INTERPLAY OF SCRIPTS AND RESISTANCE IN A PARTICIPATORY WORKSHOP

A. Baki Kocaballi, University of Sydney, 2006 NSW, Australia. E-mail: baki.kocaballi@sydney.edu.au; Petra Gemeinboeck (University of New South Wales), Rob Saunders, Andy Dong and Lian Loke (University of Sydney)

Abstract

The article reports on a participatory workshop in which, we were faced with two different types of resistance. We employ the notion of scripts to describe how this resistance emerged. On the one hand, we explain how a weak script caused distrust of the workshop rationale, while on the other, we explain how a strong script rendered the technological materials of the workshop useless and led to termination of the activity. We suggest that structuring workshops according to the notion of scripts may prove a useful way of exercising and learning from resistance and expanding our territory of exploration.

Keywords: Codesign, workshop, scripts, constraints, agency, Actor-Network Theory

The main motivation of this research is to explore ways to support multiplicity in exhibition of human agency in design process. To this end, we conducted a series of participatory design workshops with various design activities mobilizing many concepts mainly imported from Actor-Network Theory and feminist techno-science [1]. This article, which reports on the last workshop of the series, focuses on the relation between the workshop activity scripts and the resistance by workshop participants. It highlights the generative role of scripts in relation to resistance during such design activities.

Design activities, in varying degrees, ultimately aim to create, modify, enable and/or constrain some capacities of action through designed artefacts. Designers inscribe values, visions, programs of actions and modalities of perception into technology design [2]. Akrich explains the notion of inscriptions in technology design in the following way:
Designers thus define actors with specific tastes, competences, motives, aspirations, political prejudices, and the rest, … A large part of the work of innovators is that of "inscribing" this vision of (or prediction about) the world in the technical content of the new object [3].

The technical content of the objects embodies a script similar to a film script, defining the actors, roles and their settings [4]. A script involves, in varying strengths, 'programs of action' that are 'translated' in practice [5, 6]. However, these inscribed programs of action may not succeed should the translation processes vary; in addition, actual interactions between entities may unfold in unexpected ways. There is a mutual influence between interacting entities: objects enable or constrain the actions of humans; but, at the same time, humans reshape the objects and their relationships with them. For Akrich [7], humans, objects and their relations are co-constituted in this 'translation' or 'description' process through acts of appropriation, resistance and displacement.

The strength of an inscription may vary from very strong, i.e., imposing one particular inflexible program of action, to very weak, offering many flexible programs of action. Hanseth and Monteiro [8] note that the strength of an inscription does not depend merely upon the technical content of the object but relies on the size and complexity of the surrounding network of human and non-human actors and the degree of connection between the inscription and the surrounding network. Latour [9] provides an example of progressively increasing the strength of an inscription. The case cited is that of a hotel manager, who wants his/her guests to deposit their room keys at the reception desk when departing the hotel. The manager first uses oral communication, then written notices to invite the desired behaviour. However, neither form of communication, implemented to define a desired program of action, proves successful. Finally, a metal weight is attached to the room keys, an inscription that proves successful. While the first two inscriptions were weak inscriptions, the final one was strong enough to impose the desired behaviour on the hotel guests.

One important area in which the notion of inscription has been used effectively is in politics and values in design. The relation between politics, values and design is highlighted in Langdon Winner's widely cited and contested article 'Do artifacts have politics?' [10]. Winner explains that technologies are not neutral: they embody 'specific forms of power and authority' [11]. He further claims that city planner Robert Moses deliberately designed and built bridges low to 'discourage the presence of buses on his parkways'. Since the buses couldn't use the bridges, this limited 'access of racial minorities and low-income groups to Jones Beach, Moses's widely acclaimed public park' [12]. Winner argues that Moses 'inscribed' his values and ethnic and class prejudices into the design of the parkway bridges. Black people and low-income groups, who could only go to the park by public transport, were prevented from accessing the park. Although Winner's argument was criticized for being too (technologically) deterministic [13], and was much later refuted by Joerges [14] for being counterfactual, it has been very influential in demonstrating the ways in which technology or artefacts can embody politics and values.

In the next section, we employ the notion of scripts to describe our workshop with two dance performers. There can be many ways in which scripts and artefacts can be brought together. For example, scripts can be embedded into artefacts like in the case of the hotel key with a metal weight, or they can be accompanied with an artefact like in the case of the hotel key with a written notice. In our workshops, we use artefacts together with scripts describing activities.

Workshop

The workshop was conducted as part of a larger research project [15], which is inline with the recent developments in the field of interaction design initiated by various approaches such as participatory design, value sensitive design and reflective design. Although all these 'situated approaches' [16], in various degrees, aim to support multiplicity in ways of being, knowing and doing, this research explicitly deals with the relational nature of human agency and its multiplicity, and ways to support it during design process. In addition to this high-level research aim of supporting multiplicity, the practical aim of the workshop was to investigate various human-technology-environment (H-T-E) couplings in various activities. There were four different sessions: silence session, physical sensitivity session, rich-poster session and machine-mediate performance session. The activities were structured according to their potential of facilitating different ways of engaging with a design concept. However, the important point is not about this particular set of activities but about bringing together a diverse set of activities and facilitating multiple ways of knowing, performing and relating.

In the silence session, participants are asked to close their eyes and concentrate on the existence of their own and their partner's body and space. This session aims to increase the participants' awareness of themselves and of others' selves through a non-visual way.

In the physical sensitivity session, participants perform physical exercises encouraging interaction through body

Fig. 1. Some human-technology-environment (H-T-E) couplings in the workshop

movements. These exercises are structured to help participants to understand and analyse elements and qualities of touch-based connections between the bodies.

In the rich-poster session, participants make a collage of pictures, texts and objects on an A0-paper sheet. The aims of this session are to understand what "togetherness" meant to participants, to increase their awareness of the concept and to see different forms of connection on a shared medium.

In the final machine-mediated performance session, participants perform five short activities using three technological devices: two wearable devices with tilt and distance sensing capabilities and one webcam with image processing capability. The aim is to explore different forms of connection with other bodies and space through technologies, which allowed participants to create various sound effects through their body movements. Participants played with the technological tools and experimented with different ways to communicate with their partners and co-compose sound effects.

In this paper, we focus on the final machine-mediated performance session only. The aim of the final session was to explore various human-technology - environment (H-T-E) couplings through the aforementioned wearable devices (see Fig. 1). In the session, we employed strong scripts similar to what Erin Manning refers to as 'enabling constraints' [17]. According to Manning, the very existence of the constraints allows an actor to experiment new ways of interacting with other actors and take part in generation of new forms of agency. Our workshop activity script was as follows: "There are particular movement patterns for each activity that we would like you to perform. These movement patterns describe the speed of your movements and the mobility of your body. In the first activity, the movement pattern is slow and stationary, in the second, fast and stationary, in the third, slow and mobile, in the fourth, fast and mobile, and, in the final one, you can make movements in any pattern. For each ac-

tivity, we would like you to find a theme that you want to perform along with a technological device".

In other words, the participants were asked to explore H-T-E couplings by being stationary in the space and by making slow movements in the first activity, by being stationary in the space and by making fast movements in the second and so on. They were also asked to select a theme for the each activity and associate it with either their movements or sound.

The participants were only able to perform the first two activities and could not complete the remaining activities in the session because of some perceived technological deficiencies. In the first activity, the system did not capture the Participant-1 (P1)'s large movements as required, and hence P1 could not understand the relation between the sound feedback and her movements. As a result, the P1 got frustrated because of not being able to get the feedback properly.

In the second activity, both participants found the mapping between the sound and movements complicated, and again, they felt frustrated. Thus, we decided to stop the activities and continued with the participants' reflections and suggestions. According to P1, the technological devices were not sensitive enough and, overall, not capable of achieving the activity goals involving many constraints. The participants also found the constraints unnecessary.

After discussing the concerns of the participants, we suggested that we could remove some of the constraints from the remaining activities. The proposed script involved just the prompt of "explore human-technology-environment couplings by using the devices". The new script had neither constraints on movements nor the requirement of associating movements with a theme. Therefore, the new script was much weaker than the one used in the first two activities. However, this time, P1 criticized the changeability of activity constraints/scripts. According to P1, if the constraints could be changed, then there was no point to act within the defined activity constraints

or scripts. P1 considered the constraints on the activities as strict procedures rather than generative guides for their actions. Ultimately, the flexibility of the process caused a distrust of overall research aims and methods.

Here, we observe two different types of resistance. While one type of resistance emerged out of the strong scripts employed in the first two activities, the other emerged out of the new proposed weak scripts. Both resistance types prevented participants from performing the remaining activities in the workshop. On the one side, the strong scripts caused resistance due to the perceived incapability of the technological devices in achieving the activity goals. On the other, the weak scripts led to resistance because of the fact that changeability of the activity scripts made the participants question the legitimacy of the constraints on the activities and further resulted in distrust of overall research.

Although the participants could not complete the activities, and we could not obtain the results that we aimed, the discussions with the participants provided us with many important insights. While some of the insights were on the actual content of the workshop, the majority were on our methods in the workshop.

The next section briefly presents a performative understanding of methods followed by a discussion on the relation between scripts and methods.

Methods and Scripts

Actor-Network Theory scholars Law and Singleton [18] and Mol [19, 20] are advocates of ontological multiplicity in understanding reality. According to them, there is no single reality out there waiting to be uncovered. What is out there are multiple realities, multiple not because of the numerous perspectives of a single reality, but because they are ontologically multiple realities [21, 22].

As there are multiple realities that emerge relationally, methods are considered not as some neutral means for accessing said realities but as active transformative actors [23]. Law argues to the effect that methods construct a particular kind of reality:

Method is not ... a more or less successful set of procedures for reporting on a given reality. Rather it is performative. It helps to produce realities. ... Enactments and the realities that they produce do not automatically stay in place. Instead they are made and remade. Thus they can, at least in principle, be remade in other ways. The consequence is that method is

not, and could never be, innocent or purely technical. If it is a set of moralisms, then these are not warranted by a reality that is fixed and given, for method does not "report" on something that is already there. Instead, one way or another, it makes things more or less different. The issue becomes how to make things different, and what to make [24].

Therefore, the critical question becomes what kind of reality one aims to create, and which methods are suitable for creating such realities. One way of thinking about methods is to consider them on a range of scripts from weak to strong. On the one side, there are methods that employ strong scripts involving strict conditions with many constraints. On the other, there are methods that employ weak scripts involving flexible conditions with few constraints. While methods with strong scripts can be associated with controlled experiments, methods with weak scripts are usually employed by open exploration type activities.

In a workshop context, using strong scripts is like placing a workshop participant into a locomotive on a railway track. The participant can control the steering wheel but the places that s/he can go are well defined and limited. However, using weak scripts is like providing the participant with a bicycle in an open landscape. The participant can take any direction and go anywhere, but, at the same time, s/he can perform quite unexpected actions. Both approaches have their own strengths and weaknesses. Strongly scripted methods are generally effective in obtaining cohesive results but can be too restrictive. On the other hand, methods with weak scripts facilitate a larger solution space but can produce outcomes that are out of scope or irrelevant. Loke [25] conducted a series of two similar workshops in which she wanted to facilitate the generation of meaningful and coherent movements. Loke employed weak and strong scripts in her first and second workshops respectively. She explains why there was a need to use strong scripts or more constraints in the second workshop:
[the first workshop] was set up with too few contextual constraints for the dancers to work within, resulting in the production of dislocated fragments of choreographed movements that lacked coherency and significance. This highlighted the need for a specific and well-defined context or domain within which to generate meaningful movements [26].

Here, Loke draws our attention to the importance of setting a balance between openness and specificity in workshop activities. While openness was obtained by using very few constraints (i.e., weak scripts), specificity, by using well-defined context (i.e., strong scripts).

Although Loke employed scripts with different strengths in order to obtain a balance between openness and specificity and to obtain coherence, this paper suggests that the same strategy may prove useful for exercising resistance in workshop activities.

What follows is a discussion of the dual role of resistance in workshop activities and ways to structure workshops in order to facilitate resistance as a generative resource by means of scripts with different strengths.

What does Resistance do?

In our workshop, the resistance worked in two different ways: first, it made visible actors (human and nonhuman), their relations, and different understandings, and, more importantly, it allowed us to question what we do and how we do; and second, it prevented us from obtaining the desired workshop outcomes since the remaining three activities could not be completed. Therefore, resistance can be considered both fertile and futile. While it is futile in terms of not being able produce what is expected, it is fertile in regard to being able to question what is expected and how to obtain it.

If we focus on the case that resistance is fertile, one relevant question is: can we use resistance as a strategy/resource for exercising different ways of knowing and expanding our territory of exploration? Another subsequent question is: How can we structure our methods to play with resistance?

In regard to the first question, as resistance enables us to question our methods, it can be considered an opportunity to switch to a different method that can provide us with access to a different sort of reality which may not be accessible otherwise. Another way of thinking about the role of resistance is considering it as a breakdown. Briefly, Heidegger [27] explains that breakdowns taking place in our use of tools allow us to notice the tool that is otherwise transparent or unnoticeable to us. In other words, we stay unaware of the tool itself while it is working properly. The tool becomes noticeable or present-at-hand (in Heidegger's terms) when it gets broken. In a similar way, resistance we face with in a workshop process disrupts the pro-

cess and makes visible actors, their understandings and relations and, consequently, opens up new possibilities.

In regard to the second question, one way to structure our methods can be using the scripts in a dynamic way in workshops. For instance, a series of scripts with different strengths can be defined and employed from the weakest script to the strongest. If we take our workshop as a case, the series of scripts can be defined as follows:
1. Explore H-T-E couplings
2. Explore H-T-E couplings + move slowly
3. Explore H-T-E couplings + move slowly + be stationary
4. Explore H-T-E couplings + move slowly + be stationary + think about a theme

In this example, which is structurally similar to the hotel manager's case, we see that strength of scripts is getting increased from the first one to the fourth. In a workshop, starting with the weakest script and then gradually increasing the strength of script within the same workshop may prove effective in exercising resistance. Doing the opposite, i.e., starting with the strongest script and weakening it, may result in negative outcomes such as distrust in research rationale as in the case of our workshop.

Despite its generative quality, resistance involves many challenges. Firstly, it slows down processes and may even lead to termination of activities. Secondly, one needs to be prepared for being questioned about his/her methodological choices. Ultimately, the following critical questions need to be answered: How much should we open up the decision-making process in our research activities? And, what should/should not be open to negotiation? Our future research will be guided by these questions.

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