

Interactive Performance as a Means of Civic Dialogue

Chiara Rossitto
Stockholm University
Stockholm, Sweden
chiara@dsv.su.se

Maria Normark
Södertörn University
Stockholm, Sweden
maria.normark@sh.se

Louise Barkhuus
The IT University of Copenhagen
Copenhagen, Denmark
barkhuus@itu.dk

ABSTRACT

This paper presents a case study of an interactive performance that was produced and designed to encourage civic engagement and reflection in relation to the social tensions in a low-income suburb, mostly inhabited by people with immigrant backgrounds. The technological setup in the performance encouraged participation by means of text entries that audience members could share with others. The analysis draws on the corpus of interview and observational data collected, as well as the related text messages that were shared during the performance. We illustrate the different levels at which citizens make sense of societal issues they are concerned about, as well as the audience-citizens' perception of participating in such an artistic experience.

Author Keywords

Digital Civics; Interactive Performance; Social Participation; Qualitative Studies; Mobile Technology.

ACM Classification Keywords

H.5.3 Information interfaces and presentation: Group and organization interfaces: Collaborative computing.

INTRODUCTION

Through the last years a growing body of research has investigated the role technology can play in creating opportunities for people to enable civic engagement [30, 54], to share participatory experiences [36], and to develop design strategies addressing the status quo and societal change [16, 26]. Civic engagement entails the various forms of individual and collective actions oriented towards issues of public concern [15, 30]. In this work we draw attention to the experience of participating in an interactive performance as a means of civic engagement and dialogue, as audience members reflect on a series of riots that had occurred in a low-income suburb in Stockholm in 2013. We present the case study of an interactive performance “Haemon”, which premiered exactly one year after the riots had occurred. Haemon consists of a “filmed-theater play”¹

that can be experienced on mobile devices through a dedicated app. The app also enables audience members to share opinions and reflections through text messages (Figure 2) that can be sent after each scene. The performance was a commercial production designed and developed independently of research purposes. The director's intention was to bring people together and to encourage a dialogue around the socio-political issues underlining the riots. The production was as such an opportunity for common citizens to express their voices and to reflect together outside of a formal political arena. The focus of our research lies at the intersection between the CHI discourse on digital civics [12, 13, 16, 54] and the one on interactive performance, where research has explored different forms of audience participation modalities [4, 6, 10, 11, 17, 20, 38].

Reflecting together through technology is central to the type of civic engagement addressed in this paper. We see reflection as the critical act of “*bringing unconscious aspects of experience to conscious awareness, thereby making them [people] available for conscious choices*” [44: p.50]. In our analysis, we unpack the different levels at which audience members make sense of societal tensions (i.e. the riots) and their possible causes. While the discourse on Digital Civics is gaining a momentum within the CHI community, we look at the concrete instances of how reflecting through a performance (and not merely watching the performance) becomes constitutive of a civic dialogue, and how it connects to the transition from audience to citizen participation. In this framing, interactive performances become instrumental to understand how citizens relate to each other and reflect together through technology during a public event. This, we argue, is relevant to CHI research as it illustrates the potential for HCI as an emancipatory practice concerned with improving quality of life for communities and society [2], and with supporting participatory and people-led actions.

The empirical material was collected during the day Haemon premiered. It entails observational, interview and survey data, as well as the log-data of the messages sent by audience members. We contribute by addressing the issues that emerge and the challenges that arise when socio-political issues of public concern are appropriated and tackled by artistic experiences. More specifically, we bring attention to: i) the tension between civic dialogue as a game-changer or as consolidation of pre-existing values; ii) reflectiveness as stemming from the aesthetic and political

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¹ The director describes the piece as such rather than just a film.

qualities of the interactive performance studied; iii) the overlapping ecologies of meanings, contributors and participation modalities contributing to the civic dialogue in the context of the performance.

RELATED WORK

Studies of participation in interactive performances and of participation and civic engagement are central to this work.

Participation and Interactive Performances

Elements of audience participation in interactive performances have extensively been studied within HCI, such as the long string of location-based performances from Nottingham [7, 11] where emphasis has been, for example, on location-oriented narratives in relation to larger scale performances [6, 7]. Research has also explored various interaction modalities to support audience members to contribute to the performance [14, 17, 20, 23, 34, 46, 48]. These studies explore technology designs enabling different forms of active spectatorship [38, 39]. *Parcival XX-XI* [20] utilized, for instance, gestural interactions and a Nintendo device to influence the performers' and other participants' avatars on the stage. Other audience participatory aspects include a 'cheering meter' [4] and a digital game where the audience plays a game on stage with different colored bats [34]. Another example that explores the affective and emotional aspects of participation is the *Humanacqurarium* [49, 50]. This is a participatory musical event in which the performers (a soprano singer and an accompanist) are located in a cubic space, while the audience can interact with them through face-to-face interactions, and through the surface of the cube that acts as a touch screen.

Our work differs from these studies, as it draws attention to aspects of audience participation as a means of reflective practices emerging in the context of a performance. It illustrates how participating in a performance can enable the audience-spectators to express their concerns and play an active role in the act of knowing through a collective action.

Participation and Civic Engagement

An emerging body of work has investigated participatory artistic events as opportunities for people to engage with societal and political issues outside formal political arenas [25, 27, 32, 47]. These studies have contributed to a growing interest for the discourse on "Digital Civics" [54] exploring how technology can enable citizens to become active agents of democratic processes (both formal and informal) at the level of their communities [1, 12, 31, 37] and localities [28, 29]. Crivellaro et al. [13] describe, for instance, the process of designing custom built traveling suitcases as a technological intervention within an urban renewal project. The technology here enabled the various stakeholders to record and share stories about their neighborhood, thus nurturing a sense of community and place. Korn and Back [29] have investigated the use of a location-based system supporting youth in a low-income neighborhood to associate personal stories to places. The

findings illustrate how emotions, feelings and memories (as opposite to rational deliberation) are central to the residents' engagement with the socio-political challenges of their neighborhood. More recent work [30] has drawn on Lafebre's distinction between "privileged moments" and "product-residue" aspects of life to argue that civic engagement can also emerge from ordinary everyday activities, and not merely formal political settings and moments. The investigation of these situated modes of participation [i.e. 8, 24, 33] seeks to enable civic engagement across temporal, social and spatial contexts (i.e. people's whereabouts in urban areas).

In a recent book, McCarthy and Wright [36] discuss two different genres of participation that are central to the ongoing discourse on civic engagement, namely "Belonging in Community" and "Participating in Publics". "Belonging in Community" encompasses projects in which the sense of belonging, or wanting to belong, to a community is central. The cultural context of these projects is prominent and it underlies practices concerned with local activism. "Participating in publics" draws attention instead to forms of participation between members of an audience who do not know each other, who might remain stranger, but who still have a possibility to build relationships with each other. Central to this is the notion of "a public" [55], that is a self-organizing group of people formed on the base of a common experience. A public is defined as a reflexive ensemble and its members that "*are aware of each other, able to form their own positions, to deliberate, to circulate their views and opinions, to respond in many ways to the dialogues that builds up around the shared experiences they create*" [35: p.120]. This orientation to publics is also the focus of other research exploring how technology can be tailored to support novel political, social and economical arrangements [15].

This body of research provides an important context for our study. The notion of a public connects to our participants' reflection on the social-political aspects of the riots, and their awareness of other people who could also leave traces of their participation. Moreover, it helps us to make sense of how the reflexivity of the audience is put into circulation, thus becoming visible through the text messages shared during the public event of the performance.

This paper provides a context to address the nexus between interactive performance and civic dialogue, and between participating in an artistic experience while reflecting on issues of concern for the whole community. This association calls for a characterization of audience members as *spectators* [40], that is as active reflective agents who observe, compare, critique and interpret. The active interpretative ability inherent in this notion reflects on the possibility acknowledged to audience members to refashion a performance, to develop their own narrative around it and, ultimately, to take up the role of concerned citizens contributing to an emerging, collective dialogue.

METHOD AND SETTING

The performance *Haemon* was inspired by the “Husby Riots” that occurred in a suburban area around Stockholm, Sweden. The spark that initiated the riots was the shooting of a man by a police officer in this low-income, immigrant rich neighborhood. As a reaction to this event, other suburban areas were vandalized, and cars were set on fire by groups of young people. This generated a massive debate on local and national media and an online mobilization of xenophobic groups.

The Story

Haemon is the third part of a trilogy called “*Antigone in Husby*”. Inspired by the Greek drama *Antigone*, the trilogy brings the Greek tragedy to modern time. *Antigone* is now a young woman with an immigrant background who lives in a contemporary suburb. Similarly to her Greek predecessor, this modern *Antigone* revolts and protests against what she perceives as the injustices local inhabitants of the neighborhood experience on a daily base. All the plays in the trilogy echo the riots while drawing attention to the social context they originated from, and to local inhabitants’ experience of these events. The first part of the trilogy, “*Antigone’s Diary*”, is a location-based audio drama using GPS to connect the narration to the places where the story unfolds [19]. The second part of the trilogy “*On my Street*”, is a staged-play recounting the story of *Antigone’s* mother worrying about her daughter who is taking part in the riots to defend her neighborhood. This article only focuses on the audience experience in *Haemon* that premiered when the study was carried out (the third part of the trilogy).

The trilogy was written and directed by Rebecca Forsberg and RATS Theater. None of the authors were involved in the production or in the organization of the premiere, which were independent of research purposes. We are thereby able to discuss aspects of audience interactions and experience in an ecologically valid setting that existed independently of research goals. This, we argue, is relevant as it illustrates how artists might appropriate important societal issues, and what HCI research can learn from real world productions.

Socio-Technical Setup

Haemon is an interactive performance that can be experienced on mobile devices (mobile phones or tablets) once the dedicated app has been downloaded. It consists of a filmed-theater play and elements of audience participation as members of the audience can enter and view text answers to specific questions through the app.

The play consists of four scenes and it was filmed on a subway train (Figure 1), where it is also meant to be experienced. The subway tunnel and the train in which the story unfolds symbolize Hades, the underworld where *Antigone* has disappeared after dying, and into which her boyfriend, *Haemon*, adventures, searching for her. In the story, the transition between one scene and the next one is marked by a voice over announcing the next metaphorical

subway station (i.e. “next station: life crisis”). The voiceover in the story is synchronized with the voice other passengers can hear when the train stops at the stations along this subway line. The drama is about 20 minutes long, and the corresponding subway journey covers a distance of about 16 Km, from the city center (the station of Kungsträdgården), to the final destination in the periphery of the city (Husby). The play was synchronized with the subway journey, and each scene ends when the doors open² at the various stations.

Although once downloaded the application can be experienced everywhere and individually, the director’s intention was to integrate the journey to Husby as a fundamental part of the collective experience. Thus, audience members gathered outside the city center subway station and, from here, they were lead by two guides to the train where the performance was set to begin –which in essence could be any train in the right direction. The subway ride was a journey from the center of the city towards its periphery. The audience’s embodied experience of Husby was central; from the director’s perspective, this was a strategy to situate a theater play into the real world that it seeks to address and problematize.



Figure 1: A scene from the filmed-play *Haemon*. This is an example of what audience members see when the story is experienced on a mobile device in full-screen mode.

Audience Participation

At the end of each scene, audience members were invited to share their comments and opinions by answering a set of questions connected to the topics and feelings evoked by the story. The answers were entered as text entries through the dedicated app, and were only shared in the context of this application (Figure 2). Once the narration was over, people could go through the text entries and read them together with the question they related to. A total of four questions was asked in the following order: “*How do we create change?*”, “*Why was Husby on fire?*”, “*What gives you power?*”, “*What is the truth?*”. The questions were co-created by the director and a group of locale female activists in the context of creative workshops. During these events participants shared personal stories (real or fictional)

² In Stockholm, the subway is precise enough to enable this. However, during rush hour, the train moves slightly slower to allow more passengers in and out, making the play end slightly earlier.

about how it feels to live at the margins, and to be associated with a foreign culture and social values. The questions were inspired by these stories and revised iteratively. Audience members had about forty-five seconds to enter a comment before the next scene would be played. Audience members could choose not to answer the questions.

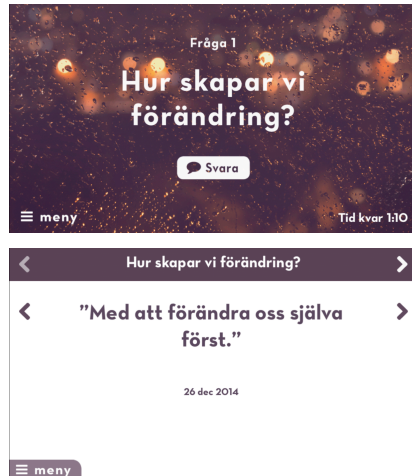


Figure 2: The top image shows a question asked through the app: “How do we create change?” The bottom image shows an answer as displayed in the mobile app: “By first changing ourselves”.

Just outside the final subway station, people were met by a choir chanting a selection of the messages that had been shared (Figure 3).



Figure 3.

Studying Haemon

Haemon premiered in the end of May 2014, as part of a local initiative called “A day for Husby”. During this event a variety of activities (i.e. Haemon and other theatrical plays, but also local markets, drawing classes for children, etc.) were organized by residents to encourage local participation. As this was the day before the last turnaround of European elections, a number of political parties were also present on the main square to engage in the ongoing political campaign.

A number of qualitative methods were used to study Haemon. We carried out i) observations, supported by note-taking and a collection of in-situ pictures, and ii) interviews with audience members. Furthermore, we collected: iii) the written answers to a set of questions that were handed out

in the form of postcards (we refer to this data as “postcards”); iv) the log data of the messages sent during the performances and collected in the Haemon app. We also interviewed the director to gain an understanding of the intentions and motivations to write Haemon, and of the design decisions made, both regarding the plot and the design of the digital technology. Table 1 provides an overview of the data collected.

The choice of these methods was motivated by our focus on the role of the interactive performance as a means to enable the citizens/participants to perform with others, and to enact a behavior other people could see (i.e. sharing text entries, or participating in a collective train experience). The focus of our data collection was therefore on the aspects of the experience that relate to such issues of civic participation, rather than on the audience interpretative effort of the meaning of the work of art and its formal qualities.

Observations	<i>Setting:</i> the two subway rides organized to experience Haemon. A total of about <i>forty</i> people were present
Interviews	<i>Six</i> interviews with audience members. <i>One</i> interview with the director.
Postcards	18
Log-data	276 messages in total

Table 1: Overview over the data collected

The *observations* were participatory in nature: two of the authors participated in both the performances, while a third one only participated in the afternoon performance. In terms of participants, 12 took part in the morning performance, and 28 in the afternoon performance. The observations focused on the audience members’ interactions with the mobile device, with other audience members, and with other bystanders who were also present on the train.

Six *interviews* were carried out; four, with audience members who were approached randomly immediately following the performance, and two with participants two weeks after the performance. The interviews were semi-structured and consisted of eleven questions addressing aspects such as: i) people’s general impression of the performance and engagement with it; ii) personal opinions about the possibility to share comments and being able to see what other audience members had written; iii) the role of the text messages in forming an opinion and developing an understanding of the riots and the social context in Husby; iv) the overall impression of traveling to Husby while experiencing the performance. The interviews conducted right after the performance lasted between fifteen and twenty minutes. The remaining two lasted about forty-five minutes. All the interviews were audio recorded and transcribed immediately after the study.

Mini-questionnaires shaped as postcards [22] were handed out to all the participants. They asked 4 questions and aimed at understanding the participants' first impressions of the performance as well as at tallying up demographics. A total of 18 postcards were collected.

The *log files* of all the messages sent were after the premiere. A total of 276 text entries were logged and analyzed. These messages were shared during the performance we studied, as well as during another one that took place in September of the same year. Since we reasoned that the setup of the two performances would be similar, we decided to include them in the analysis although we did not have the opportunity to observe the second one. This choice was motivated by our curiosity to investigate whether the different sets of messages posted were different in terms of writing style and contents. Almost all the messages were written in Swedish and the analysis was conducted in the original language; the messages have only been translated for the purposes of this paper.

Data Analysis

Data regarding the audience's usability experience of the mobile app have not been included in the analysis; it was fairly simple, easy to navigate and we observed that most of the people did not have any problems with it. The only exceptions were a guide helping somebody to download the app, and another instance where one of the audience members' phone crashed, and she watched the filmed-theater play on her partner's mobile phone.

The qualitative data collected were analyzed using *thematic analysis* and categorization. The three authors analyzed the data collectively, drawing out themes, exemplifying them from interviews and observations. It was an iterative process where themes were constantly reevaluated and saturated with examples. The analysis draws attention to the social context of the performance and the audience experience of it, rather than elucidating what the creator sought to express through the artwork [2]. Relatedly, the organization of the analysis reflects our focus on the elements of the participants' reflection on the socio-cultural causes of the riots, rather than the audience reception of the subway journey as symbolizing Hades. The themes chosen illustrate aspects of the audience reflective practices as constitutive of civic dialogue, and as situated in the event created by the performance.

The mini-questionnaires were analyzed alongside the observations and interviews, but mostly as supplementary data to the categories and themes (i.e. motivation to experience the performance). The log data was analyzed using content analysis where, after initial read-through, we divided them into simply 'societal' responses and 'self-focused' responses. These two categories were divided even further and we present the final themes in our result section.

RESULTS

Most audience members came in groups, with other family members or close friends. As we could observe, in many cases parents had brought young children who also actively engaged in experiencing Haemon during the train ride (Figure 5). Our data revealed two main motivational qualities of the audience members as i) people interested in theater (i.e. regular theatergoers, professional and amateur actors) or, ii) people who had a connection to Husby – either because they had lived there before, or because they were interested in understanding the riots. The motivations for experiencing the performance stemmed from these qualities, and encompassed values such as solidarity with the local residents, a concern to understand what had happened from an alternative point of view (as apposite to the narration in the traditional media), an interest in theater and in the use of information technology in such a setting. The excerpt below exemplifies these two points:

"I wanted to have a different experience and I want that my daughter sees another part of Husby than the one she's used to. It is also important that the meaning of the events in Husby spreads through different channels". (P12, postcard).



Figure 5: A family experiencing Haemon

In the sections below we discuss *reflectiveness as one of the dimensions of civic dialogue*. In doing so, we highlight how participation in the performance can be transformed into a more reflexive and critical stance. The themes chosen bring attention to reflection as a situated practice emerging from: i) *the subway journey*; ii) *relating oneself to other audience members*; iii) *sharing concerns, feelings and emotions through the textual messages sent during the performance*. All the themes encompass aspects inherent in the topic of the story retold, the broader societal context of the performance, and the interactive elements of the digital technology (i.e. the possibility to share comments with other people).

Participating Collectively Through the Subway Journey

Haemon could be experienced on a mobile device while taking a subway ride from the center of the city to Husby. To audience members, putting on the headsets and waiting for the train to move, marked the beginning of the experience. For the director, this setup had a symbolic value, the subway being a metaphor of the Underworld where Antigone had disappeared after her death, and where Haemon traveled to, looking for her. This setup also

corresponded to the real distance separating the city center from this suburb. Traveling was therefore a design choice to emphasize the separation between these two areas of the city and of the social welfare of the respective inhabitants. In what follow we look into the journey from the audience's perspective and discuss how it contributed to the citizen engagement with the socio-political issues at stake.

Both observational and interview data illustrate how the traveling required by the performance, and the presence of "regular" passengers on the subway train, did not hinder the audience's engagement with the story. We observed, for instance, that audience members tended to sit in the same end of the subway carriage, even when the train was almost entirely empty and people could choose to sit anywhere. This proximity contributed to the social aspect of the experience and the feeling that a shared, collective activity was ongoing. This point is exemplified in the quote below, showing how audience members perceived the line between "us-audience" and "you-regular passengers":

"I think it created kind of feeling like, oh I know something that you guys don't know. I thought it was ... I mean, it was rush hour, yeah..." (Rega).

Unpacking the qualities of traveling during the performance

The dimension of traveling towards Husby, while experiencing the filmed-theater play and participating through the mobile app, can be characterized by aesthetical and political qualities [36, 41]. Discussing them brings to the fore the interplay between what people come to know through the performance, the meaning they added to it and, consequently, the interrelationship between participating as audience and as citizens.

The *aesthetical* traits can be understood in relation to the type of sensed and perceived experience [41] enabled by the performance. They draw attention to the participants' engagement with the story and the type of perception emerging from it. This entails, for instance, the experience of how the rhythm of the narration was interwoven with the journey, and the fact that each scene corresponded to a train station. At the same time, it addresses how the design of the performance transformed the experience of the subway ride, thus reflecting on the personal meanings and values audience members added to it. As a participant explained the journey was amusing since a boring subway ride had been transformed into the interesting, artistic experience of a classical dramaturgical piece.

The *political qualities* of the Haemon experience can be understood as the participants' ability to reinterpret and transform the meanings conveyed by the performance [41], and as the possibility to leave traces of such reflective practices. This last point will be further addressed in the log-data analysis. In this section we address, for instance, how the political qualities of traveling emerged from the way members of the audience made sense of their social status as citizens, for instance by making explicit their

relationship to Husby. As recounted in the interviews, traveling repositioned Husby at the center of the story, as audience had to travel there to re-experience the events occurred one year before. Several participants regarded this disruption of everyday spatial patterns as significant, as they were taken to a place they would not normally go. The quote below illustrates this point as Sandra describes this feature of the performance as innovative ("*new ground*") while discussing her social status as connected to the city center, rather than Husby:

"[...] but then I'm indeed a typical middle class audience member who has often been in the city center, but not so often in Husby, so it [Haemon] still feels like a new ground" (Sandra).

The political dimension can also be characterized in relation to the audience-citizens perception of traveling as *unsettling*. That is to say, participating in the performance provided an opportunity to experience a different point of view and to encounter the local residents of the area:

"...and I mean unsettling in a good way, it gives new experiences, new ideas about what a city could be and what kind of people live there, it can also be that it gets more of a romantic touch, it gets loaded with meaning than any other general suburb might be [also have]". (Sara).

This point was also corroborated by other interviews. The quote below, for instance, was preceded by a discussion in which the participant explained that a very few people go all the way to the neighborhood in question, although it is only one stop away from an area where many IT companies are located, and where people commute to everyday:

"I think living here in general, living out here...[some people] are not aware of the place, a place a lot of people would avoid going. If they can sort out their business elsewhere, they will choose to. That's part of the problem. You don't get to blame. People don't want to go here, and it just adds on to the condition" (Jesper).

Encountering the Others Through Participation

The mobile app in the performance allowed members of the audience to compose comments that were visible to other people, both during and after the performance. During the observations we could see that all the participants contributed with their own comments through app. This participation modality was regarded as an interesting feature of the performance, as it provided an opportunity to reflect on the issues tackled by the questions posed. On the one hand, participants appreciated that questions were posed right after the end of each scene, thus triggering immediate responses. On the other hand, it reflected on the audience experience of being an active participant in a shared discourse, and thus being able to "*commit to something, being a part of the experience rather than just someone who watches, you're being more active as an audience and I enjoyed that very much*" (Sara).

Seeking to further characterize this experience of active participation, the two quotes below illustrate two different levels at which it was valued.

The first participant appreciates the possibility to read other people's comments, which were regarded as more interesting than her own. The latter, instead, considers the possibility to share reflections about social and political issues as an indication of one's moral compass and a way to express one's political and moral inclinations.

"I love it. Because I don't really find my opinion really interesting...." (Rega).

"[...] yes, but it is just that, your own moral compass, or public laws and systems, which ones one follows [sic] and which ones one chooses [sic]...and all of that. And when one comments in Haemon, so it felt totally ok, one got [the opportunity] to think of how all these themes had been articulated one year ago" (Sandra).

When asked to further develop this point, Sandra explained that it was interesting to become aware of other people's thoughts, and that going through the corpus of shared comments gave the possibility to look for emerging patterns. Some of the participants interviewed right after the performance had not had the time yet to read all the comments. Nevertheless, they had listened to them while they were chanted by the choir once off the train. This was regarded as a moment conveying strong emotions and as a powerful *participatory* experience, as their contribution to the performance had been integrated into the acting.

Finally, participants appreciated that the mobile app enabled anonymity in sharing the comments, and that they were limited to the context of the performance, rather than being shared on social media. This feature was discussed by means of comparison to Antigone's Diary, the other performance people could experience on the same day. In Antigone's diary, the only way to share text entries was to publish them in one's own Twitter feed. This was often perceived as uncomfortable, since the questions asked (i.e. "what makes you angry") triggered very intimate answers that would make Twitter followers wonder what was going on with the person in question:

"That did not work at all because it's too personal, it's not usually what would turn up in my Twitter feed...I actually follow film people, and film people follow me, so they'd actually not really understand what is happening...actually I tried to write one answer and it felt very personal and it was very difficult" (Sarah).

This point is interesting as it addresses the relevance of the performance in creating a context for the civic dialogue, and how people might consciously decide to share such moments of engagement only with others who are also participating.

Reflecting Through Participation

A triangulation of the interviews, the postcards and of the log data suggests that most audience members expressed concerns about Husby. Nevertheless, their original opinions about the riots seemed to be reinforced (i.e. that they stemmed from frustration), rather than actually being changed. One audience member for example wrote:

"I had a more nuanced picture of the one the media had given already before. [It's] important to work against segregation and alienation" (P6, postcard).

"Same [opinion] as before, there has been discontent since the beginning. The young went out on the street to protect their neighborhood, not to vandalize it" (P1, postcard).

In the section below, we present an analysis of the text entries that were shared through the Haemon dedicated app. This enables us to draw attention to the main qualities of the participants' reflective practices as they shared their concerns on value-laden issues such as "creating change", "defining the truth", "understanding causes", and "empowering people". These issues were primed by the questions presented through the app (figure 2); their interpretation through the dialogue emerging from the audience participation present qualities of civic engagement. While the whole performance constituted a means to access and reflect on a certain social situation, participating in it enabled the audience members to orient themselves towards a specific societal action: crossing the boundaries towards a marginalized neighborhood and reflect on its socio-political fabrics.

Most messages (answers to the questions) consisted of single words or short utterances; they embodied meaning that was created and integrated into the narration of the performance through the mobile app. As such they are the instantiation of the voices audience members could share with each other. With a very few exceptions (about 10 messages), the body of messages analyzed reflects a concerned audience who acts within a fictional author(director)-reader(audience) "contract" [18]. Almost all the messages had a serious tone and constituted a plausible, relevant answer to the questions posed. This, we believe has a two-fold explanation. On the one hand, people were interested in the riots and in the performance seen as an exploration of performative modalities. On the other hand, the design of the mobile app allowed for a forty-five seconds break to share an answer before the next scene would begin.

We now look at the main qualities of the text entries, organized after each question.

"How do we create change?"

This question was an invitation to share ideas on what people think are the factors and causes that might contribute to change. A total of 74 answers were posted as a response to this question. These comments/answers were characterized by qualities revealing a tension between

single individuals and the broader societal context in which they live and act, both individually and as organized groups. For instance, several of these messages reflected a concern to **encounter other people** and social groups as a prerequisite to achieve change: *"By listening. By answering. Meet [by meeting] the person who does not want to be met", "Through talking to each other and listening", "Through collaboration", "By trusting ourselves and the others"*.

Other entries revealed a **call for action** stemming both from personal engagement (i.e. actions each single person could potentially carry out), and from more political, organized actions. The first example encompasses entries such as: *"Through active small steps", "We first need the will to change", "By actively breaking structures and patterns", "By thinking creatively", "Follow our own inner voice"*. The latter examples entail instead actions having a broader social impact: *"By taking responsibility", "Revolution", "More people should organize themselves", "By developing democracy", "By asking us what type of changes; no more privatization, for instance", "Through consensus among several opinions, democracy"*.

These socio-political actions are also imbued with emotional and moral attributes. Audience members made sense of this question by reflecting, for instance, on **emotional** aspects as a source of inspiration. Answers such as *"Knowledge and love", "Anxiety is a good fuel. Sense of necessity", "Courage and insight", "Through will, engagement and courage"* illustrate this point. Other comments reflect instead a concern for **moral values**, entailing both abstract characterization of what is right, and concrete situated actions to be undertaken [21]: *"Listening, humility, forgiveness, dialogue" or "Trusting ourselves and others"*.

"Why was Husby on fire?"

The second question reflected an invitation to contribute to an understanding of the causes behind the riots. A total of 65 responses were posted. Overall, the pointed to concrete facts, such as the police actions or the lack of hope, as a main interpretation of the forces behind the riots. Other answers were instead more focused on a number of **societal tensions**, particularly in the form of marginalization and exclusion, and the feeling of being-in-the-center versus being-a-the margins of society: *"Segregation, frustrations and class differences", "Because people have had enough of living at the margins", "Because nobody saw Husby otherwise", "Exclusion", "Because people got angry but nobody listened to"*.

"What gives you strength?"

This third question gave participants an opportunity to relate to their own experience of what contributes to empowerment. A total of 72 posts were shared as a response to this question. The analysis of these responses suggests that empowerment is experienced as stemming from personal and intimate moments of life, rather than

from socially organized actions. These text entries reflected a care for **feelings and personal relationships regarded as a source of empowerment** (i.e. *"Friends", or "The people who are closest to me, whom I love and who love me"*). Other messages echoed instead what probably related to participants' **personal interests**, such as *"Knowledge", "Art", "Creativity" and "Meditation"*. Interestingly, only one third of the shared answers reflected the audience members' engagement with their socio-cultural milieu and with value-laden issues related to political participation such as *"Participation", "Justice", "Revolution" and "Safety"*.

"What is the truth?"

This last question sought to address issues of what constitutes truth and who gets to define it. A total of 65 responses were given to this question. The analysis of these entries were surprising as we expected to find more concrete examples of how audience members situated the performance in the broader social context, i.e. the condemning image that traditional media had given of the riots. Most of these messages were instead **abstract** examples of what truth might be, and how it relates to the inner self: *"Many voices", "There's only your truth", "Truth is subjective", "A place in a room, in my heart, and on my skin"*. One possible explanation could be that the narrative retold in the filmed-theater primed such metaphorical answers.

DISCUSSION

Our data analysis brought attention to aspects of people's reflectiveness as stemming from their participation in an interactive performance. We have discussed the constitutive design qualities of the performance that contribute to the audience engagement and critical thinking in terms of: i) the collective experience; ii) the opportunity to relate to other people; iii) the possibility to share one's own thoughts through the text messages. The analysis tackles three issues that we further develop below.

A Story of Failure and Success

Our study showed a group of concerned participants who nurtured a genuine interest for Husby and its socio-economical tensions. Nevertheless, participation in Haemon was mostly characterized by a *consolidation* of values and opinions about the societal concerns addressed. Although the performance had been advertised in national and local media, it attracted a homogeneous public who seemed to already have a certain sympathetic orientation towards the topic. As the log-data revealed, there were no conflicting opinions or values in the answers shared. Moreover, the audience members seemed to take their participation in the civic dialogue seriously. As already noted, they might have experienced an implicit contract with the author-director [18], and with the socio-technical assemblage of the performance. From a design perspective, the pause after each scene was in fact an explicit invitation to contribute to the performance. However, it is plausible to assume that such an overarching agreement was also determined by the

lack of uncomfortable interactions [5], and by the lack of conflicting points of view represented in the performance. Another explanation might be connected to the performative nature of participation in public experience [51, 52], and the fact that participants might have been aware that their actions were visible to others. While we have no data explicitly tackling this point, we acknowledge that it might have happened.

A growing body of CHI research is investigating the employment of artistic experiences as a channel for everyday politics and civic engagement [8, 19, 24, 30, 33]. Artistic experiences have the potential to allow participants to leave the traces of a civic dialogue in a way that might be more accessible compared to organized political arenas. At the same time though, framing an event as an artistic one might not necessarily attract the very people who would like to have their voices heard. As our case study illustrates, local residents did not participate in Haemon. This presents a challenge for CHI research attempting to envision participatory projects reaching out to heterogeneous cohorts of people. Outside of the traditional research-defined settings usually studied, it therefore becomes pivotal to imagine novel socio-technical assemblages bringing together the various groups of people that might have a saying on issues of public concern. In the following sections, we further discuss this point in relation to the social qualities of civic performances and the design challenges arising when developing such experiences.

The Aesthetics and Politics of Participation

Participating in Haemon repositioned the audience members' experience of the riots as they were remediated and primed by the filmed-theater play delivered through the mobile app. The understanding of the riots was remediated and made relevant through the reframing of the interactive performance. These practices of remediation and reinterpretation, together with the possibility to leave traces through the text messages, are constitutive of the aesthetical and political qualities of the performance [36, 41]. Discussing the interplay between these two qualities enables us to resolve the tension between the performance as an artistic experience and as an instrument of civic dialogue, between what is possible to know through the performance and the type of active engagement it enables.

The aesthetical qualities characterize the perception modalities enabled by the performance that is, what we come to know about a certain reality. This is what Ranci re [41] connects to the possibility to access the sensible. In our case, the performance as an artwork constituted a context to further develop a personal understanding of the riots. More specifically, the aesthetical qualities account for the design choices of a performance evoking personal associations to the contemporary neighborhood, and nurturing creative associations between the story, the place and its socio-economical layers. One of the interviewees explained how

the Haemon experience added a more romantic meaning both to the subway journey and to Husby.

Traveling to Husby contributed to a first-hand experience of the neighborhood, thus setting the conditions for an *emplaced reflexivity*. This is a central point as it connects to the political qualities of the performance, and the possibility to redistribute the sensible [41], that is to question a certain social order and to reconfigure the boundaries between what we know and do not know, or between what we are enabled to do or not do. Political qualities emerged, for instance, from the way people reflected on their social status in relation to the geography of the city, or from the collective experience enabled. As such, they characterize the possibility to reflect, both individually and as a public [55]. As the log-data analysis illustrated, several text entries were characterized by emotional and personal attributes, thus connoting how people felt about the events in question, rather than pointing to collective, organized, political actions. This point resonates with previous research, connecting issues of place-identity and civic engagement [29]. Here we emphasize that intimate self-reflections, and statements with a stronger socio-political connotation were both responses to what participants experienced as a complex social situation. Finally, the political qualities of participation were reflected in the sense of agency and empowerment some of the participants associated with being active in the performance and being enabled to commit to the social issues addressed.

While interconnecting aesthetical and political qualities, participation transforms the performance into an emerging civic event. Thus, being enabled to act within the performance results in a possibility to reconfigure the sensible and to contribute to a shared testimony co-creating meaning about an issue of civic concern.

Implications for Audience-Citizen Participation

One relevant question for CHI research is the extent to which digital artifacts can enable people to engage in a civic dialogue. The use of mobile communication technology in the context of an interactive performance can be regarded as the first moment of this dialogue. Although the participants did not (necessarily) have the possibility to influence political actions, experiencing Haemon and sharing messages was instrumental to relating to other people, by expressing opinions, emotions and feelings. In this respect, we see the potential for technology-mediated performances to become a *testimony* of meaningful events, and to enable audience-citizens to reflect and think with. This opens up a space of design possibilities to capture the development of citizens' concerns along a time trajectory or, as one interviewees put it, the emergence of moral patterns. This issue is relevant beyond the setting studied as it regards the variety of contexts in which citizens can contribute to the creation of knowledge about specific phenomena (i.e. environmental issues). A second relevant question regards the design of technologies as platforms

enabling publics to form, express and articulate their opinions [36]. We argue that addressing such an issue calls for a shift of focus towards the *ecologies* of meanings, of contributors and of the participation modalities enabled. In what follows, we look more closely at these ecologies while highlighting some possible challenges for CHI research.

In the case study presented, the most tangible *ecologies of meanings* were the text entries shared through the mobile app. Thinking of interactive performances as means for civic engagement draws attention to the integration of meanings and narratives – or potentially other types of media – created by the participants. This is a crucial point that connects to Rancière’s notion of the emancipated spectator [40] and its underlying assumption that interpretation is already an active practice. As such, the performance was not a means to dictate a message, but rather a means for each audience-citizen to form and share personal opinions with other members of the community.

The notion of *ecologies of contributors* encompasses the various cohorts of people that might contribute to the performance, and the voices they embody. In Haemon, while the creative team designed and developed the artistic experience, the interactive elements enabled an openness for the audience to contribute with their own reflections. This point is intertwined with the remediation of the riots in the performance, and with the ways people reinterpreted them as relevant and meaningful events, and it is central in designing for audience-citizen participation. Previous work has proposed the notions of secretive, expressive, magical and suspenseful interfaces to highlight the degrees of visibility of performers’ interactions with an interface [38, 39]. We suggest that connecting interactive performances to issues of civic dialogue requires a reformulation of the design strategies for public interactions. Enabling reflective interactions as aesthetically and socio-politically challenging can instead be a strategy for designing interfaces for public civic performances. Ultimately, this addresses the role of interactive performances as arenas for critical thinking [10], and fostering the awareness of values, norms and other implicit forces that might shape our view of the world [44].

The *ecologies of participation modalities* entail the different layers at which participation is enabled, both concerning the digital and physical qualities of its design. In our case, for instance, these ecologies included the priming effect of the filmed-theater play, the collective experience of the journey, the embodied experience of Husby, and the design of the mobile app. In this regard, an interesting design exploration could be concerned with enabling audience-citizens to contribute to the experience through self-generated contents (i.e. pictures, sounds, videos, or personal stories). Mobile devices and social media platforms are examples of existing technologies that could be tailored to such purposes. As recounted in the analysis, some participants were concerned about their text entries

being visible to people outside the performance. This, we argue, is not merely a privacy issue, but a design feature entailing the orchestration of different roles and self-images inherent in how people finalize themselves for others [35].

Finally, reflecting on various participation modalities extends the design of the performance to the physical setting where it takes place. This expands the idea of a stage scenography, as it includes the socio-cultural and material traits of the lived place (i.e. a neighborhood) which the narrative connects to [i.e. 42]. In-placing participation has been regarded as central to civic engagement [13, 47]. Here, we emphasize the importance to design a performance that talks to people’s everyday experience of a specific place. It is this experience of place [9], as emerging from the audience-citizens engagement with the performance, that makes participation a meaningful civic experience.

CONCLUSIONS

In this paper we have discussed how reflecting through an interactive performance becomes constitutive of a civic dialogue, thus contributing to the transition from audience to citizen participation. In so doing, we have illustrated how audience-citizens relate to each other’s participation and reflect together through technology during the public event created by the performance.

The analysis has illustrated how reflective practices stem from people’s participation in the interactive performance. In so doing, we have drawn attention to the design qualities of the performance that contribute to the audience engagement and critical thinking namely: i) the collective experience; ii) the opportunity to relate to other people; iii) the possibility to share one’s own thoughts through sharing personal answers to given questions. Our study highlights the relevance of situating the design of interactive performances and the interaction modalities they enable in broader societal discourse of public concern. In this respect, it has shown the role of the technology in enabling a critical engagement with the socio-political milieu. Furthermore, we have brought attention to the concern for societal problems (i.e. marginalization, exclusions), for the tension between individual and organized actions emerging from the active participation. While the analysis revealed a concern for societal actions, it also illustrated the value audience-citizens attributed to emotional and intimate aspect of civic concern.

The participation in the performance did not reveal any conflict amongst the members of the public it gathered. In this respect, it was more a consolidation of pre-existing values than a game-changer. It did, however, provide an outlet to share thoughts and feelings, which resulted in a sense of empowerment for the audience-citizens.

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REFERENCES

1. Mariam Asad and Christopher A Le Dantec. 2015. Illegitimate Civic Participation: Supporting Community Activists on the Ground. *Proceedings of the 18th ACM Conference on Computer Supported Cooperative Work & Social Computing*, 1694–1703.
2. Jeffrey Bardzell, Shaowen Bardzell J. 2015. Humanistic HCI. Morgan & Claypool Publishers. doi:10.2200/S00664ED1V01Y201508HCI031
3. Jeffrey Bardzell, Shaowen Bardzell, and Erik Stolterman. 2014. Reading critical designs: supporting reasoned interpretations of critical design. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '14)*. ACM, New York, NY, USA, 1951-1960. DOI=http://dx.doi.org/10.1145/2556288.2557137
4. Louise Barkhuus and Tobias Jørgensen. 2008. Engaging the crowd: studies of audience-performer interaction. In *CHI '08 Extended Abstracts on Human Factors in Computing Systems (CHI EA '08)*. ACM, New York, NY, USA, 2925-2930. DOI=http://dx.doi.org/10.1145/1358628.1358785
5. Steve Benford, Chris Greenhalgh, Gabriella Giannachi, Brendan Walker, Joe Marshall, and Tom Rodden. 2012. Uncomfortable interactions. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '12)*. ACM, New York, NY, USA, 2005-2014. DOI=http://dx.doi.org/10.1145/2207676.2208347
6. Benford, Andy Crabtree, Martin Flinham, Adam Drozd, Rob Anastasi, Mark Paxton, Nick Tandavanitj, Matt Adams, and Ju Row-Farr. 2006. Can you see me now?. *ACM Trans. Comput.-Hum. Interact.* 13, 1 (March 2006), 100-133. DOI=http://dx.doi.org/10.1145/1143518.1143522
7. Steve Benford, Gabriella Giannachi (2011). Performing mixed reality. ACM Press, New York.
8. Morten Bohøj, Nikolaj G. Borchorst, Susanne Bødker, Matthias Korn, and Pär-Ola Zander. 2011. Public deliberation in municipal planning: supporting action and reflection with mobile technology. In *Proceedings of the 5th International Conference on Communities and Technologies (C&T '11)*. ACM, New York, NY, USA, 88-97. DOI=http://dx.doi.org/10.1145/2103354.2103367
9. Edward S. Casey (1996). How Get from Space to Place in a Fairly Short Stretch of Time: Phenomenological prolegomena. In: Feld S, Basso KH (eds) *Sense of place*. School of American Research Press, Santa Fe.
10. Teresa Cerratto-Pargman, Chiara Rossitto, and Louise Barkhuus. 2014. Understanding audience participation in an interactive theater performance. In *Proceedings of the 8th Nordic Conference on Human-Computer Interaction: Fun, Fast, Foundational (NordiCHI '14)*. ACM, New York, NY, USA, 608-617. DOI=http://dx.doi.org/10.1145/2639189.2641213
11. Andy Crabtree, Steve Benford, Tom Rodden, Chris Greenhalgh, Martin Flinham, Rob Anastasi, Adam Drozd, Matt Adams, Ju Row-Farr, Nick Tandavanitj, and Anthony Steed. 2004. Orchestrating a mixed reality game 'on the ground'. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '04)*. ACM, New York, NY, USA, 391-398. DOI=http://dx.doi.org/10.1145/985692.985742
12. Clara Crivellaro, Rob Comber, Martyn Dade-Robertson, Simon J. Bowen, Peter C. Wright, and Patrick Olivier. 2015. Contesting the City: Enacting the Political Through Digitally Supported Urban Walks. In *Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems (CHI '15)*. ACM, New York, NY, USA, 2853-2862. DOI: http://dx.doi.org/10.1145/2702123.2702176
13. Clara Crivellaro, Alex Taylor, Vasillis Vlachokyriakos, Rob Comber, Bettina Nissen, and Peter Wright. 2016. Re-Making Places: HCI, 'Community Building' and Change. In *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems (CHI '16)*. ACM, New York, NY, USA, 2958-2969. DOI=http://dx.doi.org/10.1145/2858036.2858332
14. Peter Dalsgaard, Christian Dindler, Kim Halskov. 2011. Understanding the dynamics of engaging interaction in public spaces. In *Proceeding of INTERACT 2011*. Springer Press, 212-229. 10.1007/978-3-642-23771-3_17
15. Carl DiSalvo, Jonathan Lukens, Thomas Lodato, Tom Jenkins, and Tanyoung Kim. 2014. Making public things: how HCI design can express matters of concern. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '14)*. ACM, New York, NY, USA, 2397-2406. DOI=http://dx.doi.org/10.1145/2556288.2557359
16. Carl DiSalvo, Tom Jenkins, and Thomas Lodato. 2016. Designing Speculative Civics. In *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems (CHI '16)*. ACM, New York, NY, USA, 4979-4990. DOI: http://dx.doi.org/10.1145/2858036.2858505
17. Steven Dow, Manish Mehta, Ellie Harmon, Blair MacIntyre, and Michael Mateas. 2007. Presence and engagement in an interactive drama. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '07)*. ACM, New York, NY, USA, 1475-1484. DOI=http://dx.doi.org/10.1145/1240624.1240847
18. Umberto Eco. 1994. *Six Walks in the Fictional Woods*. Harvard University Press, USA.
19. Love Ekenberg, Rebecca Forsberg and Wilmar. Sauter (2016). *Antigone's diary – A Mobile Urban Drama*, a

- Challenge to Performance Studies, and a Model for Democratic Decision Making. *Contemporary Theatre Review*, 26, 2, 227-240, Taylor & Francis Online doi: 10.1080/10486801.2015.1078325
20. Gesa Friederichs-Büttner, Benjamin Walther-Franks, and Rainer Malaka. 2012. An unfinished drama: designing participation for the theatrical dance performance Parcival XX-XI. In Proceedings of the Designing Interactive Systems Conference (DIS '12). ACM, New York, NY, USA, 770-778. DOI=<http://dx.doi.org/10.1145/2317956.2318072>
 21. Batya Friedman, Peter H. Kahn, P. H. 2008. Human values, ethics, and design. In J. A. Jacko and A. Sears (Eds.), *The human-computer interaction handbook*, 1177-1201. Mahwah, NJ: Lawrence Erlbaum Associates, pp. 1241-1266.
 22. Bill Gaver, Tony Dunne, and Elena Pacenti. 1999. Design: Cultural probes. *interactions* 6, 1 (January 1999), 21-29. DOI=<http://dx.doi.org/10.1145/291224.291235>Jacucci
 23. Giulio Jacucci, Mira Wagner, Ina Wagner, Elisa Giaccardi, Mauro Annunziato, Nell Breyer, Jonas Hansen, Kazuhiro Jo, Stijn Ossevoort, Alessandro Perini, Roussel, Natacha, and Susanne Schuricht, 2010. ParticipART: Exploring Participation in Interactive Art Installations. In Proc. of International Symposium on mixed and Augmented Reality. Arts, Media and Humanities. Seoul, Korea, 3-10.
 24. Kyungsik Han, Patrick Shih, John M. Carroll. 2014. Local News Chatter: augmenting community news by aggregating hyperlocal microblog content in a tag cloud. *International Journal of Human-Computer Interaction* 30(12), 1003-1014. <http://dx.doi.org/10.1080/10447318.2014.925773>
 25. Karin Hansson (2012). Performing the Common. *Recognition in Online Participatory Processes*. Licentiate thesis. Stockholm University.
 26. Ellie Harmon, Matthias Korn, Ann Light, and Amy Volda. 2016. Designing Against the Status Quo. In *Proceedings of the 2016 ACM Conference Companion Publication on Designing Interactive Systems* (DIS '16 Companion). ACM, New York, NY, USA, 65-68. DOI: <http://dx.doi.org/10.1145/2908805.2913020>
 27. Jonathan Hook, Rachel Clarke, John McCarthy, Kate Anderson, Jane Dudman, and Peter Wright. 2015. Making the Invisible Visible: Design to Support the Documentation of Participatory Arts Experiences. In *Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems* (CHI '15). ACM, New York, NY, USA, 2583-2592. DOI: <http://dx.doi.org/10.1145/2702123.2702187>
 28. Helen Klæbe, Marcus Foth, Jean Burgess, Mark Bilandzic. 2007. Digital Storytelling and History Lines: Community Engagement in a Master-Planned Development. In Proceedings 13th International Conference on Virtual Systems and Multimedia (VSMM'07), Brisbane.
 29. Matthias Korn and Jon Back. 2012. Talking it further: from feelings and memories to civic discussions in and about places. In *Proceedings of the 7th Nordic Conference on Human-Computer Interaction: Making Sense Through Design* (NordiCHI '12). ACM, New York, NY, USA, 189-198. DOI=<http://dx.doi.org/10.1145/2399016.2399046>
 30. Matthias Korn and Amy Volda. 2015. Creating friction: infrastructuring civic engagement in everyday life. In *Proceedings of The Fifth Decennial Aarhus Conference on Critical Alternatives* (AA '15). Aarhus University Press 145-156. DOI=<http://dx.doi.org/10.7146/aahcc.v1i1.21198>
 31. Christopher A. LeDantec, Caroline Appleton, Mariam Asad, Robert Rosenberger, and Kari E. Watkins. 2016. Advocating Through Data: Community Visibility Through Crowdsourced Cycling Data. IN *Bicycle Justice and Urban Transformation Biking for All*, Routledge Press.
 32. Laura Lentini and Françoise Decortis. 2010. Space and places: when interacting with and in physical space becomes a meaningful experience. *Personal Ubiquitous Comput.* 14, 5 (July 2010), 407-415. DOI=<http://dx.doi.org/10.1007/s00779-009-0267-y>
 33. Christopher M. Mascaro and Sean P. Goggins. 2011. Brewing up citizen engagement: the coffee party on facebook. In *Proceedings of the 5th International Conference on Communities and Technologies* (C&T '11). ACM, New York, NY, USA, 11-20. DOI=<http://dx.doi.org/10.1145/2103354.2103357>
 34. Dan Maynes-Aminzade, Randy Pausch, and Steve Seitz. 2002. Techniques for Interactive Audience Participation. In *Proceedings of the 4th IEEE International Conference on Multimodal Interfaces* (ICMI '02). IEEE Computer Society, Washington, DC, USA, 15-. DOI=<http://dx.doi.org/10.1109/ICMI.2002.1166962>
 35. John McCarthy, Peter Wright (2004). Technology as experience. The MIT Press, Cambridge, Massachusetts, London, England
 36. John McCarthy, Peter Wright. 2015. Taking [A]part. The Politics and Aesthetics of Participation in Experience-Centered Design. The MIT Press, Cambridge, Massachusetts, London, England
 37. Sissel Olander, Tau Ulv Lenskjold, Signe Louise Yndigegn, Maria Foverskov, Mobilizing for community building and everyday innovation, interactions, v.18 n.4, July + August 2011 [doi>10.1145/1978822.1978829]

38. Stuart Reeves. 2011. Designing Interfaces in Public Settings . Springer London, London. Retrieved August 8, 2016 from <http://link.springer.com/10.1007/978-0-85729-265-0>
39. Stuart Reeves, Steve Benford, Claire O'Malley, and Mike Fraser. 2005. Designing the spectator experience. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (CHI '05). ACM, New York, NY, USA, 741-750. DOI=<http://dx.doi.org/10.1145/1054972.1055074>
40. Jacques Ranci  re. 2011. The Emancipated Spectator. Verso.
41. Jacques Ranci  re. 2013. The Politics of Aesthetics. Bloomsbury Publishing, UK.
42. Chiara Rossitto, Louise Barkhuus, and Arvid Engstr  m. 2016. Interweaving place and story in a location-based audio drama. *Personal Ubiquitous Computing*. 20, 2 (April 2016), 245-260. DOI: <http://dx.doi.org/10.1007/s00779-016-0908-x>
43. Phoebe Sengers and Bill Gaver. 2006. Staying open to interpretation: engaging multiple meanings in design and evaluation. In *Proceedings of the 6th conference on Designing Interactive systems* (DIS '06). ACM, New York, NY, USA, 99-108. DOI=<http://dx.doi.org/10.1145/1142405.1142422>
44. Phoebe Sengers, Kirsten Boehner, Shay David, and Joseph 'Jofish' Kaye. 2005. Reflective design. In *Proceedings of the 4th decennial conference on Critical computing: between sense and sensibility* (CC '05), Olav W. Bertelsen, Niels Olof Bouvin, Peter G. Krogh, and Morten Kyng (Eds.). ACM, New York, NY, USA, 49-58. DOI=<http://dx.doi.org/10.1145/1094562.1094569>
45. Phoebe Sengers, John McCarthy, and Paul Dourish. 2006. Reflective HCI: articulating an agenda for critical practice. In *CHI '06 Extended Abstracts on Human Factors in Computing Systems* (CHI EA '06). ACM, New York, NY, USA, 1683-1686. DOI=<http://dx.doi.org/10.1145/1125451.1125762>
46. Jennifer G. Sheridan, Nick Bryan-Kinns, and Alice Bayliss. 2007. Encouraging witting participation and performance in digital live art. In *Proceedings of the 21st British HCI Group Annual Conference on People and Computers: HCI...but not as we know it - Volume 1* (BCS-HCI '07), Vol. 1. British Computer Society, Swinton, UK, UK, 13-23.
47. Alex S. Taylor, Si  n Lindley, Tim Regan, David Sweeney, Vasillis Vlachokyriakos, Lillie Grainger, and Jessica Lingel. 2015. Data-in-Place: Thinking through the Relations Between Data and Community. In *Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems* (CHI '15). ACM, New York, NY, USA, 2863-2872. DOI: <http://dx.doi.org/10.1145/2702123.2702558>
48. Robyn Taylor, Pierre Boulanger, Patrick Olivier, and Jayne Wallace. 2009. Exploring participatory performance to inform the design of collaborative public interfaces. In *CHI '09 Extended Abstracts on Human Factors in Computing Systems* (CHI EA '09). ACM, New York, NY, USA, 3721-3726. DOI=10.1145/1520340.1520561 <http://doi.acm.org/10.1145/1520340.1520561>
49. Robyn Taylor, Guy Schofield, John Shearer, Jayne Wallace, Peter Wright, Pierre Boulanger, and Patrick Olivier. 2011. Designing from within: humanaquarium. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (CHI '11). ACM, New York, NY, USA, 1855-1864. DOI=<http://dx.doi.org/10.1145/1978942.1979211>
50. Robyn Taylor, Guy Schofield, John Shearer, Jayne Wallace, Peter Wright, Pierre Boulanger, and Patrick Olivier. 2011. *humanaquarium*: exploring audience, participation, and interaction. In *CHI '11 Extended Abstracts on Human Factors in Computing Systems* (CHI EA '11). ACM, New York, NY, USA, 1117-1122. DOI=<http://dx.doi.org/10.1145/1979742.1979723>
51. Jocelyn Spence. 2016. Performative Experience Design. Springer, London, London.
52. Julie R. Williamson, Lone Koefoed Hansen, Giulio Jacucci, Ann Light, and Stuart Reeves. 2014. Understanding performative interactions in public settings. *Personal Ubiquitous Comput.* 18, 7 (October 2014), 1545-1549. DOI: <http://dx.doi.org/10.1007/s00779-014-0819-7>
53. Hye Yeon Nam and Michael Nitsche. 2014. Interactive installations as performance: inspiration for HCI. In *Proceedings of the 8th International Conference on Tangible, Embedded and Embodied Interaction* (TEI '14). ACM, New York, NY, USA, 189-196. DOI=<http://dx.doi.org/10.1145/2540930.2540976>
54. Vasillis Vlachokyriakos, Clara Crivellaro, Christopher A. Le Dantec, Eric Gordon, Pete Wright, and Patrick Olivier. 2016. Digital Civics: Citizen Empowerment With and Through Technology. In *Proceedings of the 2016 CHI Conference Extended Abstracts on Human Factors in Computing Systems* (CHI EA '16). ACM, New York, NY, USA, 1096-1099. DOI: <http://dx.doi.org/10.1145/2851581.2886436>
55. Michael Warner. 2002. Publics and Counterpublics. Zone Books.