create, for example, a milking action which was utilised in the final performance to get milk from the machine. This way of working gave the group a deeper understanding of the product's functions and encouraged them to become the machine in the final performance.

## ADDITIONAL INSIGHTS

One unexpected aspect which rose up in the co-analysis session was a common understanding of the coffee machine becoming an essential team member, whose presence was included during discussions. This began after the first few sessions where a shoebox represented the coffee machine in a puppet play. Graduate students working with other objects also referred to the shoebox as "your coffee machine". This may be due to the short 'one-shot' videos that were presented among all of the teams. However, it seems obvious that the Object Theatre approach created a strong emotional bond to the redesigned product. Not to be dismissed is the importance of working with video recording as a media to share these findings among the different teams. Though acting out in front of a camera does not convey the internal experience of an actor, it does capture the small moments of improvisation and emergence that are valuable moments in the design process (Binder 1999).

## CONCLUSION

From the case study it becomes clear that the Object Theatre perspectives are not equally beneficial for every project. In the coffee machine case study Spatial Staging did not provide a clear link for the team. Despite not having a clear outcome in this case, we still encourage engaging in all four perspectives. At present there is insufficient material to state the specific benefit of each perspective, yet in the different projects, different benefits were observed. In addition, sometimes we only are able to see the value of a perspective in retrospect, so eliminating it from the process in advance is not advised. This study demonstrates that Object Theatre offers an embodied approach applicable to the field of interaction design. It is a novel conceptual framework where designers and users can experience a range of scenarios and perspectives through a product,

in a playful manner. The approach gives room to explore and present. Ideas that may at first seem superficial can be comfortably conveyed and their validity explored through the framework of Object Theatre. We see this as a valuable approach to be examined in multiple design contexts to position the work in the field of interaction and product design.

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