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Citation for the original published paper (version of record):

Aliasgari, M., Clark, B. (2017)
Baby steps or stage dive into a critical design dialogue
IxD&A: Interaction Design and Architecture(s), (32): 38-47

Access to the published version may require subscription.

N.B. When citing this work, cite the original published paper.

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Baby Steps or Stage Dive into a Critical Design Dialogue

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Abstract. This paper puts forward the early, practical actions "in context" that can begin to sensitize, orient, expand, and constrain design dialogue at the outset of a design effort. Drawing on a case of "breaching experiments" in "non-places" we explore a "first approximation" of interventionist participation into the context of future interactive & responsive design interventions. By introducing a design journey, we have shed a light on how a human-centric approach, applied to the context of Human Building Interaction (HBI), can support an interventionist design dialogue between people and designed environment through processes of stirring up what's beyond 'norms' of interaction.

Keywords: Breaching experiment, non-place, prototype, ethnographic research, social interaction, interactive design

1 Introduction

Architecture and urban design are moving toward providing people more flexibility and smartness in their use of space. New technologies allow designers and architects to impose new layers of aesthetics, information and interactivity in built environments. In this context, the emerging topic of HBI (Human Building Interaction) strives to explore novel dynamics between the buildings and their users [8]. It can arguably unfold interactions not only between space and users but also between users.

The importance of understanding patterns of social relations and creating urban spaces which support these different patterns has increased due to the individualization of society. But how and to what extent can the designer or architect 'test the waters' before designing a final responsive spatial intervention that is meant to be interactive?

This paper is a joint collaboration of the authors. Nevertheless, Mahdis Aliasgari has performed the in context research as a part of her master's thesis "Illuminating the non-place" at KTH, Sweden, supervised by Brendon Clark. The provotype (CoreSee) has been developed under another collaboration with Lighting Design Collective, Madrid and Xicato, USA.

There are countless ways of starting a project initiative or an inquiry into a space of potential change. Fueled by conceptions of design as a "reflective conversation with design materials" [9], and modes of ethnographic research focusing on the emergence of valuable questions through engagement in the field site, there is a question of how and when to make the first move or take the first step. What can provide a "first approximation" to both participating in and intervening into a context of future interactive or responsive interventions? What practical actions can initiate a critical dialogue in context?

An increasingly common starting place for design explorations is through direct involvement "in context," such as ethnographic studies or indirect user studies such as versions of cultural probes. The ethnographic tradition as initiated in anthropology has some very practical actions that support the overall endeavor worth re-visiting, before exploring parallel practical actions for of a greater interventionist nature.

There is a strong distinction between conducting "ethnographic" interviews to understand people's world view, and participating in activities with people in the context of their lives. The Malinowskian model of "participant observation" propelled anthropologists out of their comfortable speculative chairs, commonly referred to as armchair anthropology, into interaction with people in context of their lives [5] [10].

An ethnographer learning to participate in an unknown context has a practical orientation to it that provides a sensitizing introduction to the reflective neophyte – in the terms of Lave, when learning a new practice, the "way in" is our "first approximation" of the whole thing [6]. To the practice of doing fieldwork, what is a practical "way in" to a critical design practice?

In the 1960's, Harold Garfinkel, the father of ethnomethodology, introduced a set of tutorial exercises for exploring social norms that have come to be known as 'breaching experiments'; a breaching experiment is a purposeful and more or less calculated intervention into ongoing social activity, to reveal often taken-for-granted social norms.

The idea behind 'breaching experiments' is quite similar to what Mogenson proposed for IT systems design as "provotyping" to argue prototypes designed to provoke discussion [7]. In other words, "provotypes" can expose "current problems, calling forth what usually is taken for granted". This differs from how designers use (industrial) prototyping, as a way to improve the design of a future product or service. However, the beauty of Garfinkel's tutorial exercises was their simplicity and accessibility to young students of sociology.

Crabtree explores the introduction of technology to use context as 'breaching experiments' due to rather advanced technical concepts, such as wearables, that were developed while divorced entirely from contexts of use [2]. The re-purposing into use therefore can benefit from being framed as breaching experiments. In contrast, the purpose of this paper is to explore much more modest, rough and simply created material interventions into everyday contexts as baby steps into critical design practice.

The purpose of these interventions addresses the effect upon the entirety of the designer's iterative design processes and the function is not necessarily proving or testing theories/design, but to provoke reflection and discussion.

2 Case: Intervening in Non-places

We draw on a set of early explorations of a study, by one of the authors, focusing on interactive lighting design to enhance the quality of "non-places", a neglected category of spaces in urban design. Non-places as defined by French anthropologist Marc Augé, are spaces that do not create a sense of place when people pass through them, due to their lack of originality and personal relevance [1].

Many daily activities - like waiting in places of transit or shopping in supermarkets- take place in non-places. To simplify, people tend to behave in 'non-social ways' in such spaces [3]. Although they are potential contexts of sociality. Here, we highlight the early explorations into public bus stops as non-places, with special attention to interaction between people, materials, and environment. The explorations began with observation, "hanging out" in and around bus stops to get an initial sense of common behavior. However, revealing observation and opportunistic interviews "in context" can be – and we believe it is a very productive starting point – we propose that the subtleness of participant observation, particularly in non-places, only reaches so far the desired critical dialogue in context.

Under the premise of seeking the smallest material interventions possible to trigger a critical dialogue for exploring interaction between people and material, we introduce a set of rudimentary material breaching experiments.

It's important to note that the experiments are designed in particular for Stockholm, Sweden considering the social fabric of the society. The researcher seeks to understand if a proposal, requiring engagement and triggering interaction between the commuters was a meaningful decision in the first place, as in general, residents in Sweden do not tend to talk to strangers and avoid 'unnecessary' conversations in public. This Swedish 'norm' somehow defines the physical space between the commuters and even if there is tourists engaging in the bus stop, it is still contextually relevant with the backdrop of Sweden. This expands to choosing a sit in the bus and how it considered 'weird' if someone sits next to another commuter when there are still empty seats. In this context the interventions explores the types of interactions arise when people are provoked.

2.1 Breaching Experiment n.1

Breaching experiment n.1 aimed at exploring potential engagement and social interaction at a bus stop in Sweden. The experiment consisted of placing three sets of material on the glass wall of a bus stop to investigate three possible types of engagement (figure 1):

Section.1. A poster filled with repetition of an incomplete sentence: I'm…….and……
Section.2. A blank page with a sentence on it, requesting people to write something about the person next to them; possibly a stranger. 'Write something about the person next to you!'
Section.3. Blank tables for playing XO (tic-tac-toe), commonly a two-person game. The researcher spent 4-5 hours to create and set it up and it was conducted for approximately 19 hours total, with the researcher present for 5 hours.

2.2 Result Summary

Approximately 550-600 people were at and around the bus stop during the intervention (the number is estimated based on the researcher observations). In total, 19 people filled the gaps of the sentences (Section 1). 5 people wrote about the person next to them (Section 2), and 12 people (5 couples and 2 friends) played the game (Section 3). There were many people watching others (approximately three times more than people who directly engaged in the experiment).

Fig.. 1. Breaching Experiment n.1 consisting of three sections.

2.2.1 Section 1

Almost everybody read other's sentences before writing theirs and there was a tendency to copy the same theme as the first sentence. For example, almost half of the sentences by the participants were about food/people that they love, since the researcher wrote, "I love ice-cream" at the beginning.

2.2.2 Section 2

The seemingly most provocative part (section 2) had the least participants and did not lead to interaction between the people who wrote something and the people standing next to them. Two people were observed writing, and in both cases people next to the participants did not notice it, since they were occupied with their mobile phones. Actually one of the comments is exactly about this: "Haha! (they're) busy with their smart phones."

2.2.3 Section 3

No one asked a stranger to play the game. Couples and in one case two friends were the only group of people who played XO game. But their conversation and laughing (which was quite louder than 'norm' for a bus stop) had obviously some watchers

among the people at the bus stop and also led to a couple of short conversations between the players and others.

Breaching experiment n.1 not only surfaced an array of potential considerations and challenges, it marked an entry point into dialogue with the context of "non-places". It was a set of experiments not only focusing on a dialogue between the designer and the user, but rather, they were experiments initiated by the designer attempting to stimulate dialogue between other people. Considering the simplicity and of the experiment and roughness of the material, it was quite striking how much it revealed about the context of the bus stop as a non-place.

2.3 Breaching Experiment n.2

The second experiment was more related to the design pre-concept and aimed to reveal how a quiet mysterious / surprising object can affect people's behavior. It took 6 hours to create and set-up and ran for 3 hours, with the researcher present all along.

The intervention was a box (25*20*15 cm) attached, at eye level, on the glass wall in the middle of the bus stop, in front of a row if three seats. The box was covered with a colorful pattern and a small hole on the left side of the front, which made it possible to look inside the box, in which the walls were covered with close to the same colorful pattern as on the outside (figure2).

Figure 2. Breaching Experiment n.2

A color changing LED, hidden on the right corner of the box made the patterns gradually appear/disappear based on the color of the light. "Look inside the box but

think outside the box" was written on both the front and the back side of the box with the intention of stirring curiosity.

Approximately 150 people were at the bus stop over a period of three hours, 19 people looked inside the box (eight of them, after watching others/the researcher doing that), 3 people took a picture of it (without looking inside of it) and approximately 30 people noticed it by themselves or while following others, looking inside or taking a picture.

Similar to the previous experiment, there were some people who were just following

other's reactions, some of them stopped using their mobile phones for a short time or followed while there were talking on mobile phone. It also led to interaction between strangers three times.

One example was when a woman seemed to be very excited about looking into the box. She turned to the researcher –without knowing that the experiment was a part of

Figure 3. A commuter taking a picture of "the box". Later he took a look through the hole, after observing others checking it out.

her research- and asked if the researcher had also looked into the box, later she mentioned: "One of the things I try to do every day is to give myself a surprise and this was my surprise for today."

3 On the Process & Result

The breaching experiments provided different levels of insights, though there were similarities in both interventions, which expanded led to a greater appreciation of the "possible interactions or engagement" in this context. The observations can be categorized into six types:

A- Direct interaction between people and the designed material, initiated by participants themselves (e.g. filling up the un-finished sentence in Section1, Breaching Experiment 1).

B - Direct interaction between the designed material, triggered by the researcher or other participants.

C- Indirect engagement with the designed material (e.g. taking pictures of the box – in Breaching Experiment 2 without looking through the hole).

D- Interaction between people, triggered by the designed materials (e.g. a stranger talking to a couple playing tic-tac-to game).

E- Indirect engagement between people, triggered by the designed material (e.g. Section 2, Breaching Experiment 1).

F- Indirect engagement between people, triggered by the designed material (E.g. People watching people looking through the hole on the box in Breaching Experience 2.

The intentional roughness in the design of the interventions made it possible for the researcher to explore her spontaneous thoughts and hypothesizes by making small iterations during the study. This takes on a greater dialogic nature, not seeking to test and prove assumptions built into the design, but rather to explore the potential and possible reactions and interactions.

For example, the researcher intended to perform the first experiment part by part, so that it became easier for observation. However, the fact that people at the bus stop were hardly noticing the first section, provoked her to add the other parts, and to make it more visible. By attaching Sections 2&3 on the bus stop wall, more people looked at it but no one engaged until the researcher filled up one sentence in section 1 to see if it would possibly break the barrier of "untouchedness" for people and activate them to engage. Both experiments showed this tendency to hesitate being the one taking the first step to engage in the experiments, but as soon as there were 1-2 people engaging, more people felt encouraged to participate. Here there is a nuanced exploration of the borders to the statement, "What attracts people most, it would appear, is other people." [11].

Based on the performed breaching experiments, people who were appearing to be friends or partners tended to engage more than other people. It also showed a tendency with some people who to engaged less (e.g. people who seemed to be busy with their phones), then participated in interaction when they noticed there was something going on.

Overall, these experiments implied that an interactive design proposal for social interaction in the studied space –as an example of non-places- requires relatively limited level of 'interaction' –between people and material- in order to engage more people. This potentially creates triggers for people to interact with each other.

As the next step of the research, based on the result of the explained experiments and the background study, a "provotype" was designed and built by one of the

authors. It is important to note that while experiment n.2 began exploring conceptually, the design proposal of the final "provotype", CoreSee, did not have any explicit direct engagement with material as in these early experiments.

CoreSee (figure 4) is a responsive, kinetic charging station for indoor places of transit as an 'excuse' to trigger social interaction among the users of a non-place; a 'curious' object responding to presence of people. When the participants put their phones under the blanket, where the charging points are, it rewards them with movements and light. The charging points are intentionally located under the blanket to guide people to 'leave' their phones for a while and potentially interact with other users while waiting. (The form of CoreSee is inspired by Korsi, a traditional piece of furniture in Iranian culture consisting of a low table with a heater underneath it and a blanket or carpet thrown over it. During meals or special events such as Yalda -longest night of the year- family members used to sit on the floor around it.)

Figure 4. CoreSee, during PLDC 2015, Rome. Two participants (left side of the image) have "discovered" the charging a charging point. Each side of the hexagon offers one charging station. Copyright by Michael Loos Photography.

CoreSee seeks to include different levels of "playfulness" to expand the audience. In other words, the more the user explores, the more it offers. There's no instruction to interact with the installation and the user can discover how it works which also includes the charging stations (hidden under the fabric). The following features describe these possibilities driven by the engagement categories described above.

- The default setting aims to announce there's something happening with a heartbeat rhythm generated by the central lights (engagement Type C).
- Getting close to the installation, the lights concentrate where the user is and the surface start to move generated by actuators under the textile surface (Type D).
- When somebody puts the phone in the charging stations, all the lights go on right away and then move towards that user (Type C&D).
- It can be used as a game where the players can push and pull the lights and the surface movements or use it a shadow play canvas (Type A).

Another important lesson learnt from the experiments which was implemented in CoreSee was to keep the means of engaging with the provotype rather limited and simple and most of the responses reply on the presence only (thanks to the presence sensors).

4 Concluding Remarks

Designers are not the only "players" in "design playground", especially when it comes to the interactive and responsive projects. The challenge is therefore how to come into a revealing design dialogue with the various actors in context. Breaching experiments in the early stages of an HBI project allows designers to explore how interactions could work, developing a language for intervening.

While it is important for designers to be in dialogue and establish a connection with the occupants of spaces we design [4], breaching experiments as in the bus stop example, provoke an interactive experience for the participants, observable or available for participation by the designer which then directly define the type in interactions with the final "provotype", CoreSee .

Within the design process, from finding a "way in" to the design context up to the final stage, orchestrating design dialogues with the users is the ultimate goal of the design proposal. It is therefore that breaching experiments can provide the first approximation of this practice, while raising important response.

By articulating the described case, we would like to emphasize that the smallest move or "disruption" in early stages of design process can open up space not only for exploring and understanding the design context, but also for raising speculative questions about the interrelation between people, material and behavior in the field of HBI. As demonstrated in ""breaching experiments" there is a critical nature to the interventions. Such practices could fruitfully provide a concrete ground for expanding and meaningful constraining of further design dialogues along the design journey of interactive and responsive projects.

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