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Transforming learning and visitor participation as a basis for developing new business opportunities in an outlying municipality

- case study of Hjørring Municipality and Børglum Monastery, Denmark

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The Transformative Museum

23-25 May 2012
Roskilde University
Denmark

PROCEEDINGS

dream

Danish research centre on education and advanced media materials

**Proceedings
of the DREAM conference
The Transformative Museum**

**23-25 May 2012
Roskilde University
DENMARK**

*Edited by
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Preface

These proceedings are the result of the conference "The Transformative Museum", May 23-25, 2012, held at Roskilde University in Roskilde, Denmark.

The conference invited research based on four themes within the context of the transformative museum:

- transforming modes of communication
- transforming visitor participation and learning
- transforming institutional organization
- transforming research methodologies

In these proceedings you will find 40 papers which were presented at the conference. They include different aspects of the transformative museum, from informal learning and visitor studies to exhibition design and the use of new technology. Almost all of the papers are based on new and relevant case studies.

In addition to the paper presentations the programme included keynotes by associate professor Kevin Crowley (University of Pittsburgh, USA), professor James E. Katz (Rutgers, the State University of New Jersey, USA), dr. Lynda Kelly (Australian Museum, Sydney, Australia), professor Gunnar Liestøl (University of Oslo), professor Angela McFarlane (Royal Botanic Gardens, Kew, UK), and associate professor Ross Parry (University of Leicester, UK). Videos of the keynotes are available on the conference website: <http://www.dreamconference.dk>

We hope that you will enjoy reading the papers.

Erik Kristiansen (ass. prof.)
editor
Roskilde University, June 2012.

Welcome

Welcome to Roskilde, one of the oldest towns in Denmark. Welcome to Roskilde University, one of the newest universities in Denmark. And most welcome to *The transformative museum*, the third international conference hosted by DREAM.

The dual pulls of societal and commercial claims make museums, galleries, science and experience centres around the world accelerate processes of transformation in terms of organisation, communication, visitor engagement and learning and methods of documentation.

A major aim of the conference is to unpick the complexities and highlight the commonalities across these domains of transformation, and to do so by bringing together an international forum of scholars from a range of disciplines including museum studies, media and ICT studies, education, psychology, anthropology, sociology and cultural studies - and to promote dialogue within and across research traditions.

In what follows, you will engage with almost a hundred delegates from over 20 countries around the world. We will be inspired by keynote addresses from some of our most innovative and renowned researchers, just as we may enjoy presentations and papers on a rich tapestry of issues relating to communication, learning, organisation and to the substantial theoretical and methodological questions sparked by the accelerated processes of transformation. As the conference has taken shape, we have been gratified by the quality and diversity of the research to be presented; and we are confident that you will have many thought-provoking inputs and interactions over the coming days to secure a stimulating and enjoyable time here.

The conference has been organised by DREAM, a national research centre founded in 2004 with the aim of developing new learning resources and services across formal, semi-formal and informal learning sites. A range of research activities, including research training, are conducted in close collaboration with public and private stakeholders in Denmark and involving a number of international research partnerships.

Many people and organisations have worked together to make this conference possible. For providing financial support we would like to thank: the Danish Research Council for Strategic Research; the Danish Research Council for Independent Research | Humanities; the Department of Communication, Business and Information Technologies at Roskilde University; Ulla Jeppesen for invaluable administrative support; and all our session chairs.

Ass. professor Oluf Danielsen
Ass. professor Erik Kristiansen
Professor Kim Christian Schrøder

Professor Kirsten Drotner

Conference organisers

Conference director

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Building a transformative museum? Getting to 'Our Place' through the creative industries lens: A case study from New Zealand.

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Abstract

The purpose of this paper is to examine the Museum of New Zealand Te Papa Tongarewa as an early example of a curatorial institution that illustrates the process and impact of the 'museum experience' concept, which has been influenced by what is now thought of as creative industries rhetoric. Drawing on *Getting to Our Place*, a documentary about the Te Papa project, the paper serves as a case study of the pressures of introducing fundamental change in New Zealand's museum sector.

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Introduction

In the 1980s, the museum sector began facing changes that promoted a shift from conservation to commercialisation (Gilmore & Rentschler, 2002; Rentschler, 1998). This shift was based on the growing primacy of the 'museum experience' (Alexander, 1999; Rowley, 1999; Twitchell, 2004), which embodies a shift from the traditional museum visit involving static exhibits and passive observation, to one that features multi-media and interactive participation (Rowley, 1999). Much of the recent scholarship regarding the museum experience has been driven by the 'creative industries' concept, which espouses the idea of using art, culture and creativity to stimulate economic growth and generate wealth (Florida, 2004; Hartley, 2005). In many countries around the world, museums and galleries are now governed by creative industries policies (Flew & Cunningham, 2010). However, before such policies had become commonplace around the globe (Flew & Cunningham, 2010), in New Zealand a museum development took place that epitomised the concept the 'museum experience'. The purpose of this paper is to examine the Museum of New Zealand Te Papa Tongarewa¹ as an early example of a curatorial institution that illustrates the process and impact of the museum experience concept, which has been influenced by what is now thought of as creative industries rhetoric.

Background

Traditionally, museums were predominantly custodial institutions, with the purposes of both cultural preservation and also education (Harrison & Shaw, 2004; Gilmore & Rentschler, 2002; Rentschler, 1998). During the 1980s, however, changes to the public sector resulted in the 'professionalisation' of museum management and the introduction of a managerial ethos, which brought with it the "marketing orientation of museums" (Rentschler, 1998, p. 94; Gilmore & Rentschler, 2002). These changes created a new environment for museums, in which funders called for "greater accountability" and the museum focus necessarily shifted to marketing to targeted audiences (Gilmore & Rentschler, 2002). From the mid-1990s onward, though, the curatorial sector changed again, when marketisation moved towards entrepreneurialism (Alexander, 1999; Gilmore & Rentschler, 2002). Entrepreneurialism was perhaps a logical development from marketisation, for if marketisation meant the museum operated more like a business and less like a funded institute, then entrepreneurialism involved actively seeking out diversified revenue sources, including "new audiences, products, venues and multi-art

¹ Museum of New Zealand Te Papa Tongarewa is more commonly known as 'Te Papa'. It loosely translates as 'Our Place'.

experiences" to compete in tourism and leisure industries (Gilmore & Rentschler, 2002, p. 746; Muller & Edmonds, 2006; Scott, 2004).

The interrelationships between the visitor, the market and the newly entrepreneurial museum have brought about a type of 'new museum' in which a central goal of management is to achieve the 'museum experience' (Alexander, 1999; Twitchell, 2004). Central to the museum experience is the visitor, and how that visitor uses the museum facility. It is a contention of the wider research in which this paper is situated, that in the discourse associated with the 'new museum', the 'museum visitor' has been reconstituted as the 'museum consumer'. A person who is a 'visitor' to the museum can be seen as a 'cultural citizen', both in the aesthetic and the anthropological sense (Miller & Yudice, 2002), whereas a 'museum consumer' is constituted as a 'customer' who is persuaded to desire museum 'services' (Rowley, 1999).

Where the 'old' museum had 'display' and the 'museum visitor', the new entrepreneurial museum has the 'museum experience' and the 'museum consumer'. In this entrepreneurial paradigm, then, museums seek to create new expectations for museum consumers and then fulfil the created desire for information, entertainment, recreation and social interaction (Rowley, 1999).

Therefore, museum consumers are provided with 'edutainment', 'blockbuster' exhibits, snacking and shopping opportunities, and the potential to make the trip a 'whole-day' experience (Alexander, 1999; Lepouras & Vassilakis, 2005; Rowley, 1999). Such services culminate in a "total customer experience", which extends "from the moment that the customer seeks to park their car...to the moment the customer leaves the museum with the appropriate information, or leisure experience" (Rowley, 1999, p. 303). 'Consumer' satisfaction and the centrality of the 'museum experience' can therefore be seen as integral to the 'new museum'.

In as much as entrepreneurialism is a driver of the 'new' museum concept, developments in the way creativity is understood have also been influential. The growing power of the entrepreneurial model of museums has, importantly, coincided with the developing discourse of 'creative industries', which promotes creativity as a driver of economic growth (Hartley, 2005; Florida, 2004; McRobbie, 2002). The creative industries concept was formally promulgated in 1998 when it was defined and incorporated into policy in Britain (DCMS, 2001). It has since spread worldwide in cultural policy (Flew & Cunningham, 2010; Higgs & Cunningham, 2008). Creative industries promotes cultural production and consumption, encouraging active participation in cultural sectors on a global level (Flew & Cunningham, 2010; Pratt, 2009). The concept also reinforces discussion about the importance of technology and technological convergence in the creative economy (Flew, 2005). Furthermore, there is a focus on "markets, entrepreneurship, and

intellectual property” in creative industries literature that emphasises cultural and creative activity based on economic value (Flew & Cunningham, 2010, p. 119; Potts & Cunningham, 2008). These notions in both the scholarship and in policy have enabled concepts such as ‘creative cities’, which propose that by increasing a city’s creative appeal, creative individuals will be drawn to live there and subsequently bring about economic growth (Landry, 2000; Tay, 2005; Florida, 2004). Ultimately, the creative industries discourse focuses strongly on the economic value of creative and cultural activity, and promotes the benefits of investing in the concept.

It is within this creative industries discourse and arguably, creative cities, that the ‘new museum’ is now situated. While creative industries policies differ between countries, there is a consensus that the curatorial sector is a significant contributor (UNESCO, 2009; UNCTAD, 2008). Creative industries ideas emphasise the entrepreneurial notions of the ‘museum experience’, with a focus on (visitor) markets, technology and cultural consumption, and especially underlines the importance of the museum consumer. Consequently, the museum sector is both reflective of, and influenced by, creative industries notions that underpin specific policies (Richards & Wilson, 2006; Scott, 2006; Tay, 2005). To illustrate, a strategy for increasing the creative appeal of a city is to enhance its cultural nature by making museums and art galleries appealing to the broadest possible audience (Richards & Wilson, 2006; Scott, 2006). For instance, art galleries once perceived as ‘stuffy’ or ‘elitist’, are newly ‘cool’ urban spaces and facilities (Axelsen, 2006). Many cities around the world, therefore, adopt creative industries policies involving the museum and gallery experience to develop the image of cityscapes as cultural destinations (Prentice, 2001; Scott, 2006).

Enhancing the creative appeal of cities through the museum and gallery experience is likewise evident in New Zealand, with the restoration of the Auckland Art Gallery Toi o Tamaki and the renovation of the Auckland War Memorial Museum (Auckland City Council, 2005; Auckland Museum, 2011; Gibson, 2007). But these notable renovations were preceded in the 1990s by the development of Museum of New Zealand Te Papa Tongarewa (‘Te Papa’). During the 1990s, many aspects of New Zealand’s national life moved towards a market-driven model.² It is therefore unsurprising that the remodelling of the national museum and gallery also adopted a market model preceding, in practical terms, the emergence of creative industries rhetoric by some ten years.

Located in Wellington, Te Papa is New Zealand’s national museum, an integrated cultural institution which includes the National Art Gallery (Cottrell & Preston, 1999; Museum of New Zealand Te Papa Tongarewa, n.d.). Te Papa opened on 14 February 1998 and records more than 1.3

² See, for instance, ‘user pays’ concepts in local government, environmental law and changes to employment law.

million visitors a year (Museum of New Zealand Te Papa Tongarewa, 2011). The museum promotes itself as “renowned for being bicultural, scholarly, innovative, and fun” and aims to provide visitors with “a stimulating, inspiring experience” (Museum of New Zealand Te Papa Tongarewa, 2011, p. 7). Te Papa is the model of a curatorial institution that embodies the ‘new museum’ ideology, characterised by “high overall visitation, a democratized audience and a more diverse public role within the leisure and tourism sector” (Davidson & Sibley, 2011, p. 178). In line with Davidson & Sibley’s (2011) ideals, Te Papa furthermore outlines its role as “a key tourism and visitor attraction” that “makes an important economic contribution while also serving as a catalyst and forum for research and creativity” (Museum of New Zealand Te Papa Tongarewa, 2011, p. 7). As such, Te Papa demonstrates its link with creative industries, enabling creative activity, city appeal and commercial success.

The Te Papa project is partly documented in *Getting to Our Place* (GTOP) by Anna Cottrell and Gaylene Preston. In particular, this documentary shows the debates and tensions associated with the Treaty of Waitangi exhibition, which is the display of New Zealand’s founding document, the agreement between the British Crown and the indigenous Māori. The Treaty project team believed they were designing a truly transformative exhibit that first, would honour the significance of the Treaty and second, would provide a point at which New Zealand’s idiosyncratic concept of biculturalism would be made manifest to museum visitors. Museum management, however, saw an opportunity for a ‘museum experience’ and the complexity of the Treaty material was compressed between the two philosophies. Drawing on Cottrell and Preston’s (1999) documentary, the rest of this paper is a case study of the pressures of introducing fundamental change in New Zealand’s museum sector.

‘Getting to Our Place’

From early on in the documentary, the viewer may sense that museum planning prioritise securing visitor markets by providing the ‘museum experience.’ *GTOP* opens with a text sequence that informs the audience of the New Zealand government’s approval of “a new cultural institution” in 1986, which was to be “an integrated museum” with “high energy attractions”. To aid with the production of such “high energy attractions”, the museum management brought in Andy Grant, a Leisure Industry consultant, to advise on strategy. In a board meeting documented in the film, Grant says “By building a better mouse trap, you steal more market share from others...let’s make sure it’s entertaining, exciting.” The advice Grant gives is indicative of museum marketisation discourse, and it also shows the shift towards the entrepreneurial model of museum management

with its focus on entertainment. Grant's advice also draws attention to the importance of the museum building itself (the better mouse trap), and the active and commercial nature of cultural consumption. The latter idea is evident in Grant's statement: "Let's see what...the guy off the street thinks of it, because they are ones paying for it." Grant's influence is evident in the importance museum management consistently attributed to entrepreneurial and market-based values, and I contend that it illustrates the early presence of creative industries discourses.

The value attributed to entrepreneurialism and creative industries ideas of cultural consumption and experience is a theme that dominates the documentary. In a board meeting, the Chairman, Sir Ronald Trotter, argues for corporate sponsorship and funding from commercial sources, even if that includes naming rights to exhibitions. He hypothesises an exhibit called the "Telecom Walk through Time" and says, "If I could get 10 million [dollars] out of Telecom, they can call it what they like!" The approach advocated by Trotter indicates the trend in the 1990s for museums to operate in a more business-like manner, but it also underscores the commercialisation of cultural products that is promoted in creative industries rhetoric, again highlighting the early presence of creative industries ideas in the New Zealand museum sector. Furthermore, at a later board meeting with the Minister for Cultural Affairs, the museum management present their rationale of "Te Papa's Core Business". A presentation slide lists this business as:

- Visitor Experience
- Collections
- National Services
- Extension Services

It is perhaps no mistake that 'Visitor Experience' is set as first on the list of business priorities for the museum. The importance attributed to the visitor experience emphasises the entrepreneurial model of museum management and the centrality of the 'museum experience', with its associated ideas of interactivity, engagement and entertainment. Overall, the examples documented in *GTOP* clearly represent the presence and priority of entrepreneurialism and creative industries notions regarding cultural products, consumption and experience in the Te Papa project. In addition, Cottrell and Preston's (1999) documentary shows the impacts of 'new museum' values on other museum goals.

One of Te Papa's underpinning aims is biculturalism, which promotes the recognition and respect of the distinctions, as well as the partnership, between Māori, who are *tangata whenua*, people of the land, and the *tangata tiriti*, the people of the Treaty, non-Māori (Phillips, 2009). As a bicultural institution, Te Papa's governance includes *iwi*, the tribes of New Zealand (Museum of New Zealand Te Papa Tongarewa, 2005). Therefore, throughout the Te Papa project, plans and decisions were

made in partnership with Māori. However, as *GTOP* shows, entrepreneurial and commercial values sometimes conflicted with the cultural sensitivity and respect mandated in a bicultural organisation. An example of such disagreement is evident in the presentation of the 'Time Warp' exhibition to management, where the exhibit team proposes a multi-media display that includes an animation of a Māori warrior being swept away by the (now extinct) giant eagle of New Zealand. Cliff Whiting, *Kaihautū* (Chief Executive), points out that the animation is in fact inviting in a ghost that would be "very real" to Māori. Whiting asks the team, "Can we actually do this...is this culturally sound?" Whiting's question brings to the fore the tension that exists between providing excitement and a 'Wow!' factor, with Māori cultural values. Furthermore, the case highlights the impact of the entrepreneurial museum model and the extent to which management attempted to adopt it in the Te Papa project.

The Treaty Exhibition

An even more telling example of the impact of the entrepreneurial model and the associated creative industries ideas is the Treaty Exhibition. The Treaty of Waitangi is New Zealand's founding document between Māori and European settlers. Signed in 1840, the Treaty has often caused controversy and conflict stemming from differences the signatories held about what the Treaty meant. The Treaty is still the key document of government in New Zealand today, but mainly in terms of its principles, which organisations such as Te Papa must abide by. Naturally, therefore, the Treaty needed to be at the heart of the Te Papa project, both in terms of management, and as a significant feature of the museum collection. Due to its national importance, the Treaty was to have a permanent exhibit of its own and the design of this important exhibit was placed in the hands of a special project team ('The Treaty Team').

As already mentioned, the Treaty Exhibition was the subject of differing ideas about the Treaty and its complex place in New Zealand's national life. Museum board member Apirana Mahuika expressed his concerns about ensuring that the difficult aspects of the Treaty were not ignored, namely:

... that we are not doctoring up the Treaty so that it's all nice and proper...so long as the balance for me is that there were two parts to the Treaty; there were the happy moments and the sad moments, for both parties.

Mahuika's concerns about the difficult nature of the Treaty material were reflected in museum management's decision to consult Elaine Heumann Gurian, Director of the Holocaust Museum in

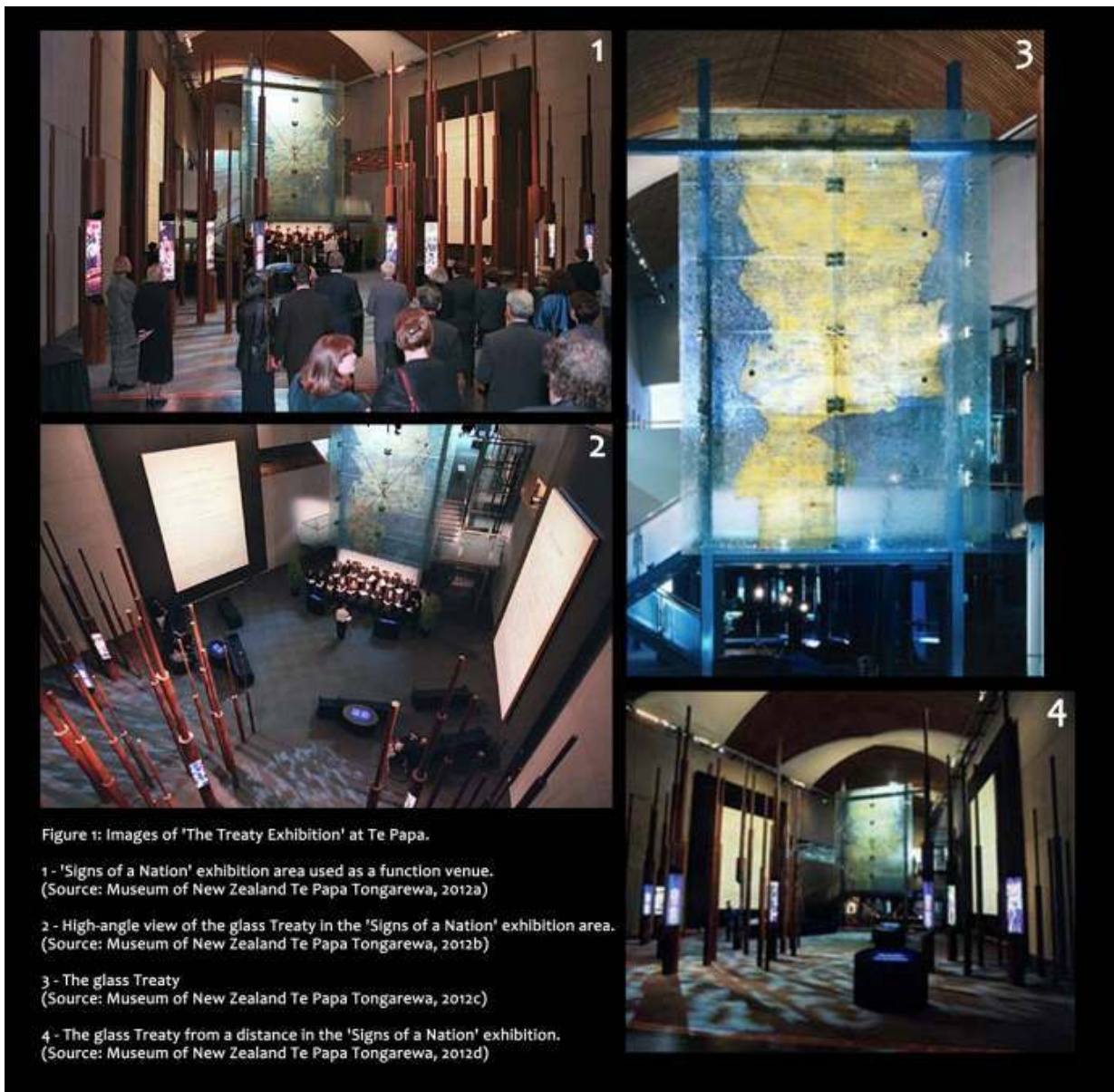
Washington DC, in the development of the exhibition. Gurian explained that the exhibit would include the difficult aspects, as “the stories are not all good stories”, and the recommendation was to focus on “tone, in the way exhibitions are done”. For Georgina Te Heuheu, the Treaty debate was not just about the single exhibition, but about the larger issue of biculturalism in all Te Papa’s exhibits. Expressing her concerns about the centrality of the Treaty Exhibit, she asks, “How do we actually make that underpin all our exhibitions, if one of our corporate goals is biculturalism, then what does that mean?” In essence, Te Heuheu’s question lies at the core of the Treaty Exhibit. In the “new cultural institution”, the distinctive and balanced representation of the Treaty and its history, central to both the museum display and function, could have been a truly transformative bicultural moment for New Zealand.

However, as Cottrell and Preston’s (1999) documentary shows, the Treaty Exhibit was confronted by pressures to create a ‘museum experience’ piece that prioritised visitor markets. These pressures emerged early in the planning stages of the Treaty Exhibit, when the Treaty Team failed to obtain management approval for their design. The team was criticised for producing a concept that was not suitably ‘engaging’. In a management meeting, Chief Executive Cheryl Sotheran explains that the exhibit needed to be pivotal, “That it has to provoke, that it has to be speculative, that it has to be dramatic, that it has to be attractive, that it cannot be curricular.” Sotheran goes on to say, “If it’s boring, we don’t want to know about it.” As a result, the Treaty Team was faced with the challenge of producing an exhibit that had diverse and extensive cultural, political, historical and social elements, as well as the added pressure of designing an ‘experiential’ piece that would attract and engage the new museum consumer.

The Treaty Team was well-intentioned, but dismayed by the intricacy of the task, and at meetings members showed increasing exhaustion. At one meeting in particular, the team expressed frustration to Ken Gorbey, Director of Projects, about the frequent and at times contradictory requests made by management. They lamented what they saw to be a ‘design by committee’ approach and struggled to see how they would be able to achieve all of the aims of the exhibit. Paul Thompson, History Concept Developer, even went on to suggest that if the aims couldn’t be achieved, “We’ll have to come back and say, it’s bigger than we are.” Such comments highlight the difficulties associated with the Treaty Exhibit, and the pressure the Treaty Team was put under to fulfil its diverse requirements. At the same meeting, team exhaustion gave way to cynicism, and some team members sarcastically proposed using ‘cardboard cut-outs’, with ‘a paperclip through the elbow’ so that visitors could ‘shake hands’ with the display. Overall, the push to create a ‘museum experience’ exhibit with the Treaty material was met with frustration. However, the priority given to the entrepreneurial values associated with the museum experience meant that the

Treaty Team had to comply with the requirements. After five attempts at management meetings, the Treaty Exhibit was finally given approval.

Figure 1 (below) shows images of the approved Treaty Exhibition, later re-named 'Signs of a Nation'. The centrepiece of the exhibit is an enlarged facsimile of the Treaty, embedded in glass. The 'Glass Treaty' hangs above a vast space that houses clusters of 'audio poles' where visitors can listen to different perspectives on the Treaty. The 'Signs of a Nation' space is also listed as a venue that is available for hire.



Conclusion: What to make of 'Our Place'?

The case study of the Museum of New Zealand Te Papa Tongarewa demonstrates the complexity of integrating the entrepreneurial notions of the 'new museum' with other museum goals and responsibilities. As *Getting to Our Place* (Cottrell & Preston, 1999) shows, museum management struggled to reconcile the tensions of providing exciting and entertaining 'experiences' with the cultural and legal obligations of biculturalism. This tension was most evident in the 'Signs of a Nation' Treaty Exhibition. All parties involved in the exhibit were well-intentioned, but their fundamental philosophical differences about the nature of museums were never fully resolved and therefore perpetuated the struggle over the exhibit's design as a 'museum experience' piece. While there is nothing intrinsically wrong with the market-based and creative industries-driven concept of the 'museum experience', in the case of Te Papa, it could not capture the layered poignancy of an iconic cultural *taonga*³ such as the Treaty.

It can be argued that the potential for a transformative moment for 'museum visitors' lost out to the pressure to create an experiential piece for 'museum consumers'. The final design of the Treaty Exhibition resulted in a display which I assert, is nondescript and, in a way, easily overlooked. The glass replica of the Treaty certainly is impressive and has a significant presence in the exhibit, but the panels are placed far above visitors' heads, requiring them to view the Treaty from the mezzanine floor if they wish to examine the details. However, from the mezzanine, the writing on the panels is back to front. On the exhibition floor, the 'audio poles' provide a level of deeper information, but the display does not necessarily encourage active participation because the purpose of the audio poles is not obvious. Therefore, in terms of being either the 'museum experience' or the 'transformative moment', the display falls short: as the saying goes, *it is neither my eye nor my elbow*; neither one thing, nor the other.

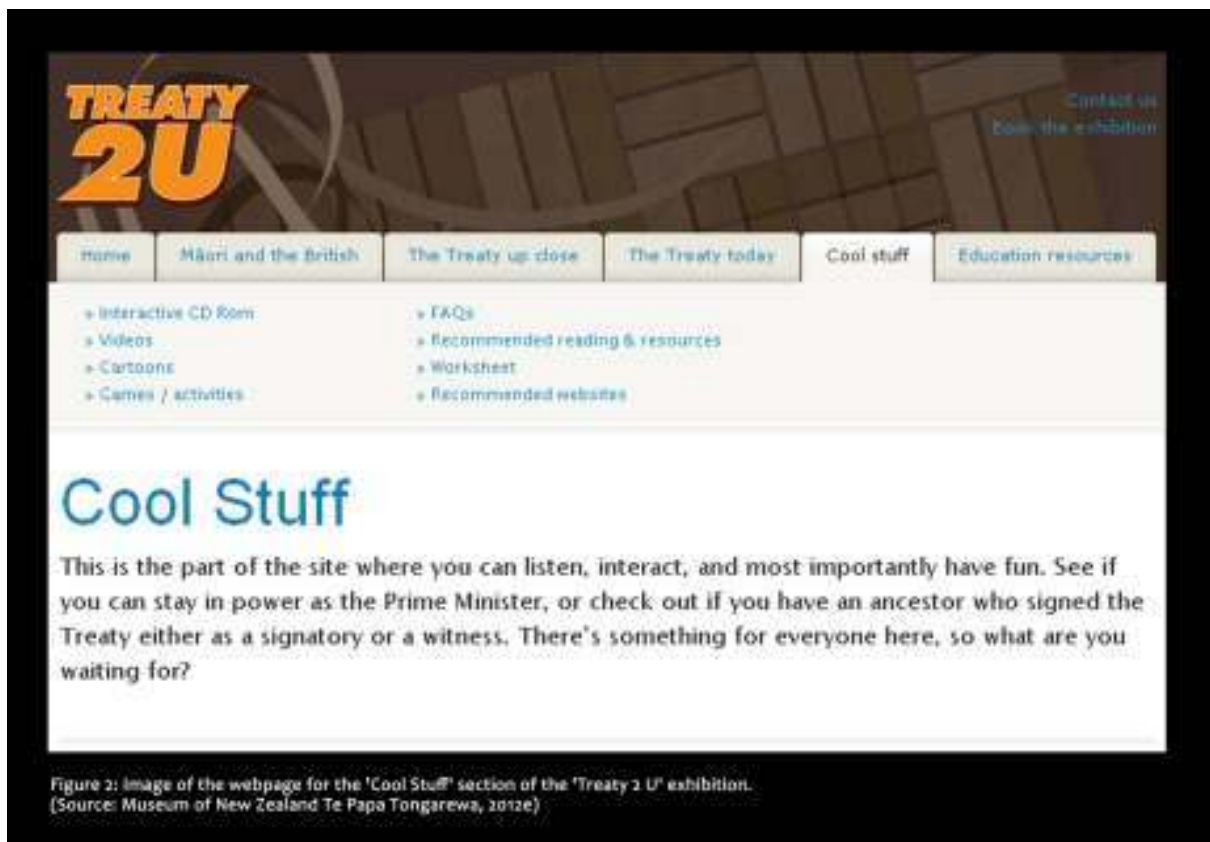
What is left of the Treaty exhibit is a compromise, both in design and function. It is, furthermore, a reality of what designer Sharon Jansen laments in *GTOP* when she says,

When I first came here I expected the museum to be presenting our history and our past, with real strength and pride and real elegance, that it was going to be our cultural treasure box...[but] the problem for me really lies in the management, the way it's being run, and I hate to see things being made by compromise, just constant compromise...

However, the aim of bringing a 'museum experience' Treaty exhibit to the public may currently be fulfilled online. The Te Papa website offers "Treaty 2 U", an interactive exhibition which supplies

³ Precious item; valuable artefact.

information and resources about the Treaty, as well as a section of “Cool Stuff” (see Figure 2) where the website user can “have fun.”



In an effort to produce entertaining and accessible material, though, some of the animations are so simplistic as to be inaccurate and, arguably, culturally insensitive. Yet, they do serve to engage the ‘museum consumer’ in an interactive ‘museum experience’. Moreover, the technological convergence and consumption of cultural production promoted in this exhibit reiterate the presence of creative industries in the ‘new museum’ model. Whether or not this particular online experience satisfies, remains to be seen. What is clear, though, is that entrepreneurial and creative industries discourses will continue to be reflected in museum decisions and influence the ‘new museum’ of the future.

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Let's meet - Louisiana Learning

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Let's meet – Louisiana Learning

A case study

Participation, co-creation and convergence are recurrent themes in discussions of museums in the 21st century. Contemporary art invites its viewers to respond in new ways: sliding down the gigantic sculptures by Carsten Höller at TATE, or scratching the white walls of the museum to experience Sissel Tolaas' invisible but odoriferous work "Smell of Fear. Fear of Smell" (2009) at Louisiana. Museum professionals – curators as well as learning teams – feel a similar urge to accommodate participation at various levels in the development of content for new exhibitions or interpretative strategies. Digital media play a crucial role in this development by offering constant inspiration for new models of communication. However, while participation is almost per definition viewed in a positive light, with its promise of engaged audiences and more democratic institutions with a plurality of voices (Eilean Hooper-Greenhill 2000: 560), questions are rarely raised about what qualifies participation, which forms of participation are meaningful to whom, and within which contexts.

This paper sets out to discuss participatory practices within the context of the Louisiana Museum of Modern Art, one of the main institutions for modern and contemporary art in Denmark since 1958. The museum has a long tradition of participation, and in 1994 this led to the opening of an entire new wing for creative workshops and open activities. Yet until recently playful and creative participation has been confined to the Children's Wing and thus, as the name indicates, mainly to the youngest visitors. Clear, comfortable lines have been drawn between spaces for 'professional' creativity and that of the visitors. This paper explores how these 'rules of engagement' were challenged a few years ago when the Louisiana was invited to join an international learning project called **The Unilever Series: Turbinegeneration**. This new learning project, managed by TATE, provides a relevant case study of new kinds of encounters with and through art, combining online and offline participation to create an international network for learning.

Let's meet

Before going into detail about the Turbinegeneration project, it is necessary to provide the background of how a particular practice of the Louisiana Museum has developed, and how it can be challenged and inspired by a project like Turbinegeneration. From the start the Louisiana Museum has been fuelled by a desire to explore rather than to explain art, and thus represents a break with the idea of the museum as a source of cultivation. Founded as a private initiative in

1958, the museum is regarded as the first museum in Denmark to be dedicated purely to art of its own time, initially with a focus on Danish art, which was expanded to include international modern art only a year after the opening of the museum.ⁱ With its high rate of temporary exhibitions, the museum presented not only visual art but also architecture, design and ethnographic exhibits, along the lines of the MoMA tradition (Kjeld Kjeldsen 1998: 38-67).

The importance of exploring is also reflected by the Louisiana's physical surroundings. Since the museum is on the coast north of Copenhagen, the journey to get there already has a certain 'expedition quality'; it takes an hour to go there from Copenhagen, and visitor studies reveal that most guests choose to spend more time at the Louisiana than at other Danish art museums (KUAS 2009: 29). 'Expedition quality' is a concept that could even be used to describe the museum's architecture and layout – effortlessly blending in with the landscape and only disclosing itself to the visitor in parts.ⁱⁱ

For the Louisiana Museum, a strong emphasis on the social dimension of each visit is just as important as exploring art in a physically stimulating setting. "Make yourself at home" seems to have been the crucial gesture from the founder, Knud W. Jensen, who wanted to create a home-like, non-institutional atmosphere as if one was "visiting an eccentric uncle". The main entrance to the museum was through an old villa, which then led the visitor into the new buildings with architecture and interior design resembling the modern villas of the time. Consequently the visitors were – and still are – described as guests; always free to choose whether to concentrate on artworks, to take a stroll in the lush garden outside, or to go for a coffee in the museum café overlooking the sea. At first few critics were impressed by the laid-back attitude that favoured the pleasure principle, combining art, coffee and cake. In the early years you could even smoke cigarettes in the galleries (Pernille Stensgaard, 2008: 83).

Over the years the Louisiana has become a meeting place, both in the quite literal sense, since its visitors meet around art, and in the sense that they encounter culture live through extensive programmes of classical concerts and literary and cultural debates. This goes back to the early days of the museum, and when a concert hall was added to the museum in 1974, a space dedicated to live events was created. When the new series of talks presented as Louisiana Live was launched in 2008, a new term was also coined: 'Louisiana Unplugged'.ⁱⁱⁱ Given this insistence on an 'acoustic' naturalness when people meet to experience and explore art and culture in real time and in a real place, and to exchange ideas, it is no wonder that digital media beyond art itself did not play a leading role in the development of the museum. Louisiana was about people and social energy generated *on site*. Today, however, the contrast between offline and online seems less rigid. Digital media are seen as a way of extending the exhibitions at Louisiana. The first online exhibition catalogues have been published, and mobile guides to the

collection are ready for use this year. Facebook and Youtube are used as central platforms for communicating. Furthermore, a new context for learning at Louisiana has been opened up, as digital media help the museum to achieve important goals such as building sustained, in-depth, international relationships with schools and colleges. And in this context Turbinegeneration serves as a key example for further examination.

The pleasure principle re-addressed

Turbinegeneration connects schools, galleries, cultural institutions and artists from across the world through a social media platform. The site has existed since 2009 and it has had almost 85,000 visitors to date from 143 countries with 42 different countries registered and actively using the site. Turbinegeneration builds on the ideas of the professor of education technology, Sugata Mitra, instigator of the Hole in the Wall (HIW) experiment 1999. In a series of real-life experiments ranging from New Delhi to South Africa and Italy, Mitra gave children self-supervised access to the web and saw results suggesting that, in the absence of supervision or formal teaching, children can teach themselves and one another if they are motivated by curiosity and peer interest. Mitra's observations seem to re-address a founding principle for Louisiana: the pleasure principle as the engine for learning. When it opened, the Louisiana represented a break with the classic museum tradition of transferring knowledge to its visitors and 'cultivating' them. Instead visitors were perceived as competent, with a natural curiosity, ready to explore and learn for themselves when they were offered a welcoming, stimulating setting as well as an art programme.

To some extent, Turbinegeneration brings Mitra's experiment into a museum context: how far can students go independently when they are simply offered a network, a project pack and access to local art institutions? Turbinegeneration makes schools and colleges register to collaborate with an international partner, to explore their cultures and exchange their artworks online, while galleries, cultural institutions and artists use it to promote their work, raise their profiles and forge international connections. Each year a new downloadable pack is produced in multiple languages. This supports international collaboration and provides access to art and ideas, drawing inspiration from the current Unilever Commission, the Tate collections and international collections.

Turbinegeneration offers three main levels of engagement:

- An open, far-reaching, independent level where users develop their own partnerships online, inspired and supported by the resources provided.
- A 'light' level where users receive an initial startup workshop as a catalyst for kickstarting the collaboration process. (Facilitated by an artist and Tate)

- A deeper, lasting and inclusive level, where we collaborate closely with key institutional partners to pilot and try out new ideas together. These deeper engagements require additional investment.

In 2009 the Louisiana Museum was invited to be one of the key institutional partners in Turbinegeneration. This means that Danish students are offered both online and offline participation when they join Turbinegeneration. Participation offline takes the form of an all-day workshop at the Louisiana for each class, supervised by an artist sent out by Turbinegeneration, in this case a London-based artist (originally from Barcelona), Albert Potrony. To date around 300 Danish students aged 16-20 have worked with him at the Louisiana, and his various workshops will be described below in order to study the differences and dynamics in online and offline participation in more detail. ^{iv}

Process and product

The basic idea of the Turbinegeneration workshops is to give school students the opportunity to join in a process of exploration. Artistic work is about process and experiment; or to use the words of TATE artist Albert Potrony when presenting himself and Turbinegeneration to young people at the Louisiana: “It’s not about making great pieces of art, it’s about the process.”

The methods of exploration introduced in the TATE workshops vary depending on the artwork made for the Turbine Hall, which forms the basis for thinking about and exploring art. But the overall practice for these workshops is based on:

- Film and photography – media with which young people are familiar
- Cheap materials – which tend to free up creativity
- Open-ended exercises – which provide the freedom and space for a personal approach
- Performative approaches – which offer students the opportunity to be active themselves
- Exchanges – group tasks that invite students to exchange and share stories

In the following, three different Turbine workshops at the Louisiana will be presented, with the aim of identifying various approaches to participation that have challenged and inspired students to work with art in new, participatory ways. Each workshop was accompanied by a project package with themes such as *Images of History* (2009), *Collaboration* (2010), *Time and Place* (2011)

Share your story with others

Images of History. Miroslaw Balka: How It Is (2009)

The artwork for Turbine Hall 2009 was created by the Polish-Jewish artist Miroslaw Balka. With clear references to history, the Jewish genocide and the present-day global challenge of illegal immigration, Balka linked personal and general history, past and present in his work. The concentrated experience of time and history unfolding became the starting point for students' explorations of how they were connected with history as individuals.

Timeline: How do we connect big and small history?

This experiment explored ways in which students could link personal recollections with historical events. The device used was an improvised timeline: a 10-metre line of tape on the floor. First students were asked to point out a moment on the timeline that was significant to them as children. This became the symbol of a key moment that had changed something in their lives. Many of the memories were very personal, such as "when my brother got cancer" or "when I broke definitively with my family", others were less disturbing, like "when I had my first pet". Finally, students were asked to identify an important historical event. Many mentioned the so-called Cartoon Crisis, others cited "when women got the right to vote." In groups, the students were now asked to choose one of the events and produce a soundtrack for it on the sound pads. After this, they all gathered in front of the timeline and listened to the 'soundtracks of history'.

Re-enactment – history replayed with gaffer tape

The timeline experiment developed further into a performative exercise where students in groups were to re-enact a historical and a personal event in order to record it with a camera. Within just one hour, the students had to decide what event they would focus on, design props in simple materials like cardboard, string and tape and, finally, find a suitable location and re-enact the event in front of the other groups. The limited materials triggered their creativity and inspired the students to develop their special skills: for example, one student with an Arab background taught his group to pronounce the correct Arabic slogan to "protest against the Mohammed Cartoons". A Danish flag made out of many small red Post-It notes was then burned on the beach in front of the museum while "Danish women demonstrated for the right to vote". The atmosphere was hectic, and everyone collaborated in the realization of the ideas.

Afterwards, the students felt that it had been a great experience to meet around the timeline and share highlights from one another's lives. Physically walking from one event to the next and recreating history for themselves had opened up new creative ways of exploring history that the students could use themselves. The workshop focused on exchanges, creating an

unpredictable, democratic space where the starting point for working creatively was the young people's own life stories. At the same time the exercise deepened their understanding of their classmates' lives and backgrounds. The students were very enthusiastic about this kind of participation, feeling that it enhanced their understanding of contemporary art.

A recipe for art?

Collaboration. Ai Weiwei: Sunflower Seeds (2010).

Collaboration was the theme of this year's project package, inspired by the Chinese artist Ai Weiwei's amazing installation consisting of 100 million handmade porcelain sunflower seeds spread out to cover the floor of the Turbine Hall like a modern Zen garden. The porcelain seeds were made by Chinese craftsmen following the instructions of the artist. With references to classical Chinese history as well as the contemporary perception of China as a homeland of mass production, the work served as inspiration for a workshop with the emphasis on the idea of "planting a seed" in the shape of an idea – and then letting others use the idea as the starting point for a work of art.

Following the rules made by others – students as playmakers

The workshop examined the following experiment. Is it possible to create a kind of artistic expression based on rules made by others? In contrast to the timeline exercise, which was based on students' own memories, this workshop aimed at making the most of instructions formulated by others to create a final product of one's own. Albert Potrony established three 'dogma' rules: 1. Work in groups and write down on a piece of paper three instructions that ask you to do something physical. 2. Put the paper with the instructions in a box and pull out another paper with instructions from a different group. 3. Create a personal piece of art using the instructions of the others

Waltzing with Kiefer

One of the sets of instructions was as follows:

1. Go to one of the Louisiana's exhibitions.
2. Bow or curtsy to a person of the opposite sex.
3. Dance through the exhibition.

Inspired by Ari Folman's animated documentary from 2008, *Waltz with Bashir*, where the protagonist dances through the streets of Beirut during the Israeli invasion of Lebanon in 1982, this group chose to perform their waltz in the current exhibition of works by the German artist Anselm Kiefer, who works with the theme of German history and trauma. The group went to the Kiefer

exhibition equipped with a video camera and press accreditation, and two members of the group asked each other to dance; then they stylishly waltzed through the exhibition spaces followed by the curious gazes of other museum visitors.

Structure encourages creativity

A film presentation of the 'new artworks' concluded the day. First, the group that had defined a set of instructions presented their expectations as to how these instructions could be met. Then everyone watched the result produced by the other group who had followed the instructions, and listened to their explanations of why they chose to do it this way. Within the structure established by the 'dogma rules', the young people really managed to work creatively and use the restrictions as a starting point for their own independent work. Afterwards, many students stressed that the instructions had produced a sense of freedom because they did not have to base their creative work on personal material, and said that the restrictions had spurred them to think in new ways.

In accordance with Sugatra Mitra's research, this workshop revealed that making an overall structure available (in this case as a set of instructions) seemed to be exactly what encouraged the students to find independent solutions. The few 'restrictions' challenged the students to think creatively, while at the same time they defined the framework for their activity. On the other hand, the workshops were always carefully guided by Potrony.

Cinematic narratives: coincidence explored

Time and Place. Tacita Dean: *Film* (2011)

'Time and place' is the theme for this year's Turbinegeneration, presenting work by the British photographer and film-maker Tacita Dean. Her work *Film* encourages the visitor to explore and interpret the stories embedded in our familiar surroundings. In her practice, Dean often works with coincidence, creating stories that mix facts with fiction. Inspired by Tacita Dean as well as artists such as Olafur Eliasson and Carsten Höller and their shared interest in 'framing', the students were to produce a film in which the familiar is reinterpreted in new ways.

How can we explore coincidence?

The search for narrative potential and coincidence in the immediate surroundings was fundamental to the process. The starting point for this was more open-ended than that of previous workshops. Students were introduced to a range of cinematic devices that they could use in their further work; for example focusing the gaze of the viewer, framing, using time as a material. A crucial point for the students was to communicate a personal interpretation of the place and its possibilities.

The fog is coming, make the most of it!

One of the films shows a section of the grey October sea at Louisiana. One after another, three students walk backwards into the sea. With mirrors in front of their faces. The well known surroundings are immersed in the fog, and the result resembles a modern interpretation of a painting by Hammershøi. The fog came as a surprise to the students, but in the spirit of Tacita Dean they made the most of it. Other students experimented with coloured plastic in front of the camera lens to achieve a simple split-screen effect and change and frame what was seen.

This workshop was not only the most open-ended one, it was also the most technically challenging one. To meet the practical challenges, the students started to look for online tutorials and thus helped each other to overcome the challenges under the guidance of Potrony. As in Mitra's experiments, the students independently started to search for the information they needed to meet the technical challenges.

Simplicity works

The workshop process taught the students that you can often tell more interesting stories with simple methods than with complex, symbol-laden narratives. Potrony encouraged the students to experiment and at the same time to work with simplicity. They learned to see and uncover possibilities in their immediate environment, to believe in their basic ideas and refine them. Finally, it was interesting for students to experience how the other groups had interpreted and used the same framework – the museum, the sea and the park – in completely different ways.

Online-offline dilemmas

Overwhelmingly positive as the feedback from both students and teachers has been on all workshops, the online participation seems to have been a problem for the Danish schools. The tasks of the project pack and the uploads of student projects have not been enough to sustain the initial contact with the partner school. This means that the exchanges with the British partner schools are not working satisfactorily yet. That may be due to the technical and practical challenges of the site, but perhaps too the re-enactment of a moment from Danish history works best when you know the participants and the background of the re-enactment. It is initially difficult to transfer to the foreign Turbine site the energy, dynamism and feeling of having created something new and *unexpected* with people you know. Precisely because the process itself is so fundamental to this form of participation, what it teaches you about art, yourself and others in the course of the workshop is crucial. And this experience can be difficult to share online with people you do not know and who were not there. The teachers feel uncertain about what the online dia-

logue involves, or about how to use Potrony's workshop in their daily teaching as intended – as the beginning of an extended process of exploration. Clearer initial guidelines for discussions of the subjects might help students and teachers to prepare and direct their dialogue with the partner school.

Photos don't say it all ...

Another aspect is the balance between visual and written material online. Perhaps photos and films cannot stand alone on the site, but must be followed by brief written presentations, so that the 'mirror-portraits', for example, are not perceived just as reflections of the students' imagination and creativity, but also as a way of saying something about who these students are and what they care about. One of the Danish schools chose to accompany its Tacita Dean-inspired film with an English presentation explaining the students' thoughts about the production. This strengthens the possibility of using films as a starting point for a dialogue.

Work to rule!

Another way to strengthen the dialogue online would be to make all classes respond to the same exercise. Alton College, for example, created a series of humorous photographs on the theme of British stereotypes as their greeting to their partner class in Helsingør – staged photographs that could serve as a cheerful prelude to a dialogic response in the form of pictures of Danish stereotypes. A structured task based on simple instructions seems more suitable as a basis for dialogue at the Turbinegeneration site, where the sender and recipient need each other, as described above in connection with the Ai Wei Wei workshop with its use of instructions. Danish students would then define three rules that their English partners were to follow – and vice versa. Participation would lead to the sharing and exploration of each other's ideas rather than simply relating to something that others have created and trying out the same method. An example of such a successful ping-pong process was the 'alternative' portrait types 'Inside Out' made by the Espergærde Upper Secondary School in 2011. The students had sorted the contents of their schoolbags and pockets by colour and gathered the objects in a photo as a 'rainbow collage of personal things'; a simple and original idea that was seized upon and developed further by their partner, the Richard Challoner School, in a collage self-portrait.

The future is personal

In the evaluations, several Danish students suggested that instead of having whole classes as partners, they would have preferred pairings of smaller groups, or even one-on-one pairings with an English student to make the exchanges more personal, 'pen-pal style'. Similarly, it was thought

that during the workshop period all the classes should be active within the same well defined time-frame to give the young people the opportunity to create dialogue while it is fresh in their minds and therefore relevant. That is what digital media can do: make images and communication available right here and now.

Join the cocktail party

In museum studies participation is often understood as a question of museum visitors being either active participants or passive consumers. For many years the discussion focused on the balance of power between the institution and its users and the question of who is speaking and who is listening in the museum (Bruce Fergusson 1996:183) or of the difference between transmitted knowledge and knowledge constructed through dialogue (Eilean Hooper-Greenhill 2000: 560).

Over the past ten years there has been a perceptible shift, softening this opposition between participant and consumer, and suggesting that visitors can be actively engaged at various levels including 'doing' or 'speaking', but also reflecting, connecting and sharing. Instead there seems to be a recognition now that museums fulfil a social need and the desire of visitors to explore information and narratives physically and collectively (Joachim Sauter 2010: 34). Is this why collaboration has become a key word when discussing meaningful participation today, for example by mimicking a work situation in which challenges, skills and relations are brought into play? Or suggesting that the museum assumes the role of a cocktail party host: "Your job is to graciously and warmly welcome each individual, and then connect her with other people whom she might connect with particularly well" (Nina Simon 2010: 25).

From this perspective Turbinegeneration offers a relevant case study, as some of its qualities *offline* (in Potrony's workshops) as well as *online* focus on encouraging people to work together in groups and share their personal stories through a creative process. As described in detail above, Potrony's *offline* participation offered the students a chance to engage in art experiments or adopt artistic thinking rather than simply witness art and wonder about its modes of expression. *Online* participation for Turbinegeneration is characterized by joining an international network with the prospect of exchanging ideas with others as well as finding qualified information and ideas of contemporary art. The issue of online participation is far from resolved from Louisiana's viewpoint. There is still work to be done before students can "join the cocktail party" and feel connected with someone that they might connect with particularly well. Ongoing evaluation, however, based on qualitative interviews with 50 teachers from 16 countries in 2010-2011, documents a high rate of satisfaction with Turbinegeneration (Marketlink Research). What is mentioned as valuable for students as well as teachers is the way in which Turbinegeneration opens to participation in an international context. To improve online exchanges the evaluation

suggests building on existing digital forms of communication such as Facebook and Twitter. However, Sugata Mitra's socially engaged vision of students teaching themselves still lies somewhere on the horizon.

To sum up, Turbinegeneration is a project which challenges Louisiana's tradition for participation. It shifts the emphasis from the artworks to the creative process of the visitor. Despite Louisiana's emphasis on the pleasure principle and personal curiosity of the visitor, the museum always has a strong focus on the works of art on display - creating a stimulating encounter at a physical level as well as multiple points of engagement through texts and film in the exhibitions, catalogues, guided tours, artist talks, lectures etc. At the Louisiana it is mainly in the Children's Wing that permits participation, or else situations where school groups book a visit through Louisiana Learning. Again the artworks serve as the point of departure. The sessions with the school groups typically take place in front of number of works in the exhibition or collection where the students join in a dialogue with one of Louisiana's art educators. The dialogue mainly focuses on a joint exploration of possible interpretations of the particular work. The dialogue builds on observations by the students and includes drawing, sketches and a writing process in front of the works. In a two-hour session the dialogue leads to a workshop in the Children's Wing where the students have a chance to test the same techniques or materials as the artist/artists they have been studying. Altogether the Louisiana's forms of participation leave the exhibition space fairly untouched in comparison with experiments such as the students' 'waltz with Kiefer'.

The Louisiana's 'waltz' with Turbinegeneration is a collaboration that generates valuable inspiration but also raise questions as to where participation should take the visitor: To a deeper understanding of your own personal creative potential through art or to a deeper understanding of art history and experiences that lie beyond yourself? Or both? In that case, how can Louisiana develop its tradition of participation to make it more playful, personal as well as collaborative, as seen in the workshops of Turbinegeneration? Yet, to still insist on some of the analytical and negotiatory qualities that characterize the Louisiana's participatory practice when people spend time together looking at, talking about and contemplating a piece of art? Part of this is now being tested together with one of Louisiana's other partners, Red Cross, with whom the museum has been running workshops for refugee children since 2004 – a project which is about to grow in scale over the next years. Not only children profit from the recent developments, but also Louisiana's adult visitors are now able to join an alternative guided tour called Art+ that opens to a creative process of exploration. As for Turbinegeneration the reflections will continue as the collaboration is now leading to another kind of experiment in August 2012, when a four-day summer camp will be held for Turbinegeneration students from Portugal, Holland, Denmark and Great Britain in the spirit of Louisiana: "Let's meet".

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ⁱ Knud W Jensen went to Kassel in 1959 and had what he called his “Documenta shock”, and just a few years later the museum changed tack and also opened up as a place for showcasing international art.

ⁱⁱ The dialogue between nature and the buildings, based on a complex of several pavilions interlinked in a green landscape, has made visitors draw parallels to museums like the Dutch Kröller Müller Museum or the German Museum Insel Hombroich. In 2005 the French architect Jean Nouvel issued a *Louisiana Manifesto* when he was invited to give a solo show at the museum. In the manifesto he pointed to the site-specific, human-scale architecture of the Louisiana as an important lesson for all future architecture with a view to avoiding standardization and the dominant iconic architecture (Inger Krog, 2006: 255).

ⁱⁱⁱ Several times a week – in spring and autumn – Louisiana goes ‘live’. Louisiana Live offers museum guests a series of engaging evenings that make the museum a cultural meeting-place. The idea is to compete with television in the production of programmes on culture. Writers, researchers and debaters are interviewed by two newspaper journalists: *Weekendavisen*’s Synne Rifbjerg and *Politiken*’s Marie Tetzlaff.

^{iv} Seeing that Louisiana Learning has around 17.000 students per year Turbinegeneration represents an exclusive project, however, it provides valuable inspiration for reconsidering Louisiana’s participatory practices and integrating learning online.



Digital Threads - Transforming the Museum Experience of Prehistoric Finds in the Landscape

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Abstract

The project Digital Threads across the Landscape aims to make the invisible prehistoric finds in the landscape visible through augmented reality and location-based mobile phone software.

The “digital threads” metaphor is many folded, and has been running as a red thread through our work, creating a web of links between the locations, the museum and a group of co-developers. The aim of this paper is to discuss how the thread metaphor works as a methodological perspective and how the product is changing both the museum experience and the museum’s modes of communication.

1. Introduction

This paper presents an application for smartphones, which augments, communicates and creates new experiences of prehistoric finds in the landscape of Central Jutland in Denmark. A large amount of prehistoric finds exist at museums located miles away from the places they have been retrieved from. Thus, the finds become detached from the archaeological sites, and often, no traces are left at the sites.

The project *Digital Threads across the Landscape* aims to make the invisible stories visible¹. By utilising location-based mobile phone software and augmented reality (AR), the project sets out to make visible the prehistoric reality and guide both locals and tourists through the cultural heritage. By panning the phone's camera across the landscape, the sites of the finds are revealed as a digital layer on top of the real world. Users can choose to access the unique source materials obtained through more than 40 years of archaeological excavations, at the very locations where the events took place. In this manner, the museum experience as well as the museum's modes of communication is transformed.

The "digital threads" metaphor is many folded, and has been running as a red thread through our work. Firstly, the application (or app) creates a link between the archaeological sites and the finds, transforming the location of the museum experience to where the events took place. Secondly, the user is made aware of other finds nearby, as well as related finds, creating a web of threads or links between the locations. Thirdly, we are linking the digital and the physical in a mixed reality² mode of communication, extending and transforming the museum space across the borders of the physical museum. Last but not least, we are working with two groups of users throughout the project; young people who have less interest in prehistory and more in the world of apps and technology; and seniors for whom it is the opposite scenario. Both groups have been acting as co-developers. The challenge has been to link the interest of the two groups and create a form and content, which meet the demands of both groups and at the same time fulfil the demands of a high level of archaeological information and expertise. Initially, the plan was to develop a project only dealing with prehistoric sites and finds. The main focus should be on the archaeological investigations at Lake Bølling (Bølling Sø) dating from 10.000 BC to 1.000 AD and on the 2.000 years old burial site of the Hammerum Girl. Locations from later periods should be involved later on. However, through the process of developing the app, the focus changed and cases from later periods were included in the project as well as archaeological sites.

In the following section, we present how working with the app *Digital Threads across the Landscape* has transformed the co-operation between the different departments at the museum. Section 3 discusses how the partnership between curators, computer scientists, designers and the users or

¹ The project is financed by the National Heritage Board of Denmark. It is a co-operation between Museum Midtjylland and Alexandra Institutet A/S. Other participants are Silkeborg Kulturhistoriske Museum, Viborg Museum, the Municipality of Herning and Ikast/Brande, Visit-Herning, Visit-Ikast/Brande and Danmarks Oldtid i Landskabet.

² Mixed reality refers to a blend of physical and digital elements. The term is defined by Milgram and Kishino (1994) as a continuum extending from extreme real environments—over augmented reality—and augmented virtuality—to extreme virtual environments at the other end of the continuum.

potential users has influenced on the construction of the app. In section 4, the structure of the application will be presented showing the different levels of the app, as well as its functionality and intended user experience (including an on-site part). Some of the challenges of the current version will be discussed.

2. Inter Departmental Co-operation

Before the project *Digital Threads across the Landscape* was established, the co-operation between different departments at the museum had been limited³. Often, the archaeologists made their own exhibition and the ethnologists/historians did the same. Due to this division, it has been a distinct objective to create a project linking the departments together. Even though there was a consensus at Museum Midtjylland about the project Digital Threads across the Landscape long before the financial foundation has been established, working with this new technology was a challenge for all employees.

At the beginning of the design process, it was only the archaeologists and the external co-developers who were involved in creating the application. However, it quickly became clear that the other curators of the ethnological departments also should be part of the project contributing with their own cases.

As a consequence, threads were tied between colleagues who were not previously working together and a shared understanding was developed (Boer et al., 2011). For the first time, a mutual portal for communication with the general public is established. The structure of the app gives a more uniform manner of communicating the cases, regardless if the site is a more than 10.000 years old find, or a building from the 1800th century.

In this manner, the project has changed the communication from the museum in a crucial way. Digital Threads across the Landscape has started a process transforming the whole museum and it will develop further in the future.

3. Methodological Aspects

In its construction, the project is a partnership between museum curators, computer scientists, designers and users (or potential users). The project was initiated by Museum Midtjylland based on the idea that an interdisciplinary approach, respecting the different competences, is important in the implementation of new technologies in a museum context. The interdisciplinary approach has been of great value to ensure that all aspects of developing an app were taken into account. In the following, we will elaborate on the process of working together as partners in a development project and in addition, describe how the thread metaphor, as a methodological perspective, has influenced the process and transformed the mode of communication.

3.1. Aim

As previously mentioned, Museum Midtjylland wanted to break free of the four walls of the museum, to experiment with new ways of communicating and to meet the citizens where they are instead of

³ Museum Midtjylland is a conglomerate of five different museums – Herning Museum, Tekstilforum, Herningholm, Klosterlund Naturcenter og Museum and Palsgård Skovmuseum.

always expecting them to come to the museum. An important aspect was therefore to involve non-professionals to explore what would make them use an application for smartphones on the cultural history of their local area. We define the non-professionals as user and non-user instead of, for example, visitor and audience emphasising that the experience is a “*multidirectional content experience*” instead of a one-way communication where visitors consume the content provided by the museum (Simon, 2010). A tendency, which is closely connected to the experience economy and which has influenced the vocabulary used in museum contexts⁴.

3.2. Embracing different groups of age

The non-professionals were chosen to be representative for users as well as non-users of the museum. The users were a group of five seniors from 60-75 years old, some of them volunteers spending a great deal of their time in the museum already. The non-users were a group of six young people in the age of 18-22 years from the local upper secondary school – Herning Gymnasium, and the University College - TEKO⁵, who had never before set their foot in the museum. We also define them as potential users while the development of the app also has as its aim to attract new groups to the museum.

An aim was therefore to spin threads between the two groups and work with a method to reach them as one target group. This is inspired by John Falk (2009), who argues that the museum experience cannot be understood alone by quantitative categories as age, education and sex. The output of a museum experience is much more about prejudiced expectations and the social context of the visit. One is that the group of young people is much more familiarised with smartphones and applications. Another is that the group of seniors, who has a great interest in history, has more patience reading text than the group of young people. But both groups, for example, appreciated the opportunity to make plans at home using the app before going to the actual locations. Those considerations have influenced the structure of the app. In general, the user of the app will encounter little text, however, also the possibility to explore more about the finds and sites. The structure of the app is unfolded in section 4.



Figure 1: The group of seniors explores the app.

⁴ See e.g. publications from the Cultural Heritage Agency of Denmark concerning museums and the digital <http://www.kulturarv.dk/publikationer/efter-emne/museer/browse/1/> (only in Danish).

⁵ In the report “Young people and media: connections/contexts and perspectives” (Kobbarnagel et al., 2011) it is shown that especially the area of central Denmark south has the lowest rate of young people frequenting museums.

3.3. Co-developers

A purpose of bringing the two groups as partners in the development of the app has also been to learn from their perspective. In their book, *Rehearsing the future*, Brandt and Eriksen (2010) differentiate between users as evaluators and users as co-developers:

"They [users] can be involved in two very different ways. They can be invited to test or comment on proposals made by the core design team, or they can be brought in as co-designers taking active parts in developing and exploring possible futures"⁶.

We have worked with them as co-developers throughout the whole process, from pre-analysis to production and preliminary evaluations. The two groups will in the following be referred to as co-developers. They have participated in five workshops developing ideas on content, form of the app, storylines for an animation film and they have tried out previous versions of the app both in paper mock-ups and in beta editions on the smartphone (both at the museum and at the locations in Hammerum and at Lake Bølling).

The workshops have been arranged by the museum, and in two of the workshops, the developers and designers also participated. After each workshop, the output has been analysed and discussed with the designers and computer scientists. The museum experts on the archaeological field have been present in all the workshops.

This process has time and again shown us in which ways the concept, the navigation and the content as a whole in the app works and in which it did not. It has forced us to re-evaluate our choices and rethink some of the principles of the application. To sum up, it has transformed the mode of communication in the process, opening and bringing back discussions and choices we thought we already had ended.



Figure 2: In one of the workshops, the two groups requested to be brought together. Here, they developed storylines for an animation film about the Hammerum Girl and discussed the content of the app up till that date.

⁶ Brandt and Eriksen, 2010, p. 71.

3.4. An iterative process – changing modes of communication

In the research field of Information and Communication Technology (ICT), there is a tradition for letting the people who are to use a system, have a critical role in its design (Schuler and Namioka, 1993). This tradition is called Participatory Design (Bansler, 1987) because the users participate at different stages in an iterative design process. This means that the stakeholders can have an aim of what they want to achieve, but not what kind of product is best suited to achieve that aim. Already before writing the application for the grant, we collaborated on coming up with ideas to make the invisible history visible. Our mission was to develop an application for smartphones based on GPS and AR. The aim of the product was therefore fixed from the beginning. However, we favoured the iterative approach letting the process determine which directions the concept should take. Every step of the development process was analysed and evaluated by all partners of the project.

From a democratic point of view it has also meant that the input from all partners in the project has been valued equally, respecting the competencies each party have brought into the project. This realisation has been the fundament of the process and has both changed the modes of working and the modes of communicating. We have, for example, not worked with a specification of requirements and the milestones have been changed regularly realising that some parts of the process, working with an iterative approach, took longer than expected and others less.

To sum up, using the thread as a metaphor and in some ways also as a structure of the application has been a good tool and a reminder of the connection between the different groups of users. As a development project is has been almost a precondition to work from an iterative approach bringing all competencies into play. But it has also demanded a trust in that all work toward common objectives.

4. The Application

This section presents the application, including its structure, functionality and the intended use experience. The application is currently in its final state of its process of development. Thus, there are still a few unsolved issues; however, the current state will be presented and discussed based on feedback from the two user groups.

In this project, we have utilised location-based technology and AR, which adds a new dimension to the normal exhibition experience (Lemmens, 2010; Krauß and Bogen, 2010; Hainich, 2009). Instead of merely being a spectator, the visitor has the opportunity to be a participator when experiencing prehistoric finds in the landscape.

We have utilised GPS (Global Positioning System) in order to specify the locations (x,y,z-position) of each interest point in the landscape. Each point (we aim at approx. 50 points of interest) is established by the curators, who utilise an editor tool to add the GPS-location, text, pictures, videos, links, etc.

The users will encounter the application by learning about it from signboards on location or from information on the web. The users can download the application on site by scanning a QR code⁷ on a signboard (making people aware of the app), or through App Store and Android Market. In this manner, the means of communication is a dynamical extension and remediation (Bolter and Grusin, 2000) of the current means (signboards and leaflets), chosen to embrace new target groups, who

⁷ <http://www.qrcode.com/index-e.html>. A QR (Quick Response) code is a 2D barcode with a unique identity, which is used as a quick reference to content of relevance to the context and location where it is displayed.

rarely visit museums. Today, the Internet and the possibilities provided by mobile devices have changed our manner of communicating and the manner in which we appropriate information. By introducing an app, the museum experience is not bound to the physical walls of the museum during opening hours, but can be had where the excavations were located, at any hour. In the following subsections, we will introduce how we have chosen to communicate the finds in the landscape.



Figure 3: The main menu. On the left, the older version of the menu is displayed. Based on feedback from the users, this version was changed to the version on the right. The users found the previous version too unattached from the subject area and the fact that the experience takes place in the landscape.

4.1. Structure

The application consists of four levels (for an overview, see Figure 7). The first level is the main menu displaying three buttons as entry points to level 2 (see Figure 3). At level 2, the user can browse material in different modes.

4.1.1. Level 2

Firstly, the user can choose to explore interest points as a digital layer on top of reality; also known as AR (augmented reality (see Wellner et al., 1993)). A short explanation of what AR is, is explained at the button at level 1 (See figure 3). Although the majority of our user groups did not know of the term prior to their participation in the project, we chose not to change it. We tried coming up with alternatives in Danish with the users (e.g. "Udvidet virkelighed", "Lag på virkeligheden"). However, we agreed that none of them were concise and accurate enough; and furthermore, in time more people will know the term⁸.

When the user pans her phone's camera across the landscape, she can see where in the landscape the interesting spots are located. As each point of interest is set up based on its x, y, and z coordinates, the application can recognise the points by utilising GPS. Furthermore, the application utilises the phones built-in compass and accelerometer to determine which interest points to display in

⁸ As an example of applications utilising AR is the mobile browser Layar (<http://www.layar.com/>).

the landscape, which is done by showing semi-transparent labels on top of the actual locations. Each label contains a headline, a thumbnail, and a specification of the distance to the point in question. The labels are displayed in relation to the direction of the user. From a small dot in the middle of the screen, a thread is linked to the labels, so that the user is made aware of where to look for interest points in the landscape. This feature was made to provide the user with an alternative to the “radar” function, which is often used in Layar applications. The threads provide the user with an immediate direction and contextualises the points to the user. Furthermore, the labels are displayed in a Fish-eye perspective, meaning that when a given label is at the centre of the screen (directly over the dot), the full label is shown and made clickable, whereas the label is smaller if it is in the periphery of the screen, only displaying part of the headline. User evaluations have shown that not all users understand the dot, and thus, we are experimenting with making the dot look like a sight (as on a rifle), to spur the users to put the labels at the centre of their screens. In addition, the user can utilise a filter tool to filtrate in the possible points of interest to be displayed. The top part of the tool allows for filtration in distance (from 0 meters to 100 km) and the lower part handles filtration in period of time (from 10.000 B.C “Ahrensburgkultur” to 2012 “Nyere tid”). Each filter has two points of control making it possible to choose an interval. Initially, the filter tool was only intended for the AR-mode and the map (as will be presented shortly); however, the users thought it would be helpful in all three modes, and that a setting in one mode should correspond with that in the other modes. Furthermore, the users requested the names of each period in order to better relate to the datings.



Figure 4: Two screenshots showing the AR mode. In the picture to the right, the filter tool is activated. However, the names of the periods are not yet implemented.

The user can browse the different points by pressing the labels, which will provide the user with a teaser. A teaser is a semi-transparent window containing a headline, a picture and a short description of the point. From the teaser, the user can go back to the AR mode, or gain more knowledge on the finds by pressing the “More info” button, which will take the user to level 3.

The second mode in level 2 is a map, where the user can see the interest points as pins at a map. The location of the user is displayed with a red semi-transparent cone illustrating the direction of the users field of vision. The map gives the user a different approach to the points of interest as the map mode can be used to create an overview, and thus to plan ones visit prior to actually going somewhere. At the map, it is possible to zoom between different levels, using satellite pictures for the highest levels of zoom. As in the AR mode, the points are connected with threads, and it is possible to utilise the filter tool and to click on the pins to have a teaser displayed.

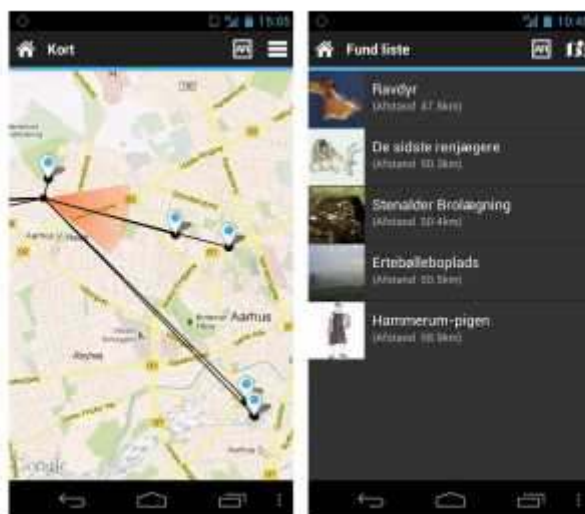


Figure 5: Left: A map displaying the finds with blue pins. Right: A list showing the distance to the finds from the users position.

The third mode at level 2 is a list mode, which displays the points of interest in a list starting with the nearest point. Each point is displayed with a headline, a thumbnail, and a specification of the distance to the point in question. In order not to dilute the list mode, the user goes straight to level 3 when clicking on one of the points without having to go through a teaser.

Apart from these three modes, the previous version also included a fourth button, called “Om denne app” (About this app). The developers originally thought of it as a colophon, mentioning the project team behind the app. However, the user groups thought of it as a manual on what to do, and consulted it before doing anything else. In the current version, we have redesigned the buttons with a short text explaining the three modes, to hopefully obviate the need for a manual. If this solution turns out to be inadequate, we are considering making a different button to content that is both colophon and manual.

4.1.2. Level 3

Level 3 is where the user finds the contents of the application. The entry point is a description consisting of a headline, a banner picture, and a longer text possible containing more pictures. The text is written in smaller subsections to ease the reading experience on the screen.

The menu bar at level 3 makes it visible, that it is possible to navigate between sliding tabs. Left of the description, there is a tab called “Tråde” (Threads) and further on: “Video”. “Tråde” links the find in question thematically to other finds, for example, to related finds; and if a video is made of the find, it is displayed under “Video”.

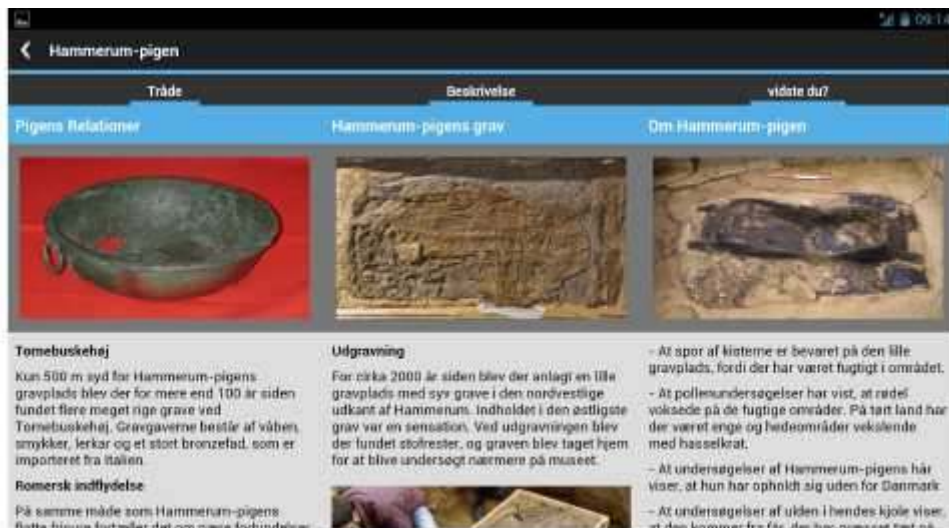


Figure 6: A panorama view of three out of five tabs at level 3.

To the right of the description, there is a tab called “Vidste du?” (Did you know?) and further on: “Links”. “Did you know” displays facts listed in a concise manner. Under “Links” the user can find links to external databases such as “Musernes Samlinger”, “Fund og Fortidsminder” or the website of Museum Midtjylland.

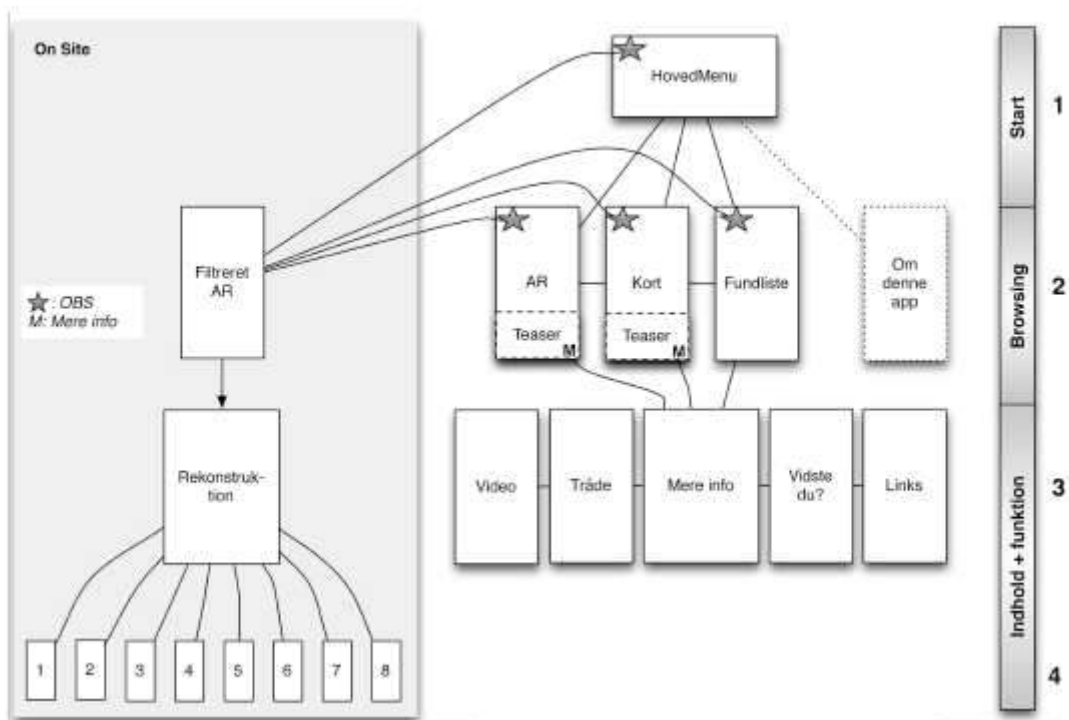


Figure 7: The structure of the application, containing four levels and a part, which is only activated when the user is on site.

4.1.3. On-site & level 4

Apart from the above described content and functionalities, there is an extra bonus for those who are

actually near some of the points of interest. Initially, the idea was to implement some vista points (udkigspunkter in Danish) located close to some of the interest points (which we call special interest points). The vista points can also be seen at the map at a close zoom level. When a user ventures into one of the vista points, a message appears at the screen marked with an icon of an eye. The message is accompanied by a buzz and a sound (see the left picture in Figure 8). Further, the message explains that it is possible to get an extra experience if she holds up her phone and search for a special interest point, which is in fact a filtered AR mode at level 2.

At the current stage of the process of development, we may exclude the mentioned vista points, as the users do not seem to understand why they should go to another location than the one they want to know more about. An alternative could be to increase the radius of each special interest point to make the user aware of the extra feature when they are close to the site.

Regardless which way the user learns about the extra feature, she will then be instructed to hold up her phone and search for a special interest point. A compass and a frame at the screen guides the user to turn in the correct direction, and when the user has found the right place, a picture of a reconstruction is displayed on top of the location, creating an image of how it could have looked at the time when the site was in use (see the right picture in Figure 8). Once the picture is locked, an animation will divide the picture into a grid of eight possible active parts of the picture. Each active part is a link to a fourth level, where elements of the reconstruction can be examined further. At the fourth level, pictures are prioritised and text is scarce.



Figure 8: Left: A vista point is found, and if the user chooses to see the content, she will be instructed to hold up her phone and search for the reconstruction (as seen in the picture to the right).

The reason why an “On-site” part of the application was developed was to have the users go look for the actual locations. The yield of utilising AR is much larger when the user is in the vicinity of the points of interest, as it creates a bodily relation to the locations. The museum experience gained when using this application is not meant to be one without a place. Rather, the experience is transformed from a centralised experience, where the finds are presented at a place outside their original contexts, to a decentralised experience, where the user can explore the places of the original contexts instead of the finds themselves. And it was in order to maintain the “place” of the experience, location-based technologies was utilised and in this manner link the site and the finds together.

5. Conclusion and Future Work

The app Digital Threads across the Landscape is one of the first applications communicating cultural heritage and especially the prehistoric finds to the general public using augmented reality. The thread

metaphor has been used as a methodological perspective and we have shown how it has been running as a red thread through our work linking the departments at the museum, the prehistoric and historic finds outside the museum and the users together in several new ways transforming our mode of communication.

We will recommend others to be open in the process. Curators are responsible for the content and the computer scientists and designers are responsible for finding a suitable technology and design. We have experienced that the development has to take form as a dialogue and that the curators have to be very precise on what the aim of the project is. Working with the co-developers has been a valuable asset in the project, as they have provided ideas and challenged the functionality and content of the app throughout the process. We hope and believe that it has optimised the application Digital Threads, which will be presented on the 9th of June 2012.

The most important part of the future work will be a final evaluation of the app. After the public presentation there will be a guided tour around Lake Bølling the 24th of June. We are looking forward to the response of all of the future users of the app. There will also be arranged a workshop with students from the Department of Prehistoric Archaeology to test the content of the app. Museum Midtjylland has already been more visible in the public scene through the new app. New partnerships have been made between other organisations, for example, between the museum and the tourist agencies Visit Herning and Visit Ikast/Brandeb. In the future, we plan to include the museum of art and wish to communicate the different works of art and finds in the city side by side with those in the countryside. In this manner, our app can transform the experience of our cultural heritage.

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The Garden of Stairs - Combining spatial and social experience in an education geology installation

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Abstract

This paper presents the development of and experience with the visitor experience experiment, 'The Garden of Stairs', realised in the Botanical Gardens of the Natural History Museum in Oslo 2011. The project was developed as part of a museum education programme, as well as part of an artistic research project at the Oslo National Academy of the Arts. The aim was to develop an installation for school-groups, with sensory experience as an entrance to the theme of landscape and registration. Further, the project should also be available for the other museum visitors, thus addressing other motivations for visiting the museum in addition to the educational.

1. INTRODUCTION

Many people will state that they visit the museum to see exhibitions, and learn and experience from them. The other visitor is not part of this intention. Yet most people visit the museum together with other people, often friends or family, or they come with their school class or other organized groups. The museum visit becomes a social event, and research shows that a majority of visitors will actually remember the social event longer than they will remember what the exhibition was about (Falk & Dierking, 1992). Further, most visitors have several interests in the visit in addition to learning. Museum researcher John Falk claims that one of the main qualities of the exhibition visit is that the visitor herself decides how and when to engage in the exhibition, thus controlling her own learning and interpretation. He suggests that this 'choice-and control'- situation is one of the explanations why so many people choose to spend their leisure time in the educational environment the museum represents (Falk 2009).

The Natural History Museum in Oslo developed an educational programme for Oslo's nine-year-old pupils on the occasion of The University of Oslo's 200 years anniversary, 2011. The theme of the educational programme, 'The budding researcher'¹, was geological research, fieldwork and landscape. 'The Garden of stairs'² was an experimental project developed for the educational program. Anne Birkeland from the museum's educational department co-operated with Annelise Bothner-By from the design department in The National Academy of the Arts Oslo in the development of this project. The project is part of an artistic research project concerned with social and spatial experience in educational exhibitions³.

The aim was to develop an installation for school-groups that would also be available for all other visitors. The first concern was to explore the distinctive perceptive qualities of the tangible space as starting point for the visitors' introduction to an exhibition theme. The second concern was to explore how spatial design can mediate for relations between people in the exhibition space, and how these encounters relate to, and enrich, the theme of the exhibition. This paper will relate the process and experience of the project 'The Garden of Stairs'.

1 NATURAL SCIENCE SUBJECT CURRICULUM Established as a Regulation by the Ministry of Education and Research on 24 June 2010, Applicable from:

1 August 2010. The Norwegian projectname is 'Forskerspiren'.

2 The Norwegian projectname is 'Trappebakkehagen'

3 The Norwegian Artistic Research Fellowship Programme, an artistically cross-disciplinary programme, also covering design, is a parallel to other research educations organized as academic PhD programmes. The Programme distinctive feature that artistic work shall be the chief focus of the research fellows' projects.

2) BACKGROUND

A holistic take on exhibition design

The theme 'landscape' is presented in The Natural History Museums Gallery of Geological Evolution, with original exhibition architecture from 1920. The exhibition has a classical layout with a central hall and 10 facing galleries with vitrines in oak. The spatial frame of the exhibits is thus treated in the same way as the principle of the "white cube" (O'Doherty, 1976): as a neutral backdrop framing the exhibits and freeing them from any context. The organisational overview and flow through the space is treated as one design question, while the spatial presentation of the exhibition theme is designed inside defined display cases. Experiencing nature's phenomenon was not the intention of this exhibition. This was a place where the visitors, mostly university students, were literally supposed to study the exhibition content.

In opposition to a strategy for spatial design as a neutral framework, the concurrent modernist and avant-garde architects in the first half of the last century actively treated the exhibition space as a whole. One example is Friedrich Kiesler's design, where especial attention was paid to people's encounters with the display as part of the exhibition experience. Thus concerns about seating, the angles of the objects, and viewing positions were designed as part of the spatial narrative (Staniszewski, 1998).

The two approaches show that the term 'exhibition design' covers a heterogeneous approach to the relation between design of space and exhibition theme. We follow the tradition of Kiesler and understand exhibition design to be concerned with solving the whole situation; a design that looks after the correlation between spatial design, the people in it and the exhibits themselves, with the visitor as the core of the experience.

This strategy for exhibition design can be defined with the term 'scenographic exhibitions' (Von Arx, 2011) and has in common with 'installation art' that it offers the viewer activities to take part in, and that the meaning of the work evolves through this participation (Cappelen & Andersson, 2011). In this project we are not creating an artwork, but staging a situation that communicates the landscape-theme through our choices of context, situation and structure. Thus the staging is the communicating strategy creating the background for individual and cultural understanding and interpretation of the scene (Cappelen & Andersson 2011).

It needs to be emphasised that this understanding of scenographic exhibition design does not imply that the spatial design directly illustrates the exhibit/exhibition theme, which is a

common understanding (Eriksson, 2004). Rather, as opposed to an illustrative strategy, the spatial frame can potentially enhance the experience of the exhibit by creating attention to the exhibits in surprising or opposing contexts that are in dialogue with the exhibition theme. Thus the spatial framing of the theme has the potential to adding perspective or narrative.



Figure 1. The Gallery of Geology, the Natural History Museum, designed in 1920, Oslo, 2011.

Embodied experience

The previously mentioned Frederick Kiesler's holistic exhibition design involved the comprehension of exhibition not only as something you look at, but a space you actually take part in with your whole body. His spatial elements offer a choreography for your body's movements through and positioning in the exhibition space. This way the designer plan that the visitor embody experiences and re-activate already embodied experiences as part of the exhibition. The phenomenologist Maurice Merleau-Ponty describes the body as our means of having a world. It is through our perception we engage with and understand our surroundings (Abram 2005, Merleau-Ponty 1945/2005).

While the Natural History Museums Gallery of Geology is a place designed for the intellectual study, the museums educational programs in geology are concerned with the body as our means of meeting phenomenons of nature. The museum lecturer uses sensory experiences as starting point for the teaching. The educational goal of "The Budding Researcher" was to understand that research is based on observation and registration. This entails that the pupils should become familiar with the qualities of the landscape surrounding them, and be able to verbalize and describe these qualities. It is Anne Birkeland's experience that the nine-year-old fourth grade pupils are still of the age were they need concrete examples to understand abstract terms. Many pupils in Oslo have Norwegian as their second language, and becoming acquainted with the terms used to describe and define nature and landscape will be the most important tool to comprehend the landscapes qualities. Relating to their own sensory experiences, they will comprehend the meaning of the landscape terms. According to Anne Birkeland, the educational program should strive to offer a varied a learning situations to stimulate the children's multiple intelligences and learning styles. The sensory and co-operative offer is one that will include the less theoretical capable pupils (Gardner 2001).

The other visitor as part of the exhibition experience

The aim of social interaction in exhibitions will often be the dialogue that leads to a verbal acknowledgement of the experience, as this reflection is an important part of a learning process (Black 2005). Thus social interaction in exhibitions often imply that there is designed a given

task for co-operation, more or less verbally explicit. An other strategy is to design the exhibition displays in such a way that they invite co-operation (Myllykoski, 2010)⁴.

For the school group, the museum visit is within the educational context, and task-driven interaction is a good way of learning. But the individual visitors have different motivations for entering into task-driven social interactions. The previously mentioned researcher John Falk claims that the motivations for visiting and engaging in are identity related. Thus the identity related motivation will also be the filter for how they react to the exhibition and what experiences the visitor brings back. John Falk reduces the diverse motivations into five identity related motivations: 'the explorer', 'the experience seeker', 'the recharger', 'the facilitator' and 'the professional/hobbyist'. The explorer digs directly into things. The experience seeker wants to see the icon. The recharger wants a mental break in a relaxing setting, and the professional/hobbyist has a specific theme or object as motivation for her visit. The facilitator is concerned with the other visitors' experience and wants his friends and family to have a good time. Thus different visitors will have different motivations to partake in a task of social interaction (Falk, 2009).

In the light of the diverse engagement motives of the general visitors, it is interesting to explore how to treat the social dimension of an exhibition more openly than a facilitated task for interaction. May the experience of the other visitor add a dimension to the experience of the exhibition's theme. The artist Matts Leiderstam's projects with landscape paintings are examples of how to design for a meaningful presence of other visitors. For him, the act of seeing is a central theme. Curating landscape painting exhibitions he literally plans for our observation of the other visitors gaze towards the landscape portraits. The other visitor are thus treated as the intermediate object that adds perspective to our experience of the exhibition's phenomena. The artist thus lifts the experience of the other to an intellectual level.

⁴ The Classics Exhibition at the Finnish science centre Heureka is one example, described as a structure for interaction, with its design for the visiting families' dialogue and co-operation around the science experiments.

3) DESIGNING THE GARDEN OF STAIRS

Approaching the theme of the educational program: landscape research, registration of landscape shapes and recognition of the landscape's qualities and characteristics, we started out with idea-workshops and experiments on how to create sensory representations of landscape qualities in The Gallery of Geology. This process ended with deciding on making use of the fact that the sensory experience of nature already exists in another of the museums educational areas, namely The Botanical Garden. This space had little former tradition of addressing other themes than the botanical. With several suggestions of intervening installations for different nature-phenomenons to choose between, we decided to work with the landscape shape hill, and the aim was that people should register this landscape shape, and investigate further the information that lies in the encounter with this phenomenon. We chose a hill that lay in a rather inactive part of the garden as the exhibition object for this project.



Figure 2. Framing the qualities of the hill with stairs

Framing the exhibit

The sensory experience of landscape is constant. In the work with the spatial design, it became important to frame this continuous dialogue between body and space, and make the visitor conscious of the qualities of the experience of the landscape. We chose to emphasise the landscape with contradictory elements, and through this strategy direct the attention towards the qualities of the hill.

The hill was surveyed and the contour lines of the garden's map painted in full scale with grass paint normally used for football fields, thus emphasising the quality of the hill's gradient, as well as introducing the topic of how to read maps. A series of man-made steps of stairs were placed around the hill, thus contrasting the constructed man-made climb versus the nature's climb. The stairs were an immediately recognizable and readable element. The steps had different sizes, colours and gradients, so as to emphasise that the hill shape was not constant. The steps also function as an illustration of how to read the equidistant between the contour lines. A series of signs with text and illustration was added on separate steps. These spatial elements had the function of a spatial framework of the exhibit: the hill itself, thus making the experience of the hill more than it is. The exhibition was treated as a whole situation.

"In regard to the garden of stairs I am sometimes unsure about what is the exhibition. Seen literally, the exhibition consist of steps, signs and painted contour lines. Still, it is first in the instance when you start using the elements and the hill that it becomes clear what these elements are for. In a way, it is this experience, sometimes guided by the museum lecturer, that is the exhibit. This hill itself couldn't be called the exhibition? Its just there". Quote Anne Birkeland , March 2012.



Fig. 4. Contour lines and sign,



Fig. 5 Steps of stairs.

Planning for acknowledging embodied experiences

The main concept of the exhibition design is to activate the pre-recognized experience of the landscape shape hill, and thus lead an interest to investigate this phenomenon further. The intention was that already when seeing the added steps of stairs in the hillside the visitor become aware of the specifics of the hill, due to previous experiences with this landscape shape and man-made construction. These shapes are so commonly familiar, that this reading would almost be universal.

The signs placed on other steps had suggestions to tasks you could perform in different ways in order to investigate the phenomenon of gravity. In the text, suggestions for active investigation were given just as much place as the explanations. Thus the phenomenons of gravity, landscape characteristics and how to read maps were introduced through activities.



Figure 6. Embodied experience of gravity

The other visitor as part of your own experience

In the design of the garden of stairs we plan for three ways of integrating the experience of the other visitor in our own experience of the theme. Firstly the observation of someone else

climbing the hill, was planned as part of the visitor experience. The act of the other visitor should work as the intermediate object between us and the hill, adding to the first notion of the steps, an even further recognition of the qualities of the hill-shape.

Secondly the steps are such a familiar element that the visitors might hardly register them, unless they were activated in some way. All the steps were moveable and possible to puzzle together, infinitely creating more sculptural elements. This is potentially a possibility for co-operation between visitors.

And thirdly this possibility to create a stair for someone else also adds a social value to the steps. One question was therefore if the interest in partaking in assembling stairs and possession of the activity would be affected by the fact that someone else has built the stairs you are climbing or remounting, and the fact that someone else will possess the stairs that you created.

4) THE IMMEDIATE EXPERIENCE WITH THE CHOSEN DESIGN

Already a few days after installation the necessity for information became clear. Even though this installation was meant to be self-explanatory, most other elements in the museum have signs. Thus people kept asking what this was. An introduction poster was placed on the top of the hill.

The next reconsideration was the tactical placement of the steps in the hill. If they were too close to the pathway, less people left the path, as they could comprehend them from this distance. Further from the path, the visitors curiosity made them leave the pathway. The result was that more people engaged with the elements.

Thirdly, the stairs of steps were left unmoved the first week. We added a verbal invitation to move and reassemble the steps in the introduction poster. But it was only when we found that the reason nobody moved the steps was that the assembly created at the first installation looked too planned and meant to be, and we then started to pull steps apart to make it look more messy and unfinished, that people started moving them. All through the installation period, every now and then, the stairs had been assembled to a long finished looking shape, and then it might not be changed for several days.

5) THE VISITOR EXPERIENCE WITH THE GARDEN OF STAIRS:

The Garden of stairs was available from medio August until early November 2011. During this period, a wide range of visitor groups visited. We regularly observed and interviewed the visitors in the garden.

The garden of stairs and fourth grade school-groups

The experience with the main target group for the project, the nine-year-old school pupils, was generally positive. This group was facilitated through the whole visit. The museum lecturers' experience was that the pupils were very engaged and enjoyed taking part in the tasks given. The lecturer would spend about an hour giving the pupils different tasks, and the sensory experience of the hill was the entrance to ask questions and introduce the overall theme of landscape qualities and the specific themes of maps and contour lines, gravity and the distinctive features of a hilly landscape, compared to other landscapes. The pupils were eager and wanted to participate. They all jumped from the stairs representing the equidistance between the contour lines in the hill. They ran up and down the hill, feeling the forces of gravity kinetically. The transfer to discussions about what happened and why, and transferring the experiences to reflections on the subject functioned well.



Figure 7. Nine year old pupils standing on a contour line.

The other visitors engagement with the installation

The Natural History Museum and Botanical Garden lies in central Oslo city. The educational garden is not a park, but due to its situation in the city, it is used both as an educational museum space, as a park for recreation, as well as the daily pathway to and from work. Thus the motivation in the confrontation with the Garden of Stairs was very diverse.

Within the great variety of approaches, the identity related motifs of John Falk were recognizable. In general, a distinct difference between tourists that came especially to visit the museum and garden and the accidental passer by was obvious. In bold outline, the first group tried the different ways to engage in the installation, climbing the steps, reading all the signs and moving the steps. The second group had all kinds of levels of approaches.



Figure 8. Examples of the visitors varied approaches.

Children are definitely the clearest ‘explorers’, literally running down the hills and engaging in the stairs. Quite a few of their adult companions would partake in this impulsive exploring, while others would either find a place to sit down in the sun and observe, like the ‘recharger’, or they would engage in reading the suggested tasks and information on the signs and involve the children in this information. Thus they adapted the ‘facilitator’ role.

Adult groups had the same diversity in their approach, but in general a little less of the immediate and active exploration, more often entering the installation after reading the poster and one or two signs. The adult groups seemed often to visit the garden as part of the museum.

The 'professional' or 'hobbyist' was not that easy to recognize. This might be due to the fact that the theme is quite universe and not specialised enough to interest a Natural History Museum 'professional/hobbyist'. But more surprising 'professionals' in another field were the ones that were interested in the installation. This was the un-planned-for group of teachers, caretakers and people responsible for physical education, that were interested in the projects pedagogic qualities. Even a couple of artists that worked either with decorating children's schools or kindergartens. These visitors did not engage themselves physically with the installation, but appreciated it intellectually.

The ones that hardly engaged in, but just made the effort to pass by the installation, stop to take a look and read what it is about, and then continue down the hill, were the ones that came alone. This group seemed to belong to the regular users of the garden, not using it as the educational space, but probably on their way somewhere, walking the dog or taking a stroll.

Then there were the visitors that made the installation their own with unpredictable approaches. Some started competitions in running and jumping, some used the steps as a lunch spot in the sun. The steps were left in surprising new assemblies, like a circle or an obstacle course, and other unpredictable modifications of the intended activities on the hill.

The other unpredicted visitor group was the kindergartens. Kindergartens are regular guests in the garden and the museum, even though the museum has little activities to offer these groups. The classical exhibition is even too high for the younger kids to be able to see anything. The garden of stairs became very popular with this visitor group, and several kindergartens came several times with children groups. For these younger children the bodily experience of the climb was the investigation in itself.

Immigrants were often observed reading and playing in the garden. This pleased the museum, as the introduction of the verbal terms as tools for understanding the museums themes is one of the challenges in the communication to this visitor group.

What all these approaches have in common is that they in different ways engage with the installation, sometimes on a merely embodied level, but the majority would acknowledge that this installation is addressing the qualities of the landscape shape and interpret the meaning of the installation. Thus the garden of stairs is an open installation to the different visitor's motivations but still consistent as a communicator.

The interaction and design researchers Birgitta Cappelen and Anders-Petter Andersson argues for dynamic staging of interactive installations. Her arguments can be transferred to the analog installation the Garden of Stairs. She argues that ‘installations have to be open to many possible structures, interpretations, interaction forms and roles the users can take, and shift between dynamically’(2011). As the essence of the installation is that the users are co-creators in the staging act.

They further argue for several staging strategies, which have to do with openness to genre, time and space (2011). In the Garden of Stairs, the choices of time and place are not open, rather it is the installed spatial elements in relation to the specific situation/space that makes the exhibition. This is what renders an exhibition more than an interactive installation. But still, across visitor roles the installation still communicates what we want the visitor to register, namely the qualities of the landscape. This might be due to the bodily entrance into the theme or it is due to the universal interpretation of a hill.

“This is really nice that it is just laying there so you can choose yourself if you want to engage. In Germany there would have been a guide telling you what to do”, German tourist woman, august 2011.



Figure 9. Examples of the continuously changing assembly of Steps

The experience of the other visitor

Did the act of the other visitor climbing the hill have effect on own experience? No one answered directly positive to this question. One explanation can be that the other visitor's use of the hill do not add a new narrative about the hill, but rather tells the same story that the steps already represent. An other explanation could be that the focus towards the other visitor is hard to obtain, as this installations narrative is not about people at all, it is about the physical phenomenon the hill.

Even so it was obvious that the social relations did have impact on the experience. As mentioned above, the single person would hardly engage actively, just read observe and pass by. While most groups would stop and take a look, and if they came close to the elements, they would start co-operating. Research has shown that for visiting groups a large part of their attention is devoted to the people with whom they arrive (Falk& Dierking 1992). For the facilitator this is the leading motif in their visitor experience (Falk 2009). But not only the groups that were familiar with each other interacted. As soon as one person interacted with the installation, someone else would engage. People with no former relation to each other started co-operating, usually non-verbally. In 15 minutes 10-12 people engaged themselves, and the assembly of stairs would completely have altered several times. According to John Falk research shows that people watching is an interest highly appreciated in the museum. In addition to curiosity the visitor tends to observe the other to gather information, and tend to copy each other's actions (Faulk& Dierking 1992).

Summary and surprises

The Garden of stairs turned out a good experiment in transforming visitor learning and participation. The design strategy of treating the spatial experience holistic resulted in a very different exhibition or installation than the Natural History Museum has tradition. The embodied experience of the phenomenon was the main focus. The museum lecturers had good experiences with the targeted school groups, and the other visitors appreciated the installation. One main quality was that it is an open installation that can be approached in different ways and engagement levels, but still communicates for a common interpretation. This resulted in surprising effects among the visitors, as other visitor groups than intended, especially the kindergartens, became important users. All in all the 'Garden of Stairs' introduced a transformation in how to use the museums botanical garden, and what kind of educational projects the garden can contain and museum can offer.

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What is the memory of the nation? From web vote to exhibition - an experiment

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Abstract

The vision of the National Library of Norway is to be the memory of the nation. Nevertheless, its multimedia collection is not very well known. In June 2011, we initiated the project of a crowd-curated exhibition. One hundred eighty objects were shown on the web, 1500 people voted, 132 of them composed their own web-exhibitions. In the campaign period, we tried to reach people that were not familiar with the National Library. Via social media, we successfully involved for example fan bases for Donald Duck, pop-bands and the meat industry.

What is national memory?

1972, 25th September: The whole nation is sitting in front of the TV. The referendum about membership in the European Community is finished and the votes are counted. The arrow in the graphics is swaying between 48 and 52 %. People hold their breath. A long night finished with the result of 53.3% against membership. There is no doubt that the result had a divisive impact on Norway. Undoubtedly, this TV-event is essential in the collective memory. But where is the broadcast? At this time, NRK, the only TV-broadcaster, used their tapes several times and recorded over this tape. There exists one little clip from a Danish broadcast, the rest is lost forever. This painful loss illustrates how important it is to preserve.ⁱ

Memory is, according to *Encyclopedia Britannica*, “the encoding, storage, and retrieval in the human mind of past experiences”.ⁱⁱ Whereas “nation” is defined as “a crowd form of political organization under which a relatively homogeneous people inhabits a sovereign state; *especially* a state containing one as opposed to several nationalities”.ⁱⁱⁱ The vision of the National Library of Norway is to be the memory of the nation. It shall be the main source for information about Norway and Norwegian culture. On the one hand, memory is thus understood as the sum of media stored and conveyed. This underlines that it is not intended to be a normative concept but accessible to everyone interested in Norwegian matters.

On the other hand, the memory of the nation consists of a potentially infinite number of personal memories. Some of them will be common for a great number of people, depending mainly on to which generation they belong. The radiobroadcast from 1950s, which all children listened to, the pictures of ten thousands protesting against a racist murder in 2001, a postcard with cars waiting for a ferry in a Norwegian fjord from 1970 – these objects will arouse memories for many. With our project we tried to find out which of those memories were important to people.

The National Library of Norway and its collection

One of the widest legal deposit acts in the world “gives the National Library a mandate to collect, register for retrieval, and preserve for posterity Norwegian published production of knowledge and culture from all media and in all forms and formats.”^{iv}

The Library manages several unique collections:

- Unique manuscript collections (handwritten manuscripts and personal archives of persons of the cultural life)
- rare books
- music collections, including pop- and rock archives
- radio broadcasts from the 1930s up to today

- TV broadcasts
- film collections
- theatre collections
- map collections
- posters
- small leaflets and brochures
- photographs
- newspapers
- magazines
- books

One should think that its collection is relevant for everyone living in Norway. Nevertheless, the National Library and its digital archive are not very well known. In 2011, University in Oslo celebrated its 200-year jubilee. As the University Library formerly owned the collection of the National Library, we wanted to use the jubilee as an opportunity to draw attention to the collection, the institution and its history. Already in 1989 a branch of the National Library was established in Mo i Rana. It was first in 1999 that the University library moved from the building at the Solli Place in the centre of Oslo to the University campus at Blindern. The National Library exists also in two parts, which is not always easy to understand. Many people still associate the building in Oslo with its former function as the University Library. There are temporary exhibitions in the Oslo building on a regular basis, and in 2010, we decided to show a broad selection from the whole collection.

Why should we encourage participation?

In her book *The Participatory Museum* (2010), Nina Simon stresses the need to modify the way museums convey content to people. Web 2.0 has changed our way of participating forever – we are used to comment, change and publish content. In the introduction of her book, she asks how cultural institutions can reconnect with the public and demonstrate their value and relevance in contemporary life.^v Museums are often tempted to underline their authoritative power of defining what is right/good/important – and what is not. They tell stories based on their own interests and give no room for diverse perspectives.

The situation of the National Library seems to be quite similar. A huge collection, potentially very relevant to everyone is waiting to be detected of the huge public. The regular exhibitions take up subjects that we wish to convey, and normally in a way which does not invite to participation. Nevertheless, there is one critical difference: In contrast to museums, the National Library shall **not** decide, which objects are worth collecting and in this way contribute to define a certain view of history (the only exception are the unique collections).

Our main task is to carry out/manage the legal deposit act, without asking if certain objects – like the countless commercials which are collected every single day – really are worthy of preservation.^{vi}

The vision of the "memory of the nation" is therefore an open concept that is partly implemented. By means of a digitalisation program established in 2006, the process of preserving the collections long-term in digital form has started. Depending on clarification of copyright, only parts of the collections are given access to on internet. At the same time, the whole collection is available to everyone who wishes to study it on place (especially original documents). In contrast to museums, libraries and archives in general have always had a more liberal policy to convey collections to everyone who might be interested.

Thus, the National Library shall certainly **not** decide what "memory of the nation" is. It is up to public and their way to use, perceive and interpret the collection to fill the concept with content. The fact that our collection encompasses the present enhances the relevance and usability because everyone will find TV-, radiobroadcasts, commercials, books or magazines that are important for them. Therefore we decided to try out a concept which would make it possible for people to involve themselves and create their own version of the "memory of the nation".

Why – and how – to make a crowd curated exhibition?

The most important goals for the exhibition were to make the collections better known and to reach groups that were not familiar with the institution at all. How should we face this challenge? How can we get people involved? By means of a traditional "Treasures from the collection"-presentation? This was not likely. Inspired by the crowd-curated exhibition *Click!*^{vii}, a photography exhibition at the Brooklyn Museum in 2008, we chose to try out a web vote – both because we hoped to engage another public as usual and because the subject "memory of the nation" requires contribution of the users.

The selection process, in which a huge number of staff members were involved, had to take into account several criteria. Subjects we knew were important in Norwegian history and society should be represented, such as the dissolution of the Swedish-Norwegian Union, the vote about membership in the European Union, certain events in sports and culture and so on. In addition,

- the objects should represent all unique collections of the National Library,
- they should be chronologically and geographically diverse,
- there should be both known and unknown objects,

- the objects should be rare and special, precious and ordinary, amusing and surprising.

One hundred eighty objects from the whole collection were shown on the web. We underlined that the selection by no means was intended to be representative. Pictures, film- and radio clips were accompanied by short texts from about 50 staff members. One of our goals being a stronger involvement of the staff, we tried to encourage them to write personal texts. In this way, we wanted to stress the point that there might be different reasons why a certain object was perceived as important. Nevertheless, with the exception of some few texts, the commentaries turned out to be mostly factual. We were conscious about subscribing the commentaries – in contrast to texts on our website or exhibition texts in general – by the name and professional title. We wanted to focus on the diversity of the competence within the institution.

From 10.-26. June 2011, 1500 people voted on which objects they wanted to see in the exhibition. Before voting, one had to register age and gender. There were ten categories of objects: books, newspapers, magazines, music, film and theatre, advertising and posters, radio and TV, maps and photographs, original manuscripts and photographs and emigration to America. It was possible to vote on all objects, but to vote twice or more on one object it was necessary to start once again.

Up until 2011, the few crowd-curated exhibitions had been often photo- or art-exhibitions, where the objects were presented just with artist, title and year, like *Click!* of the Brooklyn museum or the *50/50* exhibition of the Walker Art Center from 2010^{viii}. Another project, *Nieuw Groeten Uit...* was a photo-exhibition in Arnhem, Netherland, in July 2010, where people could send in their proposals for postcards with contemporary motifs.^{ix} In contrast to this, the objects in our exhibition required explanation of the historical background. A map with sea-monsters from 1598 from the North is not understandable without explaining that it is produced of Wilhelm Barents, Netherland, and shows undetected island Svalbard for the first time. Whereas younger people will not necessarily know about the Alta controversy in the late 1970s and 1980s, which concerned a hydroelectric power plant in Finnmark in Northern Norway, older people will be surprised by the rock group *Datarocks*'s newest album release on a memory stick formed like a diamond in 2010.

Both because of the high number of objects and the necessity of explanations, a crowd-curated exhibition on the web did not seem to be a very suitable model for participation. We were conscious about the fact that people might get tired quite soon. We discussed several other possibilities but ended up with that we wished to try it out anyway. Unfortunately, it was not possible to comment directly on the objects but people could keep their range. One

hundred thirty-two composed, stored and named their own web-exhibition by choosing their favourite objects. Fifteen hundred people submitted 15000 votes, which means in average 10 votes per person. As many of the stored web-exhibitions consist of between 20 and 100 objects, many people must have voted once or twice before quitting the process. Three hundred seventy-seven people shared the exhibition on Facebook and 48 tweeted about it.^x The hundred objects that received the most votes in each category (film, music, books etc.) were showcased in the exhibition, and on the web, together with the statistics of the vote (<http://www.nb.no/nasjonenshukommelse/>). As people had to register with age and gender before voting, we have now a detailed statistics who voted for what. In contrast to web votes in general, 59% of the voters in our project were women, and they submitted twice as many votes than men.^{xi} The unlike preferences between woman and man are striking, as well as differences in the vote between the different groups of age.

How did we work with social media?

How can museums take advantage of social media to get in touch with new user groups? In the campaign period we tried to reach people via social media (mainly Facebook and websites, the National Library had no twitter-account at this time). First, we asked all the contributors at the library to share the vote on Facebook. We asked groups/organisations we knew would be interested in certain objects to encourage their public to vote, both on websites and on Facebook. At the same time, we spread information via email-lists to museums, archives and libraries in Norway. We informed all media being presented in the exhibition, for example newspapers or magazines, NRK for radio- and TV-broadcasts. In general, we might say that information sent to media was not very successful at the time of the vote, with the exception of some local newspapers. In contrast to this, the response in media was significant when the physical exhibition opened in august. This might lead us to the conclusion that web-projects do best in using web-channels.

On websites and Facebook, we sent an email about the vote to different groups and asked them to publish the information on their own side. This resulted in several small articles and posts on pages of IKEA, the farmers' organization in Norway or Donald Duck Norway. But in a few cases we also tried out the more direct (and maybe less correct) way, to post about the vote directly on Facebook-pages which had accepted us as "friends". After having become a "friend" with "Nature and Youth", "NO to the expansion of the oil-industry to Lofoten", the tram in Oslo and a radical group of cyclists the question of personal integrity became crucial to me as a curator. I would certainly not like to be a friend of the Progress Party (the Norwegian version of the Tea Party) even if the political memoir of the party founder's wife was one of

the objects we promoted in the exhibition. How and when do we as staff member act as private persons and as representatives for the institution?

This illustrates the general question how we behave as professionals on the web. Social media not only invite to personal comments, but a personal style and content is crucial for successful use of it. Institutions that try to open up for personal views and allow their employees to publish on their pages seem to get more response as institutions when staff members stay anonymous.^{xii} Many museums use social media just as information tool. Nevertheless, a better strategy may be to involve museum staffers that are able to contribute with a genuine interest or competence on the field of social media.^{xiii}

There were different reasons for why we did not provide the same effort on all objects. Often, we did not find any relevant “pressure-group” or we did not succeed to engage them. For example seemed publishing houses not very interested in promoting their books that were presented in the vote. Personal commitment of the members of the project group played also a role. In short – the lacking representation of the selection was still reinforced by selective lobby work. However, the point was not to find out something “objective” about the memory of the nation this did not represent a real problem.

What result did we obtain with the lobby work?

The result of this lobby work seems to have been successful. Donald Duck – with a story about the two Norwegian languages “bokmål” and “nynorsk” – won the poll sovereignly with 255 votes, followed by a poster which advertises for sausages (in connection with the Norwegian National Day 17th May) with 208 votes. Together with the 1979 IKEA-catalogue with pine furniture on the front page, these were objects where lobby work had probably contributed to their high scores. Among the top ten, we find the TV-broadcast about the 1972 vote against the European Union; a knitting pattern for the most iconic Norwegian “Marius-“ sweater; a popular children’s book about the sea-serpent *Ruffen*; the first-page Norwegian newspaper article about women’s right to vote from 1913: and quite surprisingly, *Free Jimmy*, a 2006 animation film about a junkie elephant; and the memoirs of Eli Hagen, wife to the founder of the Progress Party.

We see also other results of lobby work: in the category “newspaper”, we find the front page of the local newspaper *Bladet Vesterålen* in position five – as one of two local newspapers that succeeded to be a part of the exhibition.^{xiv} Besides the low edition, 8200, the newspaper obtained 112 votes with the article about the protest movement against the establishment of the oil-industry at Lofoten.^{xv} As mentioned before, not only the newspaper itself recommended the vote, but also the Facebook group for the movement against oil production in Lofoten lobbied for this item. In contrast to this, the article in the Trondheim

newspaper *Adresseavisen*, the local paper in the hometown of the actual winners of the ski world championship in 2011, just achieved 36 votes. This was one of the results that really astonished us because the ski championship was widely promoted and engaged the whole nation. Do we see here the strong impact of presence in (social) media?^{xvi}

The voters and the memory of the nation

The project *Click!* wished to explore if the online community would be as “wise” at making decisions as expert individuals, which refers to experiments that James Surowiecki examined in his book *The Wisdom of Crowds* (2004). He found out that group decisions often were better founded than decisions made by individuals. At the same time, he stresses the importance of “diversity and independence in the group (...) because the best collective decisions are the product of disagreement and contest, **not** consensus or compromise”^{xvii}.

In contrast to this, we were in our project more interested in how people perceive “the memory of nation”. We get an impression when we look closer at the 132 web-exhibitions that were stored at the website. What do they tell us about the users’ dedication? Thirty-five titles contained words related to “memory” or the age/generation of the one who created the exhibition, like “1950-generation” or “Memory with Relevance”. About 20 titles directly related to Norway, as “A Section of Norway”, “The Norwegian Rucksack”, “Norway, my Norway” and “Norway, of good and bad”. Twenty-seven users had chosen titles with (probably) their own first name like “Ina’s memory”, “Nina’s ‘What do you remember’”, “Martina’s favourites”. In general, we can conclude, that people who stored their exhibitions experienced their choice as highly personal. The titles show that they wanted to convey their personal memory and witness about a high level of reflection on the subject of memory of the nation – and what this means for them as individuals.

8,8% of the unique users stored their exhibition. The percentage of people being creative and becoming contributors differs depending on how this function is facilitated. The Forrester study from 2006 showed that – in contrast to spectators, critics etc. – around 13% of web-users actually contributed (published or uploaded videos).^{xviii} Since then, the increasing use of social media has radically changed this. In Norway in the second quarter of 2011, 59% participated in communities on the web, and 51% were contributing, writing, uploading photos or film. At the same time 13% of all internet users actually participated in a vote or hearing on the web. The threshold to store and name an own web-exhibition is immediately higher than in social media and this choice might not have been communicated clear enough in the voting process.

The voting campaign finished before the attacks of 22nd July 2011, thus the exhibition suddenly gained a special relevance. Do we see here a representation of the "Memory of the Nation" before the terror act? As the voting occurred in June, the terror act of 22 July was not presented in the exhibition. Nevertheless, its impact on Norwegian identity is naturally significant. Would Donald Duck and an advertisement for sausages have won the poll if the vote had been after 22nd July? Maybe the range would have been characterized differently? At any case, we decided to show a short clip from the TV-news from 24th July, where people were demonstrating with roses in front of Oslo Town Hall. The screen stood next to the entrance of the exhibition to underline that the memory of the nation had changed.

In the exhibition room, visitors were invited to contribute with more proposals to the exhibition. They could write on the glass wall with markers – which obviously appealed: The whole wall was soon covered with new suggestions, which we photographed and posted on Facebook with link to relevant digital sources.

What did we achieve?

The response in media was very good – many national and local newspapers wrote about the exhibition, which opened 24th August. The fact that Donald Duck had won the poll was often discussed. In addition to this, on several websites and on Facebook people wrote about "their" object – if it had succeeded to enter the exhibition. The already mentioned *Bladet Vesterålen* even published two articles about the success of their newspaper and showed how it was presented in the exhibition room.

In general, there is no doubt that several groups have become aware of our collection because of the previous lobby work. The stored web-exhibitions show that people have reflected on the relationship between their personal memory and a memory that is common for people in Norway. Even if the vote was neither comprehensive nor representative, the results make us reflect on our national identity.

In December 2011, I was shown a Christmas invitation of the Research Establishment Civitas, which specialises on public transport. The card showed a 2006 map for public transport system in Oslo, a newer version of the map which won in the exhibition category "maps and photographs". The text on the card underlines that the institution is quite content with the good result of "their" map but that they would have preferred a newer version.

Even if we are aware of the fact that several things could have been done in a better way – our conclusion is that, the vote and the exhibition were successful as a participatory project. Being part of the memory of the Nation seems to make people proud – and make them feel important themselves. We believe that our project has contributed to a higher level of

consciousness around the memory of the nation – and we are motivated to try out other models of participation.

ⁱ Later, the legal deposit act was changed and it includes today both radio and TV.

ⁱⁱ "Memory." *Encyclopædia Britannica. Encyclopædia Britannica Online*. Encyclopædia Britannica Inc., 2012. <<http://www.britannica.com/EBchecked/topic/374487/memory>>. Consulted 15.3.2012.

ⁱⁱⁱ "Nation." *Encyclopædia Britannica. Encyclopædia Britannica Online*. Encyclopædia Britannica Inc., 2012. <http://www.britannica.com/bps/dictionary?query=nation> Consulted 22.3.2012.

^{iv} *The National library's strategy for 2009-2012* <http://www.nb.no/english/strategic-documents> Consulted 23.3.2012.

^v Simon, Nina. *The Participatory Museum*. Santa Cruz: Museum 2.0, 2010. <http://www.participatorymuseum.org/preface/> Consulted 22.3.2012.

^{vi} Already in 1882 it was decided that small brochures should be collected as well. Johan Henden, "Universitetsbiblioteket og dei nasjonal bibliotekoppgåvene 1870-1922", in Ruth Hemstad (ed): *Opplysning, vitenskap og nasjon. Bidrag til norsk bibliotekhistorie*, Oslo 2011, p. 185f.

^{vii} <http://www.brooklynmuseum.org/exhibitions/click/> Consulted 22.3.2012. In 2011 the museum had another crowd-curated exhibition about Indian art.

^{viii} The Walker Art Center, <http://www.walkerart.org/calendar/2010/50-50-audience-and-experts-curate-the-paper-c> . Consulted 27.3.2012. 50% of the art works in the exhibition were chosen by curators, 50% by a vote.

^{ix} <http://www.nieuwegroetenuit.nl/> Consulted 22.3.2012.

^x Subsequently, we found out that it would have been better to use the "like"-button for Facebook.

^{xi} *Use of ICT in Households, Statistics Norway. 5 Purpose and nature of activities on the Internet the last 3 months. Percentage of population, by sex, age, education and employment situation. 2nd quarter of 2011*

http://www.ssb.no/english/subjects/10/03/ikthus_en/tab-2011-07-01-05-en.html. 11 E-skills. Internet related activities carried out. Percentage of population, by sex, age, education and employment situation. 2nd quarter of 2011 http://www.museumsandtheweb.com/mw2008/papers/kelly_l/kelly_l.html Consulted March 26, 2012.

^{xii} The Swedish National Heritage Board for example lets his staff members write posts on the institution blog which are quite personal. <http://www.k-blogg.se/2012/03/16/three-years-on-flickr-commons/>

^{xiii} Allen-Greil, D., et al., "Social Media and Organizational Change". In J. Trant and D. Bearman (eds). *Museums and the Web 2011: Proceedings*. Toronto: Archives & Museum Informatics. Published March 31, 2011. Consulted March 16, 2012.

http://conference.archimuse.com/mw2011/papers/social_media_organizational_change

To use Facebook for discussing exhibition is another possibility which The Australian Museum tried out. Kelly, L. *The Impact of Social Media on Museum Practice*. Paper presented at the National Palace Museum, Taipei, 20 October 2009.

<http://australianmuseum.net.au/Uploads/Documents/9307/impact%20of%20social%20media%20on%20museum%20practice.pdf> . Consulted 27.3.2012.

^{xv} «Forside kan havne på utstilling», in *Bladet Vesterålen*, 17.6.2011. There were fourteen newspapers presented, four of them were local newspapers.

^{xvi} There are several other examples for the impact of lobby work, like the high score for *Cyrano Armageddon*.

^{xvii} Surowiecki, James, (2004). *The Wisdom of Crowds*. Garden City: Doubleday, introduction XIX.

^{xviii} Kelly, L., and A. Russo, "From Ladders Of Participation To Networks Of Participation: Social Media And Museum Audiences", in J. Trant and D. Bearman (eds.). *Museums and the Web 2008: Proceedings*, Toronto: Archives & Museum Informatics. Published March 31, 2008. Consulted March 26, 2012.

http://www.archimuse.com/mw2008/papers/kelly_l/kelly_l.html

Trajectories of Learning across Museums and Classrooms

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Abstract

This paper explores the use of social and mobile technologies on school field trips as means of enhancing the visitor experience. It employs the notion of a ‘trajectory’ (Ludvigsen et al. 2010; Pierroux et al., 2010; Littleton & Kerawalla, 2012) as appropriate means of connecting learners temporal experiences with informal and formal learning contexts. The focus of the analysis is on a group’s trajectory with an aim to examine the meanings made and represented in multimodal ‘ensembles’ and further, to explore whether artefacts and tools encountered or used inform students’ ensembles and assist them in making connections across the settings. This paper aims to contribute to contemporary discourse on technology-enhanced museum learning by exploring aspects of the visitor experience, such as meaning making across and between contexts.

Overview/

The paper is concerned with the potential of social and mobile technologies to support learning and visitor's experience across museums and classrooms. It draws on a wider research project, which aims to contribute to a better understanding of the characteristics of mobile learning in the context of formal education museum visits and investigate the role that social and mobile technologies have to play in prolonging the visitor experience. The aim of this study was to integrate a Year 9's work on a specific area of KS3 history curriculum ('Equality and Beliefs') into a long trajectory of whole class activities ('projected class trajectory') with specific goals that span over several sessions in both the museum and the classroom. The study sought to explore how students' interpretive skills, as well as understanding on disciplinary knowledge (eg, civil rights) develop over time and are materially realised over several modes (visually, writing, oral). The investigation particularly focused on the role that tools play in mediating this process.

The increasing use of social and mobile technologies is arguably challenging existing perceptions of time (and space) and modes of communication. Such technologies, when used during a school visit to a museum, might offer the means for making connections with the classroom or other contexts, and create, thus, the right conditions for learning. This paper, hence, employs the concept of a trajectory' (Ludvigsen et al. 2010; Littleton & Kerawalla, 2012) as appropriate means of connecting learners temporal experiences with artefacts/museums and formal learning contexts and prolong the visitor experience.

The main argument put forward here is that looking at students' activities with respects to time dimension and examining their multimodal 'ensembles' and how these interweave with use of tools or other resources, we can capture a sense on how students' meaning is made and materialised. In this paper only an analysis of a group's multimodal presentation and one of the members' meaning map will be presented to indicate how this analysis may enable us to re-construct the group's trajectory, recover aspects of the overall learning experience and discuss implications for design of school museum visits.

Background

Learning is defined by the concept of time: is a process that happens over time. The same applies to museum learning; prior experiences, knowledge and perceptions determine the way one experiences and makes meanings from a visit to a museum. What one has experienced in the museum, however, may not become apparent, unless

specific events or circumstances in one's life allow for it to arise. Museum learning is thus, defined by temporal connections - it can be extended and augmented, depending on what sorts of connections a person realises, recognises and acknowledges, as well as makes to past or future interactions with other people, things, ideas or institutions.

Mercer (2008) states that school based learning and teaching has "a natural long-term trajectory and cannot be understood only as a series of discrete educational events" (p. 33). He refers to 'trajectory' as a concept that could help the teacher (or the researcher) to track the learners' experience as a series of events and note continuities or discontinuities for those who are involved in this. Rasmussen (2005) uses the concept of participation trajectory to highlight the pattern of children's involvement in a particular, extended classroom activity from its inception to its conclusion some weeks later. She describes the development of participation trajectories, in terms of exploring how the domain is introduced by the teacher, and the ways in which the student interprets, alters, resists and accepts, concepts that arise during front-of-class teaching and discussions held with both the teacher and with peers. Drawing on Rasmussen's work, in the 'Personal Inquiry' project the investigation focused on the role that new technologies play in mediating this process (Littleton & Kerawalla, 2012). Also, Pierroux et al. (2010) employ the concept of trajectories to investigate group interactions using a multitouch table, where the overall aim was to integrate this work into a trajectory of whole class learning activities that span across a two-day workshop.

Framing the research question

One of the challenges when it comes to planning and organising school trips to museums is to ensure that students have a connected, cohesive and cumulative experience of the activities taking place, as well as ideas involved and that these can be made relevant for their meaning making when moving across settings. Problems in connecting encounters with artefacts and ideas on visits to museums involving pre- and post visit school activities have been reported in research (Griffin 2004; Pierroux 2009). This paper deals with this challenge and aims to investigate the role that new technologies might play in facilitating such an experience.

To address this challenge empirical material from a group's 'ensembles' (meaning maps and presentations) will be presented. These ensembles are viewed as material realisations of the meanings made by groups of students in their trajectories across museums and classrooms. This paper seeks to examine whether artefacts/objects and tools encountered or used during the activities inform students' 'ensembles' and assist them in making connections across the settings. It is, further, set to explore how

participants meanings' and development of understanding is made relevant for their own learning. The paper will thus, look for signs which show 'connection building' (Littleton & Kerawalla, 2012, p.32) of ideas and development of understanding among the members of the group.

The main question that this paper poses is:

How do social and mobile technologies mediate connections across museums and classrooms, which are made relevant for students' meaning making processes?

In what follows, a section which describes the frameworks and the analytic approach used for this paper will be presented.

Theoretical framework for considering meaning

This paper explores the notion of meaning, particularly as applied to museum context. 'Meaning making' generally refers to an active interpretation of objects and events, through which an individual or a group develops a personal meaning, deeply integrated with one's own values, beliefs, feelings, and aspirations (Kritskaya & Dirkx, 2000; cited in Kaptelinin 2011). To help frame this inquiry, the paper draws on sociocultural perspectives of learning, which focus on the role of mediating tools and artefacts in the development of understanding.

Meanings, according to multimodal social semiotic approach, are made through the process of materially realising signs and transforming available resources into new signs (Diamantopoulou, 2008 p. 87). Meaning is, hence, represented in various modes (visual, oral, writing) and media (eg, paper, painting, online platforms), whereas modes are culturally available resources that the people engage with when making meanings (Jewitt & Kress, 2003). Multimodality takes into account the presence of modes, both as a resource for materially realizing and recovering meanings (Diamantopoulou, 2008, p. 88). This approach is employed here in the analysis of students' 'ensembles' because it is an analytic and interpretative framework that allows for modes such as writing, image and speech, not only to be looked up in conjunction with each other, but also with the social context and the 'activity' itself which generates them. The analysis, at the first level, provides descriptions of the resources and at a second level, descriptions and interpretations of their use, in relation to the research question of this paper.

This paper focuses on one group and presents empirical material from two specific activities in its trajectory: the meaning maps and multimodal presentations (Fig.1, in red fonts), both taking place in the classroom. Figure 1, adopted by Steier & Pierroux (2011, p. 145), provides an overview of the activities, the ‘objects’ of these activities and physical resources available to students when moving across the activity settings.

Insights into this group’s work is based on the assumptions that learning can be made accessible to us through the material realisation and representation of young people’s production. Further, that meaning and aspects of the students’ overall learning experience throughout this project, can be recovered by viewing and analysing these ensembles in relation to the social context and the activity. We endeavour to reflect on the tools and resources participants used to mediate connections and make meaning as they progress across settings.

Methods and Data Collection

The study

Description

The museum visit was designed around the theme ‘Equality and Beliefs’, which is related to the Key Stage 3 (KS3) history curriculum. Museum of London (<http://www.museumoflondon.org.uk/English/>) (MoL) was selected as the site of the study because the Galleries of Modern London provide appropriate links to KS3 Scheme of Work.

Participants

The participants were a Year 9 history class (13-14 years old) in a secondary school in Milton Keynes (in total 29 children).

Design and Data collection

Prior to the visit to the museum each of the participants was asked to create a ‘Personal Meaning Map’ (PMM) (Adams et al., 2003) about the concept ‘civil rights’. Each student was given a blank A4 paper (entry PMM), on which the term ‘civil rights’ were written in the centre. After the visit and once the project work was finished each student was given back his/her original A4 paper and was asked to update, make changes or additions to what s/he has already written on the paper in a different colour ink from the original (exit PMM) (in total entry PMM= 27; exit PMM= 25). Also, during the interviews a number of the students were asked to reflect

ACTIVITY SETTING	CLASSROOM/ ICT SUITE	MUSEUM	E-LEARNING STUDIO/ MUSEUM	BUS	CLASSROOM/ ICT SUITE	INTERVIEW ROOM
OBJECT (of activity)	<p>Communicat ion within institution (face-to-face and online)</p> <p>Construct a meaning map</p>	<p>Communication within the institution (face-to-face and online)</p> <ul style="list-style-type: none"> select & discuss objects take pictures/post comments find evidence to address an inquiry 	<ul style="list-style-type: none"> upload pictures start presentation 	<p>Report/reflect on the experience on a camera</p>	<p>Communication within the institution (face-to-face and online)</p> <ul style="list-style-type: none"> complete presentations present to an audience give feedback vote for the best presentation <p>Edit/revise the meaning map</p>	<p>Reflect on the activities and the overall experience</p>
TOOLS/ RESOURCES	<p>images</p> <p>pen/paper</p> <p>textbooks</p> <p>iPhones</p> <p>PCs</p> <p>A4 paper</p> <p>pen</p>	<p>exhibits</p> <p>labels</p> <p>online platform (Twitter)</p> <p>iPhones/camera</p> <p>pen/pencil</p> <p>recorder</p> <p>booklet</p> <p>museum map</p>	<p>iPhones</p> <p>PCs</p> <p>images</p> <p>online platforms (Twitter/Vuvox)</p>	<p>flip camera</p>	<p>online platforms (Twitter/Vuvox)</p> <p>images (from museum)</p> <p>tweets</p> <p>paper</p> <p>post-its</p> <p>meaning map</p> <p>pen/paper</p>	<p>recorder</p> <p>Tweets</p> <p>pen/paper</p> <p>meaning maps</p>
DIVISION OF LABOUR	<p>in groups/individual</p> <p>individual</p>	<p>in groups</p>	<p>in groups</p>	<p>individual</p>	<p>in groups</p> <p>individual</p>	<p>individual</p>

Table 1 Overview of the projected class trajectory'

and elaborate on their meaning map. An open-question (Q: ‘Can you please guide me through your meaning map?’) was asked in the interview related to the PMM, with an aim to elicit interviewees’ free responses, as well as examine which part of the map the students choose to refer to.

For the visit, the participants were divided into eight groups (of threes or fours). Each group followed a pre-defined trail across the three Galleries of Modern London. Instructions about the trail and the activities were given to each group in a booklet. Each group’s overall aim was to carry out some activities and collect some evidence with the use of mobile technologies and Twitter (notes, pictures, posts) in order to address an inquiry related to the visit’s theme and KS3 curriculum (eg, Which methods/means do people use to remove inequalities in society?) and eventually to create a presentation. Overall, the average time spent in each gallery was 20-25 minutes.

Back in the classroom the students were asked to create a presentation to address their inquiry with the use of an online tool, Vuvox (www.vuvox.com). This work was completed in two sessions. A third session was then required, for each group to present this work to their classmates. During this activity, the students could provide feedback over Twitter on other group’s presentations. During the interviews, interviewees were asked to reflect on this process.

Analysis and Findings

The focus of this analysis will be specifically on identifying signs which show ‘connection building’ among the various ensembles, the meanings made across the settings and the role of the technologies in mediating this. Due to space constraints, the analysis will focus on the first two frames of the group’s presentation and this will be discussed in relation to the meaning map drawn by one member of this group.

Ensemble 1: Presentation

The Table 1 below presents the first two frames from group’s online presentation on Vuvox (www.vuvox.com). The presentation aimed to address the question: How do people change the societies they live in? In each frame, the first row shows the actual presentation, which was prepared in the classroom after the visit (Visual/Textual Mode). The second row shows the text included in each of the frames and the third

row the transcript of the oral presentation that the group gave in front of their classmates (oral mode).

The first frame consists of an image and text on its right. The association between the text and the image is, however, not explicit. The image used in the first frame is a photograph of the suffragettes' medals that the students must have seen in the People's City Gallery, since this image was taken by the group's mobile phone. The medals are artefacts associated with specific connotations: they show suffragette's symbolic colours (green, white, purple) and were awarded to suffragettes who were on a hunger strike. Beyond this, the title put in this frame, in much bigger fonts than the main body of text, is linked to another exhibit in the People's City Gallery. In the presentation itself this link is not clear; yet, research in the museum's collections shows that this phrase was written on a banner in the suffragettes' colour, designed and made by the West Ham branch of the Women's Social and Political Union (<http://bit.ly/GB53PX>). Also, examination of the group's online posts reveals that the students saw the banner during the visit. The tweet shown on Figure 2 demonstrates this. The association of this image to the specific title ('Courage, Constancy and Success') and the references to women's rights in the main text might be an evidence that this group views women's movement as having these qualities.



Fig. 2 Tweet posted by the group in the People's City Gallery

In the main body of the text the group differentiates between the suffragettes and suffragists, on the basis of the methods each group used: violent and peaceful methods. They support the latter by referring to other exhibits they might have seen in the museum (posters and clothing). One may notice the use of a specific phrase in both the text and the oral presentation and that is "sparks of action' This term was also included in a tweet this group posted during the visit (Fig. 3). In the tweet in Figure 3 and the tweet in Figure 4, it could be also observed that the group refers to the posters as a peaceful method of protest, something mentioned in the presentation too.



Fig. 3 Tweet posted by the group in the People's City Gallery

Frame A	Visual/ Textual mode				Text	<p>Courage, Constancy & Success The suffragists' used violence methods which caused sparks of action among people. While the suffragettes used more peaceful methods with posters and clothing. The world war is debatable, it may of helped women's rights.</p>	Oral Mode	<p>Courage, Constancy and Success: the suffragists used violent methods, which caused sparks of actions (2s), while the suffragettes used peaceful methods/processes, which were long term, most effective for the <everyday citizens>. The world war mainly helped the women's rights.</p>	Frame B	Visual/ textual mode		Text	<p>This is actually a protest, because someone is trying to get the view across. This was the time when black people where trying to get equality.</p>	Oral Mode	<p><the key of bringing the white> poster, it's sort of – it's still . (1s) protesting, it's not physical like - it's, it's a peaceful method, it's not the best type of method for some people, but people still, they are still protesting because someone doesn't agree with what people are saying, doesn't what to do what people, other people say and trying to get their view across, well in 1975 where black people are trying to get <voted>.</p>
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Table 1 First two frames of the group's multimodal presentation



Fig. 4 Tweet posted by the group in the People's City Gallery

Further to that, the last sentence in the first frame refers to the World War. This might be related to the trail the group took in the museum, because next to the suffragettes' collection in the People's Gallery there was a collection around the World War II. It might be also linked to the course of work this class was doing before this research project started. It is of interest to note the use of the word 'debatable' in the presentation; the members of the group might have debated on this. In their speech, this became a definite sentence: 'the world war mainly helped women's rights'.

Similarly to the first frame, the second frame also consists of an image and text on its right. However, there is no title in this frame. Further, the students here make explicit associations between the text and the image, which was captured with their mobile phone in the World's City Gallery. They place the image in time: 'this was the time when in 1975 [...]', which as a year is marked by 'black people [were] trying to get equality'. What is shown on the photograph is a black woman, standing in front of her house's main door, on which, presumably, white people wrote 'Keep Britain White'. It should be noted that the students named this image as 'white poster'. The students provide no description of the image, neither in the text nor in the speech. Yet, by using 'this' in their text, it is clear that they refer specifically to the image and in fact, they interpret the image as a sign of a protest: "this is actually a protest". Moreover, they spent almost all the time of their speech making a point why, probably in contrary to what they believed so far, this image provides evidence of a protest:

"the key of bringing [...] it's sort of – it's still protesting, it's not physical, like - it's, it's a peaceful method, it's not the best type of method for some people, but people still, they are still protesting".

It could be argued that this image challenged students' view about what a protest is like ('it's still protesting, it's not physical'), yet for them the definition has not altered: people protest to get their point across. They also provide an evaluation that this is not the best method. A similar evaluation was done on a tweet this group posted during the visit and was referring to the same exhibit ('is a protest not a good one') (Fig. 5).



Fig. 5 Tweet posted by the group in the World's City Gallery

In the following section, a meaning map from a member of this group will be analysed and discussed. This meaning map was one of the most comprehensive maps collected. For the purposes of this paper, the analysis will focus only on specific nodes drawn on the meaning map, which are considered appropriate in making links with the analysis of the Ensemble 1. The analysis below also draws on interview data.

Ensemble 2: Personal Meaning Map

In the entry personal meaning map (entry PMM) this student drew seven nodes in total (in black, Fig. 6). Interview data shows that in the entry PMM he was mainly thinking of 'rights. The following extract is indicative:

“when I thought of civil rights, I thought it was just rights, like right to speech, right to freedom, education, fair trial, life...do's and don'ts [...]”

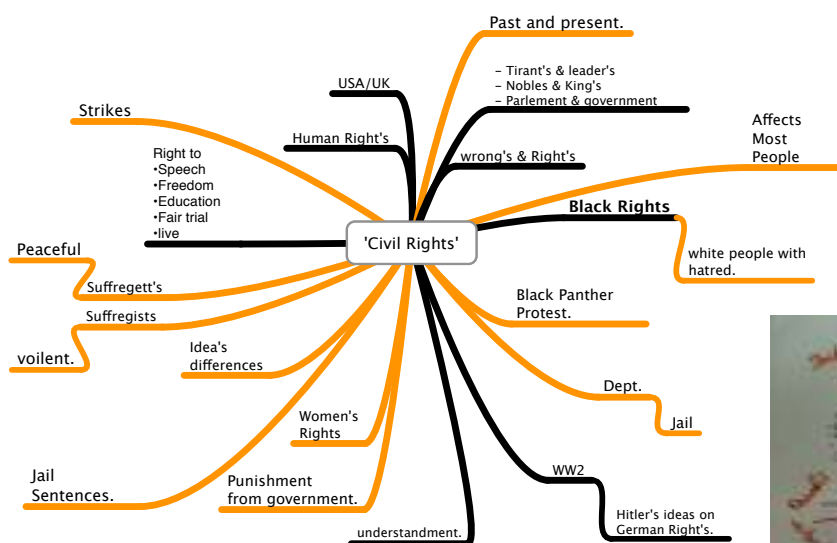


Fig. 6 Student's personal meaning map

We would like to point out to two nodes on this entry PMM. The first, is the node ‘WW2’. Here, he draws on a topic recently covered in Year 9 history. His group, as shown in the analysis above, refers to ‘world war’ in the first frame of their presentation, by writing ‘it is debatable, the world war it may of helped women’s rights’. The second, is the node ‘Black rights’. Initially, the student drew this in black ink, with no further associations to it. In his exit PMM, he highlights this node with orange colour (Fig. 6) and links to it the node “white people with hatred’. The word ‘hatred’ shows a deep and emotional extreme dislike, which this student views as once directed against black people. This is believed to be associated to specific exhibits he viewed during the visit and is demonstrated by two tweets his group posted while they were exploring the ‘World’s City Gallery’ (Fig. 7).



Fig. 7 Tweet posted by the group in the World’s City Gallery

The first, as already discussed, refers to the image shown on Frame 2 in the first ensemble (Table 1) and the second to the ‘Black Panther’ photograph, an image of which was included in the images captured by this group while exploring the galleries. Besides, it could be argued here, that use of the word ‘white’ in the exit PMM, is associated to the specific exhibit (‘Keep Britain White’).

In the exit PMM he draws twelve main nodes (in orange, Fig. 6) and four nodes attached to the main ones. So, apart from the node ‘Black rights’ he draws a number of nodes which are indicative of his overall experience from the visit and the intervention. These are: ‘Black Panther Protest’; ‘Women’s Rights’; ‘Jail Sentences’; ‘Suffregett's’>‘Peaceful’; ‘Suffregists’>‘violent’; ‘Strikes’; ‘Punishment from government’. Some of these terms were used in the ensemble presented in the previous section (eg, suffregists, suffragettes, peaceful, violent). The terminology used in these nodes is also indicative of terminology associated to civil rights. He also seems to introduce the dichotomy ‘Past and present’ to his current understanding of the concept. He specifically refers to this aspect in the interview:

"In past, you know you got strikes, had suffragettes, suffragists, violent, peaceful, jail sentences and you think "Oh, what that has to do with civil rights?" because if [...] they didn't get their rights or they argue for it, they were going to jail. You got (debt) and people who were trying to stand up for what their rights are (...?) women rights, black rights, idea and differences, punishments from government. **It affects most people, it doesn't affect just a group of people in a little village. You'd expect like, government, like, when we get new people in the parliament, doesn't just affect Broughton, it affects the whole of Milton Keynes [...]**"
(emphasis here)

With his last two sentences, this student chooses to talk about the node 'Affects Most People' and he also sheds light on the word 'present' in the 'Past and present' node. He views 'civil rights' concept as a continuum, with associations with the past and the present. Notably, he relates this to his own life and makes associations to his 'world' (eg, Broughton, Milton Keynes). He realises that "we", meaning citizens, have the power to "get people in the parliament" but he also seems to understand that politics, in a broader sense, not only affected people's lives in the past, but are also relevant to his own life.

Discussion

This paper sought to investigate whether artefacts/objects and tools encountered, used or created during the activities in the museum and the classroom inform students' 'ensembles' and assist them in making connections across the settings. It was, further, set to explore how participants' meanings and development of understanding is made relevant for their own learning. The analytic attention, hence, was towards identifying signs of 'connection building' of ideas and development of understanding among the members of the group. In order to address this question, data collected from one group's trajectory and two of their 'ensembles' were presented and analysed.

The analysis shows that this group's 'ensembles' emerged as responses to what its members have experienced during the visit and reflect their collective experience. It is argued that the elements used in the multimodal presentation and the textual nodes in the meaning maps (eg, terms, images) 'stand for' items that were particularly salient for the students and as such they constitute the sense and significance of artefacts/objects and the students' learning. The 'ensembles' are shaped by students' own interests and choices made during the visit, as well as the social context within they were produced. According to Wells (1997)

“meanings are also strongly influenced by the connection made by participants to related experiences, both personal and collective. These exist on several time scales: within the current activity/discourse; within the participants’ individual and collective’s experience of similar or related activities in their community; within the history of the activity in the culture more generally [...]”(cited in Ash, 2002, p.395).

It was evident from the analysis of the meaning map, that this student has developed an understanding over time, which was made relevant for him. He currently understands that the ‘civil rights’ is not an abstract concept; he refers to his locality, adds the time dimension to his current understanding and views himself as a citizen by using the first person (‘we’). The meanings made were relevant and meaningful for him. In other words, this student manages to bridge between the familiar and new ideas, which, as Littleton & Kerawalla (2012) claim, is a “complex pedagogic achievement, and should be carefully resourced, supported and accomplished, rather than simply assumed” (p.43). He also drew nodes that acknowledges things that his group encountered in the museum (eg, ‘Black Panther’ protest) and it was evident that he made use of the comments that his group posted online.

In terms of identifying whether tools and artefacts inform student’s ensembles and assist in making connections across settings, analysis shows that images taken during the visit with the mobile phone, artefacts seen while exploring the collections and tweets posted were employed by this group to prepare the presentation and give answers to their inquiry. It is suggested that use of social and mobile technologies made possible to transform the ‘objects’ of the activity in the museum (Table 1, eg, take pictures, select objects, post comments online) into communicative resources/ artefacts that the students could draw later on for executing other activities. Since Twitter is a web-based platform, the group’s images and comments existed across contexts and beyond the confines of their group itself, and eventually helped to resource and support future activities. The content generated by the use of such technologies provided a ‘stepping stone’ from which knowledge and understanding were built and the experience extended. It further, allowed the students to re-visit, re-connect and put into a new context their group’s or class’ experiences and knowledge and make this accessible to other ‘audiences’. This is, arguably, a key point when designing activities across settings, which sometimes might be seen by learners as lacking continuity and being compartmentalized.

Having said these, we acknowledge the fact the paper analyses a small fraction of the data collected from the research project. It should be noted that analysis of the students' 'ensembles' in relation to the face-to-face interactions the students had, might contribute new insights into this investigation and strengthen then argument presented. Further to this, it was observed that not all the students' followed the 'projected class trajectory', rather they constructed their own learning trajectories. It is, thus, worth to re-construct these trajectories and analyse several moments and 'ensembles' to identify patterns of participation and examine what worked or not and what the implications are for the design of such visits to museums.

Conclusion

This study contributes insights into how use of social and mobile technologies mediate connections made by the participants, demonstrating development of their conceptual understanding and building of knowledge through joint activities. This is viewed as an opportunity to engage critically with what learning with new technologies in a museum means as it is extended over time and across settings.

The main argument presented here is that looking at students' activities with respects to time dimension and examining their multimodal 'ensembles' and how these interweave with use of tools or other resources, we can capture a sense on how students' meaning is made and materialised. It is shown that this enables us to recover aspects of the learning experience and opens up possibilities for building up a picture of emergent practices driven by the students' interests and discuss implications for design of school museum visits.

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Transforming Children's Museums by Designing Exhibits with Children

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Abstract

Children's museums are cultural institutions that provide hands-on exhibits and programs to stimulate informal learning experiences for children. The growing world of children's museums is rich in offering experiences in culture, connections, cooperation, critical thinking and creativity. These institutions are ideally suited for interaction design and prototyping processes that include children. It is argued that the visible presence of a "prototyping workshop" in the museum may be the key factor in transforming the museum into a more adaptable system capable of continuous innovation. By working with a "prototyping workshop" team, visitors may become users, testers, and informants to design or even co-designers of future exhibits, enabling often unexpected and powerful learning experiences in the process. The paper showcases examples of designing with children and the context in which this was done. The approach, methods and techniques, as well as lessons learned from this process are described. Although the focus of the paper is on children's museums, any museum offering hands-on interactive exhibits may use a similar approach to engage its visitors.

Introduction

Children's museums are a fast growing segment of the larger museum field. They are institutions that are not object-centered, but rather experience-centered. Even though the term "museum" in this context is somewhat controversial (as children's museums typically do not house collections of artifacts but rather exhibit interactive and educational material on a wide range of topics), there is no doubt that there is a trend in all museums to engage visitors in experience-centered interactions, frequently involving new technologies: 3D technologies, interactive walls, augmented reality, smart phones or other hand-held devices, sensors, RFID chips, nanotechnology and others. Moving away from meaning-making as it relates to learning in museums, scholars and institutions are embracing interactivity as a catalyst for making meaning. This trend is visible in, for example, (Harrison and Capstone, 2011) or (Gillette et al., 2011)). The interactivity itself is no longer based on a simple action-reaction paradigm but rather on the design of the whole experience (Hassenzahl, 2010) using emotion as one language of that experience. As an interesting example of the use of technology for learning through interactive exhibits, we point to the future Mathematics Museum in New York (Gould and Reimer, 2011) to be opened in the fall of 2012, which will offer "hands-on, interactive, engaging exhibits highlighting the beauty of mathematics." It is precisely this perspective of providing engaging, interactive hands-on exhibits that children's museums and the rest of the museum world may share.

Perhaps it was the Exploratorium that started it all, although it is far from being the first in the field (Brooklyn Children's Museum opened its doors as early as 1899). In *Something Incredibly Wonderful Happens* Cole (Cole, 2009) describes her first experience with the Exploratorium in the early 1970s: *There were no guides and no path and no right way to go through... Stuff was simply there to mess with. And what stuff! I thought there was nothing like it in the world and I was right. ... One thing I knew for sure: it was not science and it wasn't a museum. "It did not look like a museum", recalled Alan Friedman, a physicist and now the director of the New York Hall of Science. "The look of the exhibits was right out off the lab bench. Rough wood. Things nailed to the table. ... It looked really friendly. It looked*

like home.” The idea of “messing with things”, as part of the museum experience and way of learning by messing with things, was one of the sources of inspiration for this work.

Our method builds on participatory and exploratory design of museum’s exhibits together with children. The design process as presented here was carried out jointly with the representatives of the museum team, interaction design students, and children. Some children’s museums already have strong connections to local universities. However, a children’s museum with an explicit and visible unit dedicated to design and prototyping, with children, to the best of author’s knowledge, still does not exist. We argue that having a sort of “prototyping center” within the museum would insure a flow of new ideas, prototypes and (only sometimes) products. But the process would enable young visitors to have unexpected and powerful learning experiences. These learning experiences may be the result of active involvement in designing and prototyping, or they may simply be lessons on how to work-play with others (adults or other children in the group) in a structured and creative way. Children may have the role of user, tester, or informer to design or even be a design partner for some future exhibit. Whatever the level of involvement an individual child may have, collectively and over time, children get to have a voice in creation of their own museum.

In what follows, some relevant background will be provided. Since the author’s research and teaching takes place within the field of technology, some reflection on the role of technology in children’s museums is presented. Secondly, all of the design efforts have been done for and with the Oslo Children’s Museum project. Thus, some background is provided for the project and the author’s role in it. A short section on design with or for children by other authors who influenced us is followed by a description of the method of engaging children in prototyping sessions. Finally, two examples of children’s influence on the design of exhibits are given, followed by a short discussion of the approach and conclusion.

Children’s Museums and Technology

For children’s museums, the issue of the presence of technology is a sensitive and relevant one. These institutions are designed for children born in the digital era (Tapscott, 2008) – children whose lives unfold naturally around technology. Children’s museums are conceived as places that offer learning through play. They are places that should be inspiring and creative, challenging children’s minds and expanding their view of the world we live in. Conferences organized by the two leading international children’s museum organizations, Hands On! International (Hands On!, 2012) and Association of Children’s Museums (ACM, 2012) reflect well the importance of this issue. Oslo Barnemuseum, the official name of the Oslo Children’s Museum project, is the only Norwegian member of these organizations and a participant of both organizations’ conferences. In 2011, Oslo Barnemuseum was considered for a Promising Practice Award by ACM, based in part on Culén’s early work (Culén, 2010) on the development of the practice and method described in this paper.

What Wartella and Jennings (Wartella and Jennings, 2000) pointed out more than a decade ago still holds true: “... *increased level of interactivity now possible with computer games and with the communication features of the Internet has heightened both the promise of greatly enriched learning and the concerns related to increased risk of harm.*” In addition to computers and computer games, smart phones with gaming, messaging and social media are occupying more and more of children’s time. The growing concern that children are lacking the ability for ordinary play in nature, replacing it entirely with virtual worlds and play in front of screens is presented strongly in the documentary film “Play Again” (Play Again, 2011). The film echoes Frank Oppenheimer’s words: “*People had become information rich but experience poor, with very little access to many aspects of nature or technology*” (Cole, 2009).

However, in the context of children’s museums, technology offers great possibilities. Designing for joy (Hassenzahl, 2010) and fun (Blythe et al., 2004), coupled with possibilities

that, for example, sensory technology in combination with projections may give wonderful results. Some examples of this (Figures 2 and Figure 3, left image) are the amazing theater company TPO Italy doing interactive performances world around (TPO, 2012), Theo Watson's Interactive Installations and many other wonderful ones including Puppet Parade based on Kinect (Design-IO, 2012). The Oslo-based Rhyme project (Rhyme, 2012) is investigating how interactive musical tangibles may improve the health and well-being of disabled children. It is mentioned here also because Rhyme incorporates many of the techniques and methods that are described in this paper. Children, as well as interaction design students, are participating in this project.



Figure 2. TPO Italy interactive theater on the left and Watson's Funky Forest on the right.



Figure 3. Kinect Puppets from Design I/O on the left and Rhyme research project on the right.

In the setting of children's museums, it is thus important to use technology for all the right reasons and with children's involvement in the design process.

Oslo Barnemuseum, concept and development process

Six years ago, the author of this article was put in the fortunate and also unfortunate position of being a computer scientist (interaction designer) asked to assist with the design of Oslo Barnemuseum at its very start. The fortunate part had to do with endless possibilities, a wealth of technological tools and toys, allowing for forever-changing exhibits and adaptable interactions (both between humans and technology and as digital mediators for human to human interactions). The unfortunate part had to do with the somewhat uncharted territory of

knowing how to choose the best set of approaches to the design of content for such an institution. Learning about the processes for creating a museum's master plan and exhibit design has also had a huge impact on the methods advocated in this paper.

The Oslo Barnemuseum project engaged a multidisciplinary team consisting of a project leader with a communications and management background, a product designer, two interaction designers (the author being one of them), a sociologist with a focus on childhood, a linguist, a dance and theater educator and a community culture consultant. None had previous experience in children's museum planning and design, but all had a passion for building a different kind of space for children's socio-cultural interactions, learning and play. The team started the conceptual design work on the project in the fall of 2007 by making an international call for participation for development of the master plan. Eight international design teams and three Norwegian design teams answered the call. The company that was chosen for this task was a comprehensive museum and exhibit design firm with solid experience in working with children's museums. Oslo Barnemuseum was their first Scandinavian assignment. They did not have experience with a strong tradition of participatory design, see (Bjerknes et al., 1987) and (Schuler and Namioka, 1993). We gave them the task to make our project truly local. For us, that included various design decisions around physical space and activities, but the most important factor was the set of values we wanted the project to be based on. Children's participation in the project was one of them. However, even in Scandinavia with its long participatory design tradition, little was done with participatory design and children.

We learned that, while many children's museums do use a user-centered design approach in their work, most museums do not actively include children in their planning, design or development processes. Another related and surprising fact that we discovered in our planning phase was that there was very little data available for any sort of evaluation of exhibits - even very simple statistics such as the average time children spend on any given exhibit. Exhibit designers had traditionally documented extensively and well how they envisioned the learning in a museum to take place and in which ways this learning supported educational goals. Empirical data confirming what happened when an exhibit was operational were not available.

As an aid in the conceptual design of the museum, we were offered several different themes around which we could build the concept and identity of the museum. Magic and wonder, journey, and light were proposed. None of these spoke to the Oslo Barnemuseum team. We chose the theme of mastery. We wanted children to walk out of the museum with a sense of joy based on accomplishment, mastery and understanding. We wanted children to learn how things really work; believing that basic honesty indeed has a surprising effect on learning (Cole, 2009). With this choice, we also requested a small research and prototyping center to become part of the Oslo Barnemuseum's overall master plan.



Figure 1. Part of the mobile exhibit at Bogstad gård children's festival, 2011.

Since the planned museum's building was not going to be finished before 2014, we needed another venue to support participatory and co-design work with children. The Mobile Barnemuseum was born, offering to schools, daycares and festivals a variety of easily transportable, interactive exhibits. The mobility limited both the physical size and the type of exhibits that could be developed (see Figure 1 – Bogstad gård) in this setting.

Designing with children for the children's museum

Designing for children is challenging, as the designer needs to understand much about children's developmental stages, cognitive abilities, trends, influences and other socio-cultural elements. Designing with children may actually help with some of these challenges, though it does introduce others. There are varying approaches to designing for and with children. The ones that were a source of inspiration for us were based on the work of Druin (Druin, 1998), (Druin, 2009), (Guha et al., 2005), and Markopoulos. (Markopoulos et al., 2008). The latter focused on the evaluation of children's interactive products. These have been valuable both in our work with interaction design students and children and as a basis for developing our own method of working with children through project-based courses in interaction design (Culén, 2011) and designing for Oslo Barnemuseum.

The methods used – how does it really work?

During the past five years, 33 student projects have been completed, focusing on designing with children in the context of the children's museum. Students have typically worked in groups of 2 - 4 with the full support and engagement of the Oslo Barnemuseum project team described above. While the lab at the university is available, most students have had design and prototyping sessions in local schools and daycare centers. It is typical for a project to have two or three design and prototyping sessions followed by an evaluation session. The same group of children participates in all sessions related to a given project. The range of experiences with children during these nearly hundred sessions has been broad, yet analysis of the students' project reports point in one direction: these kinds of hands-on prototyping sessions offer consistently positive learning experiences through structured play and fun.

It is not always easy for interaction design students to start a project. Sometimes, they have things in mind that fascinated them as children such as the universe or dinosaurs, and they know that they would like to do something to bring similar fascination to young children today. At other times, they are fascinated with a certain technology and want to do something with it. And sometimes, they truly do not know where to start. Whatever the situation is, the course of action is to engage children in a *contextual inquiry* – about the universe, about a certain technology, or by asking simple open questions such as: What is the most fun game you have ever played? After this open exploratory session which involves sometimes the use of *generative tools*, sometimes *cooperative inquiry* and sometimes *observing* children while playing with existing technology, students have a much better understanding of how children think and what are they interested in. In most cases, one open session is enough to be able to specify a design brief. If not, one more session may take place, using a different approach.

The next session with children is prototyping, producing at least two alternative design suggestions. Here, the *mixing of ideas* technique may be used (Guha et al., 2005) for children aged 4-6, while the older children may co-design or inform design by participating in concept making, discussions and decisions. It is preferable that alternative suggestions are arrived at together with children directly informing the design, but this is not always possible (for example, with children younger than 4 years or when designing for disabled children). In such cases, it is sufficient that children are observed playing with these prototypes or testing the alternatives and commenting on what they like or dislike. While not to be expected, it has happened for two of the student groups that the children became deeply interested in the project and actually participated in all major design decisions, thus becoming truly co-

designers in the process. As a result, these children spent more time on average with the student groups. In one of these two cases, the students had a vague idea of creating a garbage sorting game, and the children suggested making an iPhone app as the prototype. The children participated in designing the elements of the game and the rules for the game. One of the children kept referring to the app as “my application,” thus showing clear ownership of the design ideas, even though the child was aware that they were developed in cooperation with others. Since this was to be a museum application, the game was designed to be played as a large installation on a wall or more personally on the iPhone of a visitor. Going back to the design process, after one of the alternatives is chosen in a second session, the students try to make a working version of this prototype. The last session with children is largely about evaluating not only the prototype and its potential as an actual exhibit, but also children’s satisfaction, learning outcomes, ways of playing, etc.

Some years ago, making a working prototype that could actually be used by children, was much harder to do than it is today. Williams (Williams et al., 2012) talks about how the world of tangibles has been changed by projects such as Arduino, Instructibles, Makerbot and others, and also by open source hardware. These are all indeed powerful enablers of the iterative prototyping described here. The students participating in projects involving children have completed a prior course where they learn to work with Arduinos, RFIDs, LEDs and other technologies. Thus, they have background knowledge in much of what is needed to work efficiently. In addition, most of the components needed for the prototypes are readily available to students, making any costs to the museum very low.

Brownie – the interactive octopus

Brownie the octopus was a semester-long undergraduate project (Al-Nashy et al., 2011). Apart from designing a prototype, the students were also required to explore a research question. The design effort was carried out in cooperation with Oslo Barnemuseum. The students wanted to make something fun for the museum's youngest visitors that would not require reading or language skills, but would be cooperative in nature. The original idea was to make something bigger than the children, like a moose. The execution of that turned out to be complicated, so the students settled on the idea of making an octopus instead. The prototype was still quite large and when the children first saw it, it was met with a mixture of awe and fear (that was overcome very quickly): “A monster, a monster!” screamed a two-year-old boy.



Figure 4. Brownie the octopus visiting a daycare center and being "fed" by a child.

Observing the children play, the students discovered out that the experience would be enhanced if the tentacles could be detached (boys took to this idea at once, and later played with the detached tentacles, using them as weapons), thus combining technology-free play with play involving technology. The octopus had a mouth with an RFID reader, and there were fish and other items “swimming” around, also with RFID tags. Thus when a child would

take, for example, a jellyfish as shown in Figure 4, the octopus would say: “Yuck, I do not like to eat jellyfish.” The short voice recordings were easy to make and change, and the children loved coming up with sentences Brownie could say. The mouth would light green if it liked the food and red if not (powered by Arduino). Similarly, the eyes of the octopus would light up if it liked the food. The feeding game was on. Some improvements were made based on observations of the children: the size of the mouth was increased and a “sea” around the octopus was added. As this exhibit was meant for use by very young children, the role of these children in the design process was mostly that of testers and users of the prototype. However, even these very young children clearly contributed to the appearance and functionality of the resulting prototype. As for the research question, the students wanted to consider a gender issue: do boys and girls play differently with an installation like this? They also designed an experiment to test the learning outcome: have the children learned what an octopus eats? Both questions were answered affirmatively. An analysis of what the group did well in the design of their experiments as well as mistakes they made are described in detail in their project report (Al-Nashy et al., 2011).

The Savannah Acapella Orchestra

This project earned its place here because the Oslo Barnemuseum project leader said about her experience from the prototyping session with students and children: “Wow, the children had so much fun that this could be used in the museum exactly as it is, right now. This was so exciting!” This project group (Bakkeli et al., 2010) knew they wanted to do something with children and music. They knew that application of effects and sound modulation can be quite powerful in digital music production and wanted to see the effect it would have on play, yet it is extremely hard for a novice to manipulate sound in a meaningful way. So they decided to “...do a completely different take on sound controlling by replacing named parameters with different shapes. Our belief is that shapes have a more direct relation to sound than traditional parameters and words used in sound software, which in turn can make it possible to predict the auditory result of manipulating a shape, if these are properly coupled” (Bakkeli et al., 2010). The shapes they chose would be assembled into African animals, thus the Savannah Acapella Orchestra. The children were asked to design their own animals using combinations of various shapes and sizes of bodies, legs, heads, necks, etc. which would in turn alter the sound of the animal (Figure 5, left). The children could then record their own sound that they believed their animal would make. The surprise for students here was how much the children enjoyed giving their own sounds to the animals they made (Figure 5, right).



Figure 5. The school children altering the sound by making animals (left), and giving their animals a voice (right).

The prototyping and research work described and exemplified above is much better suited for a permanent location, within a children’s museum with all the nuts and bolts in one place and creative mess and energy all around. Sessions with children could be arranged in advance with schools or daycares, much like today, except that they would take place in a different setting. Many projects would not end in prototypes that are worthy of further development

and investment, but some definitely would. Ironically, unsuccessful projects often offer deeper learning experiences, as one strives to solve the challenges. The destiny of the prototype is ultimately not what matters (although it is sometimes is very important to the children). The process provides a unique learning arena for children and interaction design students.

Conclusion

The benefits of a research and prototyping center as we have seen it develop based on direct observation of many student/children sessions, analysis of student reports and interviews with both students and children are four-fold:

- contributes exhibits and innovative ideas co-designed with children
- enriches the overall visitor experience of the museum
- for the children participants, it provides experience with the design process which stimulates a different kind of learning than that which the rest of the museum offers
- for the museum, it can offer dynamic research data which it can use to freshen and improve its offers and programs

We have argued that synergies from combining participatory design work with children and teaching and research in interaction design in a children's museum setting shows real promise to offer transformative powers for children's museums. By incorporating children into an on-going creative design process in the form of a permanent prototyping workshop in the museum, children's museums can benefit inherently from the learning and processes which they themselves encourage.

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Transforming Children's Participation and Learning in Museums: From Singular Dialogues to a Multilayered Explorative Experience

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Introduction

Discussions on the transforming museum of the 21st century has focused on new forms of engagement and participation (Simon 2010) and new ways of understanding the relation between learning, knowledge building and experience in museums (Paris and Ash 2000). Also, we have an increased interest in how museums can stimulate creativity and imagination by focusing on the development of visitor skills, knowledge, understanding, feelings, attitudes and capacity to reflect (Black 2012). The focus on interactivity in museums as an invitation to hand-on, minds-on and hearts-on opportunities for physical, intellectual, emotional and social engagement (Adams, Luke and Moussori 2004) closely relates to discussions of experience-based and inquiry-based learning in museums (Ansbacher 1998). The role of museum objects is in this perspective set in relation to how interactive experiences are means to draw visitor attention to objects and how construction of knowledge may take a variety of forms (Paris 2002). Interactive touching and manipulating of objects in museums opens up "a range of experiences that fully engage visitors personally, physically and emotionally" (Adams, Luke and Moussori 2004: 158).

Sociocultural perspectives on learning stemming from cultural psychology (Vygotsky 1978) has been used to convey the socially mediated character of museum learning (Schauble et al 1997) that is understood as informal, open-ended, non-guided, interactive and direct experiences related to objects (Paris 2000, Paris and Ash 2000) which lie at the core of the museum mission and challenge our definitions of the outcomes we should seek from museum visits (Wertsch 2002). There is a "broad uncharted territory of pedagogy and epistemology with authentic objects" (Conn 1998) within the emerging field of object-based learning. This field is characterized by two classes of theories that focus on objects either in context or on how people read and shape meaning of objects as representations and examples. To understand the role of objects in museum learning it is crucial to focus on the relation between the two perspectives and on the types of transactions that take between objects and people which evoke meaning construction (Paris 2002, Paris and Hapgood 2002). Not only may such transactions open up for

multiple activities of interpretation and meaning making among visitors, they also open up for transactions between the cross-disciplinary perspectives as represented by museum objects.

The pilot we report from here (*Design and Build Your Own Boat*), has reminded us of Dewey's distinction that quality of experience should not be confused with the educational quality of the experience (Dewey 1938) and that museum learning experiences are closely related to personal continuum and the transactions that take place between the individual and what constitutes his environment (Dewey 1938, Ansbacher 1998). We will focus on how these transactions not only contain multiple activities of interpretation and meaning making among young visitors, but also open for transactions between the cross-disciplinary perspectives represented by museum objects. Based on the pilot we ask how such transactions may enable students' meaning making and learning.

Seeing a museum object as inscribed with many layers of historical and scientific issues, we designed a programme that would present the visitors with many gates of entry to the object in question. Embracing all scripts embodied by an object, we decided to utilize a limitless wealth of information to contextualize the purpose of the learning programme and the cross-disciplinary aspects it opened up. In our quest for a museum learning design that would enhance visitors' object-based learning and understanding, we designed a multi-layered experience mirroring the multitude of meanings inscribed in an object. In the pilot *Design and Build Your Own Boat*, the museum object (boat) was approached from several angles that all represent a different phase – a layer – of the learning programme. These angles consisted of narratives, of encounters with the original boats (i.e. the historical objects), of moulding model hulls, of building, rigging, launching, ballasting, of sailing boats, of after-museum discussions and studies.

We ask how a museum educational programme can enhance students' interpretation of the complex meaning inscribed in a museum object. How can a museum learning program designed in multiple layers meet students learning trajectories and transactions across the diverse contexts involved in the museum visit (Falk and Dierking 1992)?

Object-based learning in museums and school field trips

The focus on object-based learning in museums involves a development in museum learning theories away from a "transmission-absorption model" towards a "highly interactive learning that results from (...) experience and encounters with objects" (Falk and Dierking 2000). The shift from an 'object-based epistemology' dominant in the late 19th century museum, to today's 'object-based discourse' centering on the participation of the object in the cultural or lived history of the visitor, opens up for new learning activities that emphasises explanation "which could be that of the expert, or that of the visitor, or both...." (Evans et al. 2002). This understanding of museum learning and learning related to objects requires that the theoretical claims posed to understand learning with objects should be related closely to the particular sociocultural setting in question (Wertsch 2002). Students' encounter with museum objects should be based on interpretations and explanatory activities to scaffold their meaning making and learning.

Three key aspects into school field trips to museums has been in focus of the last 10 years of research; the overall educational value of the trips, the impact of preparing for field trips and the complexity of elements that influence students learning during field trips. The wide range of

research has involved a closer investigation into the learning of the individual students within school groups, emphasising the sociocultural aspects of learning in museums and comparing students learning with childrens` learning in the setting of family visits (Griffin 2004). The special interest in research into school field trips to science centres, states the importance of a clear learning framework for the visit, a clear indication of how the information is to be used following the visit and an understandable purpose of the learning (Griffin 1998) providing students some authority of their learning (Griffin 2004). In a study of science educational programmes from museum educators` perspectives, five elements have been found to influence school student learning in museums; "a) alignment with accepted science curriculum standards and benchmarks; b) extension of all contacts through pre-and post-activity connections; c) integration with other subjects and disciplines; d) connection of classroom experience to science center experience; and e) insistence on student production through problem solving, construction, collaboration, and use of creativity" (Lebeau et al. 2001:134). While our learning program was designed for a cultural historical museum, these five elements seems relevant for a cross-disciplinary approach to museum objects as well.

To a museum educator, the historical object in the museum provides a learning context of multiple epistemic approaches. This is a cross-disciplinary resource that can give visitors multiple choices when forming their personal and social engagement with objects in the museum. Museum objects may be utilized by educators to give "visitors a sense of the empowerment to make creative use of the viewing experience by merging bits of information with perceptions of the object at hand" (Duke 2010:275). Furthermore, a cross-disciplinary approach to museum objects does provide a unique possibility to mediate how traditional procedural knowledge has been passed on through generations by allowing visitors the same expanding development of experience, where learning experiences presents new problems that grows out of the experience and that it arouses the learner an active quest for information (Dewey 1938). These perspectives informed our development of a museum learning programme as based on multiple layers of learning activities, such as reading/listening, observing different shapes of objects, making and using boat models, and finally telling narratives about the boats produced. Each layer of activities provide a new perspective on the museum object, a new entry point, such as the cultural history stories about people using specific boat types and activities such as ballasting the boats to understand the physical relation between weight and function of boats on the water. The layers and phases of the learning activities in the program are inherently interdisciplinary, and will be further explained below.

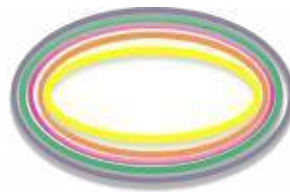
Maritime museums do represent an interesting interdisciplinarity in the museum landscape; they contain museum objects such as boats, ships and maritime equipment from oil and gas production. They contain scientific knowledge about weight, speed, resistance etc. But they also contain the history of societal and urban processes, international influences, workers history, coastal cultures and industrial development related to the fishing-industry for instance and they draw on disciplines such as maritime archaeology, ethnology, history, craftsmanship, engineering, physics and so on. These characteristics make maritime museums an interesting context for an interdisciplinary approach to object-based learning and legitimate the need for learning activities that involves students in interactions that embodies the diverging perspectives of maritime objects.

Design and Build Your Own Boat – a cross-curricular program for school field trips to museums

The objective of the pilot *Design and Build Your Own Boat* (at The Norwegian Maritime Museum in Oslo, September 2011 and forthcoming at the Stavanger Maritime Museum, October 2012) was twofold: One was related to museum subject - to create children's interest in ship construction technology and its history. The second was related to museums' role in society - we aimed at building a multilayered learning programme that would link museum learning to a diversity of school curriculum subjects and provide an educational programme that would contextualize interdisciplinarity.

Basing our learning design on Falk and Dierking's Contextual Model of Learning (Falk and Dierking 1992, Falk and Dierking 2000), we see museum learning as resulting from the transactions that take place in the cross-section of the personal, social and physical contexts. Placing our learning design within this cross-sectional context, we built a layered trajectory of interlocking activities, a chain of many phases. To scaffold the students' interpretation of the complex meanings and cross-disciplinary perspectives inscribed in a museum object, learning method, learning tools and learning content were layered and varied throughout:

- ✓ **Narrative**
- ✓ **Activity (method)**
- ✓ **Materials (tools)**
- ✓ **Context (personal, social, physical)**
- ✓ **Content (cross-disciplinary)**



When studying boats we can read activities such as building, sailing, fishing etc. We may also read narratives about people from former times using boats for transportation and work, we can read old knowledge of wood building materials and wool sails, we can read signs of collaborative processes in fishing and we can read the historical development of cities and of Norway as a seafaring nation. To build children's conceptual understanding of the many layers of knowledge embedded in the boat-objects, we chose different types of activities i.e. reading, listening, talking, making, testing, exploring and playing, to form a chain of experiences that each mirror the layers inscribed in the museum objects. Materials such as wood, plastic, fabric, glue, pebbles and water are tangible tools enhancing the experiences and aiding the activities of unlocking the embedded scripts.

The programme *Design and Build Your Own Boat* was given a tripart layout and was designed as a series of many phases, each phase focusing on different layers of content;

- I pre-visit activities that focused on the historical context of the four boats that the students would come to meet in the museum.
- II the museum visit itself split into many phases and which focused on the same four types of boats through creative activities
- III post-museum activities that focused on students telling about the visit and about what they had learned about boats and sailing

I Pre-visit activities: Reading fictional historical narratives

In school, children were to read 4 short stories about the different four boats or ships chosen to represent different hulls and also different stages in Norwegian boat building history. All 4 narratives focused on a fictional child the same age as the target group:

The dugout boat dated to 200 BC, is introduced through a nine year old boy called Wiwaz. His family has several dugouts and as we meet him, he and his parents are on their way up the river in the family's largest dugout to visit his cousins. Descriptions of his clothes and the presents they are bringing give life to an everyday scene more than two millenniums ago.

The Viking ship is presented through a ten year old girl called Tora. Tora is the youngest of three, she is the only girl and her father's favorite and she manages most days to avoid all daily chores expected of her. As we meet her, it is the year 955 AD and she and her father is sailing down the Oslo fjord to a market town where her father sells furs. He has promised to buy her a buckle for the new leather belt her brother gave her.

The small freight boat from 1595 (excavated by Norwegian marine archeologists in 2008 and reconstructed and christened *Vaaghals* in 2011) is owned by nine year old Anne's father who makes his living by freighting heavy goods around the Oslo harbor area. Anne, who is named after the Danish princess who married James 6 of Scotland in Oslo just before she was born, is a strong little girl who often helps her father load and unload. Descriptions of their living quarters extend a picture of early 17th century local life.

The rescue boat RS1 Stavanger built in 1901 as the first of many, saves the life of Simon, age 10, and his father as they are caught in the February storms when out fishing. Simon, who is terrified and frozen to the bone, is allowed on board the rescuer when they come to harbor. He regains his body temperature by drinking hot coffee swathed in a large wool blanket.

Albeit the stories and characters are fictional, the facts are historically correct and based on research and archeological finds. All boats but the Viking ship, are in the museum collection. The Viking ship is represented through an exhibition model but can also be seen in a neighbor museum.

After the boats were introduced such, the children were to pick out their favorite and the teachers were to send a list of boats they wanted to build to the museum where volunteer staff would prepare for their visit.

II The Museum Visit

The museum visit was planned as a trajectory of phases, a series of closely linked activities:

1. Introductory session

After welcoming the children, the museum educator would introduce the museum volunteers (i.e. retired sailors and engineers) and then initiate a conversation about boats in the "olden days". The children would be asked to look at exhibited boat and ship models and link these to the different modes of transportation today, i.e. a small row boat would be today's car or bicycle, a large passenger ship would be today's train or airplane and so on.

2. Guided tour – giving a framework

A walk through the exhibitions would show the children the dugout boat exhibited in a large glass cage and a minute-short film on how to build a dugout as well as a model of the Gokstad Viking ship. All children in Oslo visit the neighboring Viking ship museum so we believed the model would suffice. They would then be taken to the museum's boat building workshop where boat builders were building a full size copy of the 1595 freighter (*Vaaghals*). It was hoped that the live environment with its smells of tar and wood, the sounds of hammers pounding and the sight of human hair used as insulation

between the boards would give life to a historical object. The children would finally look at the rescue boat Stavanger anchored up in the museum harbor.

3. **Model hull making – focusing on form**
This session would introduce the models. The model hulls were to be molded in plastic by museum staff prior to the visit. The class would be taken to the volunteers' work shop which incidentally was next door to their designated work shop. A museum volunteer would demonstrate to the class how their plastic hull models had been created by heating and softening a sheet of plastic in a Vacuum Press Machine and by the use of vacuum fold it around one of the four small wooden copies (plugs) of the designated hulls. This layer would be concluded with the children being handed a model hull each of the boat they wanted to the build. It would also be stressed that the hulls were not the entire boat but simply a part of it, otherwise a common misconception.
4. **Building boat - understanding boat type and function**
The class and its teachers would then proceed to their designated work shop area where they would be introduced to the materials they needed to build the model boats: Wooden sticks for masts and spars, pieces of fabric for sails, clay dough as mast fish, lines for the rigging, glue, colorful markers and so on. Teachers and retired sailors and engineers were all supposed to be at hand.
5. **Ballasting boat – understanding weight and floating**
The first test station was a small inflatable pool where the children would have to try out and to learn to master the art of ballasting. Using garden pebbles, each child would have to balance their model boats correctly before they could move on to the next phase;
6. **Testing&sailing boat – understanding weight and stability**
When the staff was satisfied with the stability of the model boats, children would be allowed to move on to the second test station – a large stationary museum pool where a mechanical pull test would take place. Museum staff would attach two and two model boats to a simple pulling device in the hope that the young students could compare the boats' seaworthiness.
7. **Taking boat home – telling and remembering**
The museum visit would end with every child leaving with his or her own boat.

III Post-visit activities: Creating narrative

The teachers were expected to follow up any of the subjects that the museum visit opened up for, preferably science subjects as there is national concern for the future recruitment of students of science. In addition, the museum educator would visit all the classes and converse with the children about the experience.

Structuring the multilayered learning programme

In short, our educational framework consisted of a multilayered scaffold with each layer representing a meaning making activity that facilitated the interpretation of the museum object. However, the richness of the structure required structuring and we chose to see the learning trajectory as a piece of dramaturgy: By allowing the planned interactions to follow a chronological time line, i.e. the young students would read about the boats, see the original boats, see the models they were to build, make their own boats, test them, play with them, take them home and finally create their own narratives about them, this multilayered experience

would progress naturally, providing a sense of narrative order with a beginning, a middle and an end.

To sum up, we aimed to allow students to investigate any scripts embedded in the object and teachers to utilize whatever aspects they deemed beneficial to teaching by facilitating an evolving journey within a multilayered scaffolding of embodied transactions. By introducing the children to the concept of boat/ship through a trajectory of different phases each providing the child with varied and different learning techniques, we hoped to enable young students to grasp the conceptual understanding of boats and ships.



Experiences from the pilot

In September 2011, a total of 160 children and 10 teachers divided between 5 school classes from 3 schools in Oslo took part in this pilot study. Four of the school classes were third graders, i.e. 8 years old, the last was a sixth grade class, i.e. 11 years old. The empirical material is based on field notes taken during the museum visits, transcribed interviews with both the young and the adults as well as on personal conversations with the teachers. We have used qualitative methods based on observations of the children during their museum field trips. Two weeks after the field trips, we conducted a group interview with the teachers. After a period of 3-5 months the museum educator visited all 3 schools and recorded semi-structured group interviews with the school children (in groups of five) as part of a post-museum closing session. Each interview lasted 20-25 minutes. The teachers were interviewed separately at the same time. These sessions lasted 30-60 minutes. Furthermore, both children and teachers answered a written questionnaire at this point. The interviews was transcribed and analyzed in accordance with the themes of this paper.

We will focus our empirical discussion of the results from the pilot on two of the phases in the educationally chain; on the phase where the children had finished making their model boats and were to ballast them and test their seaworthiness and on the last phase, the conversation between the museum educator and the children reminiscing about the experience. These two phases illustrate how the interconnected trajectory of activities in the diverging phases gives important contextual information that students use to capture the content of the next phase.



Ballasting and testing: learning the relation between weight, balance, form and function

After having been shown the original boats, given a hull each and further materials, the children had a workshop session where they made their own boats. Ballasting and launching their boats in a small play pool was next. As the model boat hulls were purely plastic shells without any keels, i.e. without a necessary low centre of mass, the need for ballast was even stronger than with full size boats. Without ballast their model boats would capsize, a perfect and immediate illustration of the applied physics of ballasting. Furthermore, the launch of the boats in the play pool would illustrate each type's seaworthiness. Each of the four original boats has a distinct hull that is different from the other three – would the children notice?



Fig. 1 When and if the boats capsized, the children were told why – it was all about applied math and physics.

The little pool could accommodate 4-6 children at the time and the stream of children trickled evenly. There was always one adult present at this station to assist and explain whatever took place. We noticed that the young students grasped the concept of ballasting quickly. Using pebbles, they filled their boats and sent them from one side of the pool to another. However, quite a few capsized in the process. Many had attached elaborately designed and very heavy sails to their masts and the initial pebbles put in were not sufficient. The rigging of many of the boats were top heavy and illustrated the importance of a low centre of mass well.

Student A (has observed a dialogue between the museum educator and student B. Student B leaves goes on to the next phase, to the big pool. Student A places his boat, a log boat in the pool. The boat capsizes)

Oh.....no

ME

Let us see. Do you know why it falls? Because the log boat in reality is a boat for paddling. This boat is not meant to have sails because that makes it top heavy, the center of gravity sits too high up. But if we put some ballast on the bottom – maybe it works. But I think you have to remove the sail, the others had to. Yes you have to take away the sail. Then you simply pull the mast out and put the boat on the water again. See – now it floats, which means that it floats better without a sail.

Capsizing became a major challenge for the children – but also a major point where their experience could be developed into a richer and more organized form of knowledge (Ansbacher 1998). Many children were given a one-to-one explanation by an experienced adult, usually a retired sailor or engineer that could explain why their boat capsized and about the physical laws that would explain the phenomena. Capsizing led to wet sails which increased the boats' top heaviness, again a splendid illustration of applied physics. Furthermore, in their transactions with the young students, the adult experts often used of examples from history to illustrate why and how. One boy whose boat were top heavy and subsequently kept capsizing, was so enthralled by the example of the 17th century Swedish royal ship Vasa that kept afloat a mere half an hour after its launch, that he three months after the museum visit wrote a short essay on the Vasa catastrophe when asked what he had learned. Herein lies this phase's cross-disciplinarity. The learning content consisted of many layers: The capsizing accidents became interesting demonstrations of applied physics. The difference in seaworthiness among the four model boat types illustrated how form shapes function, how technology and design - a science subject in Norwegian schools - is intertwined. History enforced learning as narratives about historical events were used as illustrations on how and why.

As the children were pushing boats to and from and blowing on their sails to create wind, we noticed remarks such as "See! My boat doesn't capsize! It's because it is a rescue boat!" "See how much load I can put in! It never sinks!" (about the small freighter). There were many remarks regarding which boat would go faster and why: "the Viking ship is the fastest because it is long and narrow" and "your boat is so round, that's why it is slow".

After the model boats had been ballasted and found seaworthy in the small pool, the children were allowed to go to the big pool where they could try out their movement through water – two and two boats were pulled mechanically from one shore to the other.



Fig.2 In the big pool the boats' seaworthiness was compared in a pulling test.

It is, however, worth mentioning that albeit this station was deemed the most attractive many of the children returned to the little pool to play with their boats and compare their boats' seaworthiness.

As mentioned in the description above, this phase consisted of a several layers of learning content. It also offered a variety of learning activities expressed through physical movement: loading and distributing ballast, pushing boats, blowing on them, walking/running to and from, kneeling, etc Every child interacted with his or her boat and through testing it, they interacted with the elements, with water and its propensities. Thanks to the pebbles they understood the role of ballast. They became able to explain why something floats and something sinks. Through tactile play and practical experiments they understood the relation between the hull shapes, i.e. form, and the functional qualities of these hulls, they understood the relation between weight, balance and floating. Learning was based on the experiences in the different phases being connected. While the students primarily explored the scientific laws in relation between weight, buoyancy and function, dialogues with adults and peers included historical narratives of boats and ships to understand how different boat shapes are related to different transport functions.

Most senses were employed and so were various intelligences as defined by Howard Gardner: the bodily-kinesthetic, the logical-mathematical, the spatial, the interpersonal and of course the linguistic (Gardner 2006). The empirical outcome of the pilot indicates the need to make further studies of the relation between kinesthetic or logic-mathematical learning are highly relevant to understand object based learning. The main focus here has been on the trajectory of multiple layered experiences and the relation between the different phases that in steps should help the students understand the function of boat forms, i.e. the propensities of hulls, and understand the history of boats and the scientific laws relevant to boats.

Cross-contextual interactions at school and home as enforcers of meaning making

In the last phase of the educational trajectory, the museum educator visited every class and sat down with five and five students at the time, talking about the field visit and asking whether they had understood that function shapes form. Had they grasped the physics of movement through water or the historical significance these means of transport had played in our society? The goal of these interviews was to find out if the students had reached a desired body of the conceptual understanding of the knowledge embedded in boats and ships. All the children were eager to tell what they had done at the museum, what they know (not what they had learned, they focused on their current body of knowledge, i.e. product not process) and what had been said about and done with the boats when they brought them home. Parents and grandparents had all admired their creations, a stunning amount of naughty little brothers had then destroyed the model boats through rough play. A few boats had survived on top shelves or in glass cabinets.

One eight year old girl told the following story:

"When I came home with the boat, Daddy asked me why I had put pebbles in it and I said it's because otherwise it will sink and Daddy said nonsense and took all the pebbles out, and then he put it in water and it sank!"

The whole group of children burst out laughing, all agreeing that this was a stupid daddy. They had all grasped the concept of centre of mass. As eight year olds, they did not master the

adequate terminology so instead of being able to explain its significance by using terms such as topple over, capsizing and low centre of mass – they would simply state that without the ballast the boat would sink or they would use their bodies to imitate the movements when explaining. It is also worth noticing that in every class there was one boy that would go beyond the recipe of model boat building at the museum and explore the limits of the learning activity. As one told us in writing; “...because it was boring just to make a boat so I gave my boat wings”. He also concluded, however, that next time he would just make an ordinary boat because his creation had turned into a submarine. These self-initiated experiments, however, proved very valuable for the children’s meaning making. In our post-visit conversations, these experiments were frequently mentioned and the children discussed amongst themselves why these boats had failed floating.

This phase in the museum learning trajectory seemed to have several functions: The students seemed to collectively enforce the meaning making of the experience – as the children would help each other to remember. A few students could not recall what boat they had built, even though they clearly remembered someone else’s experiment or that they had won or lost in the large pool pulling test. Their class mates would then immediately tell them what kind of boats they had made. The social context of the interviews also seemed to contribute to the children’s creation of their own narratives. By being able to tell someone what they had done at the museum and with the boat at home or in school afterwards, individual and very personal narratives were formed.

When interviewed, the teachers stressed the tactile and practical engagement with boat models as valuable for the students’ conceptual understanding of what sinks and floats and why, of the relation between weight, stability and speed. They mentioned the competition aspects as especially engaging as well as illuminating. They emphasized the use of retired sailors and engineers and the interactions between the volunteer staff and the children as valuable and saw volunteer staff as a means to create an authentic context and increase the children’s motivation to learn. The teachers also expressed a need for more learning activities connected to the program for the after-the visit follow up in school class – the children had had many questions related to the visit when they came back to school. One school asked for the field trip to be extended to include a ‘math work shop’ for the children in the afternoon.

In conclusion

In this paper we have asked how a museum educational programme can enhance students’ object-based learning experiences. The learning programme that we have described is based on a trajectory of learning activities that is designed as a chain of interconnected phases. Every phase contains activities representing a further development of the former phases – and each phase is focused on a new perspective on boat, i.e. presents an entry point into the scripts embedded in the museum object. We have asked how this multilayered trajectory can help students grasp the complex picture of meaning inscribed in a museum object.

By adding the perspective of procedural knowledge to a multi-layered framework, we were able to organise students’ learning activities according to an expanding development of experience. Also, thinking in layers highlighted the variation of activities and how they were connected to

the historical and scientific content embodied in the museum object. The design of the interlinked phases enabled us to focus on the contexts involved in schools field trips to museums, not only as a matter of connecting classroom with museum, but also a matter of connecting private, social and physical space with different historical and scientific contexts. This cross-disciplinary approach made it possible to link the context of the different activities to each other; the problem solving of weight, the exploration of buoyancy, the observation of other types of boats in the pool as well as in the museum, the creation and the collaboration. All were part of a dramaturgy that framed the children's activities and provided each phase with a clear focus point that continued after the field trip – in schools and at home.

We believe that the design of museum learning programmes may gain from thinking along the path of trajectories and phases. We believe that conceptualising museum learning experiences as multi-layered may give museum learning programmes, which are steered towards multiple benchmarks in the school curriculum, a real advantage. Furthermore, by embracing the many scripts embedded by museum objects, museums will be able to provide an interdisciplinarity that schools seek¹ and that can illustrate how knowledge in different fields is connected.

¹ Interdisciplinary is an expressed objective of Norwegian schools, see Parliament white papers Nos 16; *...og ingen sto igjen. Tidlig innsats for livslang læring*, 22; *Motivasjon – Mestring – Muligheter*, and 31; *Kvalitet i skolen*, as well as in the *National Report from Norway; The Development of Education 1991-2000*.

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Making meaning in an exhibition: Technologies, agency and (re-)design

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Abstract (395 words)

Making meaning in an exhibition: Technologies, agency and (re-)design

Based on a three year project 'The Museum, the exhibition and the Visitors: Meaning making in a new arena for learning and communication' (funded by the Swedish Research Council) this paper asks what might be constants of meaning-making in a visitor's engagement with a museum exhibition, foregrounding the agency of the visitor, irrespective of the technologies involved.

Nowadays in the museum, while the motivation for the introduction of digital technologies in general seems to be to develop tools that enhance 'the museum experience' and maybe 'learning', the questions of what communication actually is, and what constitutes 'learning' are not really posed. This paper proposes that these interests should be guiding the transformation of museums through the increasing use of digital applications.

Taking a multimodal and social semiotic approach to communication and learning, the paper is focused on meaning-making, stressing the visitor's agency rather than the potentials and facilities provided by currently available (digital) technologies. While acknowledging the presence, use and the potentials of such technologies, which play their part in shaping the experience of visitors and frame the environments and conditions for learning, the paper stresses the centrality of human social agency. It emphasises that it is the social environment and its potentials which is enabling in relation to technological potentials.

Our focus is on how meanings are made and remade by visitors, in constantly transformative processes. What underlie this transformation of resources for the making of new meanings - with or without digital technologies involved- are common principles of communication, initiated by interest. These foreground the agency of all visitors in the processes of meaning making, as well as underpin the interplay between

visitors, their interests, their backgrounds, their resources with aspects of the environment – both social and technological.

This transformative engagement with resources is what we refer to as (re-)design. The notion of redesign is well established since 1996, when it first appeared in the collective work of scholars forming the New London Group (Harvard Educational Review, Vol. 66, 1). In the work the 'redesigned' is the product of social agency, founded on historical and cultural patterns of meaning making. This concept is also key in the work of G. Kress and S. Selander 'Design för lärande : ett multimodalt perspektiv' (p.33), where it refers to this same aspect of meaning making as the transformative engagement with other designs which act as resources for the redesign of the learner as agent.

Redesign is one of the constants of meaning making when it comes to the interaction of visitors with the exhibition resources , including technology. The paper uses instances of interaction of visitors with exhibits as case studies in the above exploration. Its theme relates to the 'Transformation of visitor participation and learning' conference strand. The examples of our study come from the Museum of National Antiquities and the Museum of Far Eastern Antiquities in Sweden, as well as the Museum of London, in London. We focus on instances of visitor interaction with the exhibits and their use of digital camera and audio guide as tools for engagement, selection and framing of aspects of the exhibition, in order to discuss the visitors' agency in redesigning the meanings made by curators.

Making meaning in an exhibition: technologies, agency and (re-)design

Abstract

Based on a three year project 'The Museum, the exhibition and the Visitors: Meaning making in a new arena for learning and communication' (funded by the Swedish Research Council) the article asks what might be constants of meaning-making in a visitor's experience in a Museum exhibition, irrespective of the technologies involved. It is focused on meaning-making, stressing the visitor's agency rather than the potentials and facilities provided by currently available (digital) technologies. While acknowledging the presence, use and the potentials of such technologies, which play their part in shaping the experience of visitors and frame environments and conditions for learning, the article stresses the centrality of human social agency, and emphasises that it is the social environment and its potentials which is enabling in relation to technological potentials.

The aims

The dazzling pace of development of the digital technologies of communication and information holds out the tantalizing possibility of an entire remaking not just of communication but of social relations in all domains affected by these technologies. There is much evidence of that already, whether in institutions and the public domain generally, or in the private domain – in as far as that distinction still holds. Advertising, the media generally, political communication, 'formal' education, commerce, public relations - to name but a few - are institutions directly and profoundly affected. 'The Museum' is entirely drawn in to this; and in many ways more so than many other institutions. In as far as it serves (in many cases) at least two masters, the state and 'the public at large', it is constrained by the demands of its political (pay-) masters and constrained by a fragmented, unstable, demanding public; it has both less freedom of movement and greater need for action than many other institutions.

'Dazzle' draws attention, inevitably. And so the digital technologies occupy centre ground in much public attention. Yet communication takes place irrespective of the technologies that are used. There is *representation* on the one hand and there is *interpretation* (as re-representation) on the other; those involved in the process of communication engage with representations – the exhibition in a museum, for instance. In their engagement they select and frame aspects of the exhibition; from what has been framed by them (as a prompt for them), they make their interpretations as 'inner' representations. Agency is involved in representation both as outwardly visible/tangible signs and in inward representation as interpretation. Meaning is *made* in both processes. At some level of generality we assume this process to be constant: shaped by the specificities of the environment, of which the technologies form a part, and yet, at some level, constant, irrespective of the specificities of environments.

In this paper our focus is on *where* and *how*, irrespective of the technologies involved, meanings are made and remade, in constantly transformative processes. It is on the *agency* of all participants in the processes of meaning making, and on the interplay between participants, their interests, their backgrounds, their resources with aspects of the environment – both social and technological. In museums as elsewhere, many and different digital technologies are used by the various participants in processes of communication, in different ways, for different purposes. Visitors may have preferences among the technologies (made) available to them, even before they enter the museum; curators have their informational, pedagogic, didactic purposes and will use available technologies in furthering their aims. Researchers (such as we have been in the project which underlies this article) have different purposes yet again and they too use (digital) technologies to attempt to further them.

Our perspective: theory and methodology

The ‘dazzling pace’ of these technologies is, we insist, enabled and ‘produced’ by the equally profound and far-reaching pace of social and economic change. In that, the museum has become a focal point, a point of intersection of social, cultural and technological forces. In many ways, the museum acts as a precise indicator of social, institutional and of individual conditions: each of these perspectives provides a distinctive lens on each of the others. The move by the state and by society, in recent decades, to turn the museum into a specific kind of educational institution as one among others, is a part of that process: providing an increasingly diverse society with what has been called (Langenbucher, 2008) a generalized ‘social education’, an education aimed at enabling members of that society to participate in ‘the social’ with fuller understanding.

In our approach the social is prior to the technological in a number of ways. If communication is about meaning first and foremost, then we assume that meaning arises in social (inter-) action. From that perspective, the media, as the tools / instruments the technologies, of interaction, are secondary, in two ways. If the social was other than it is, many or most of the facilities of the digital technologies would not or could not be used in the way that they are; and if no meaning was generated in social (inter-)action, there would be nothing to mediate. If current processes of communication are marked by more horizontal forms of power, that is the result of social (and economic) changes. In as far as the digital media have been an integral part of communicational changes, that redistribution of power is a social fact first and foremost. The contemporary possibilities of agency in *making* meaning, as much as its recognition, are facts in which the digital media have not been causal – though the exploitation of such new arrangements of power has been enormously furthered by the ‘affordances’ of contemporary ICTs.

The theory which we use is that of (Multimodal) Social Semiotics. In that label, the term “multimodal” is, in a real sense, redundant, given that semiotics is concerned with signs in *all modes*, as socially made resources for representation (Hodge & Kress, 1988; Kress & Van Leeuwen, 2001; Kress, 2010). The “social” in “Social Semiotics” is not redundant however. It marks off this approach from others in which systems of signs ‘exist’ and are available for *use* as compared to the approach here in which cultural resources for the

making of signs are available in particular communities, and are used in the constant *new making* of signs. As a second and major point of difference, in the always new *making* of signs, the sign is based on the selection of an apt form for the expression/realisation of the meaning which the sign-maker wishes to make. The relation of form and meaning in signs is *motivated* by the *interest* of the sign-maker, who chooses an apt form for the realization of the meaning to be realized.

Translated into a methodology for visitor studies in the museum, and the study of meaning-making in this context, it permits making hypotheses based on the *form* of the sign *about* the *interest* – and intended meanings – of the sign-maker. This applies to the initial sign-maker – as when the curator (or a curatorial team) decides to display prehistoric tools as aesthetic objects in one exhibition (Fig 1) and as objects of scientific examination and analysis in another. It applies, equally, in the sign-making as interpretation of visitors, who in a ‘map’ (Figs 2 and 3) both select, arrange and document, in a drawing as the *form*, the *meanings* to which they wish to draw attention. The criterial aspects of these meanings are represented in the components of the drawing and the relation between them as arrangements.



Fig 1 Museum of London: Display case with prehistoric tools

Methodologically it makes it possible to treat all aspects of the exhibition and those of the signs which form the interpretations of a visitor, as the realization of the interest of the sign-maker in focus – curator in one case, visitor in the other. The methodology can reveal the interest of the curator (in her or his role as mediator of government policy via museum policy), as much as the (often diverse) interests of a curatorial team, constituted by the collective interests and social formations of that team.

In the context of this theoretical / methodological frame, we examine the relation of museum and visitor via the practices and effects of representation. ‘Communication as social practice’ provides the more general frame. To set our ‘take’ apart from the broad

domain of digital mediation / communication as dealt with by others, we make a distinction between - on the one hand - a focus on *the media of information and communication*, the technologies of and for communication; and a focus - on the other hand - on the means for mediating 'contents' as *technologies of representation*, and the processes surrounding representation in communication. The two are everywhere connected and interact everywhere; and they are distinct. It is possible to talk about *representation* without mention of the *technologies of mediation*; just as it is possible to talk about *technologies of mediation* (the 'ICTs') without any mention of representation. In the context here for instance, it is possible to talk about a blog associated with an exhibition without mention of whether the means of representation are *image* or *writing*, or both. For purposes of research as much as for purposes of design of an exhibition in a museum, let's say, there is a need to attend to these two technologies independently of each other; aware at all times that the separation is both an artifice of theory, analysis and description; and real at the same time.

Humans, as social beings, have always made representations; and in doing so, they have always used technologies, both to represent and to disseminate. In that context, the human voice is a *medium* for the distribution of a cultural technology of representation, namely the mode of *speech*. At times the voice as *speech* is amplified (and disseminated) by two hands held so as to focus the sound, an early, simple megaphone; replaced quite some time later by other technologies of amplification and dissemination, radio being one of the more recent ones.

This perspective poses the question not only of constant flux but also that of relative, on-going stability. Our contention is that at the moment the technologies of production, reproduction and dissemination (the ICTs) move at a pace different to that of the technologies for representation - even though the latter too have undergone enormous reconfiguration. The two touch in important ways: *multimodality*, which is about the technologies of representation, is closely interconnected with the potentials of current digital technologies. Screens are more amenable to social shaping for use in multimodal ways than the page had been.

In terms of the relation of visitor and museum however, this poses a design-demand on curators. Given the constancy of processes of representation and interpretation, visitors are likely to make their interpretations/representations in ways largely akin to the manner in which humans have done for centuries: abstracted and / or embodied, sensuous in the ways that culturally available meanings are socially embodied and the senses shaped in cultural environments and social practices. Yet the present *environments* in which they do so and the potentials of the technologies available as tools to use in that process, are profoundly different from those of even a century ago.

In this frame (including the framing of our research) we consider five broad questions around representation and interpretation: 1 *Who* represents; and *who* interprets ('re-represents')? 2 *What* is represented? 3 *How* is what is represented, represented? 4 What is *not* represented? 5 What *could not* be represented given the modes or the ensembles of modes available in a culture?

These five questions allow us to address meaning-making in the museum, always in relation to a) *the social environments* in which communication takes place with their

specificities; b) *the cultural resources for representation* available in any one (social) site; and c) the *technologies of dissemination* (as well as production, reproduction) (the ICTs) in use.

Taking a slightly older technology as an instance of the application of the five questions just above: an 'audio-guide' presents an account based on the selections of a curator of elements of an exhibition (responding to questions 1 and 2). Power is at issue in different ways (e.g. will there be a multiple choice question sheet at the end? are the 'interpreters', children on a school visit, or casual visitors?). That involves 'what is represented', in that *speech* and not *image* is the mode used; and *speech* is likely to be used as a 'supplement of meaning' to aspects of the exhibition which are 'present' to the visitor in that exhibition.

Let us refer to the example of fig 1 above, from the perspective of question 3. In the exhibition 'London before London', prehistoric tools are shown in large glass cases, in a bluish-white light, much as they might be in an art-gallery. In our (Foucauldian) terms we would say, they are shown within an 'aesthetic discourse'. In the museum of National Antiquities, part II, in Stockholm, the same kinds of objects are shown as 'exhibits' in a stark white light: much more in terms of a 'scientific discourse'. Under 5 we would ask: 'given a specific medium, can texture be represented? or smell? or temperature? or taste? or sound? Or under 4: what is not represented that could have been? That is, what selections and exclusions have been made, in any given environment, for reasons of an ideological kind; or because of a limitation in the choice of modes – e.g. not *colour* or not *moving image*.

We would ask the same questions of the *representations-as-interpretations* made by the visitors to an exhibition: whether their representations had been made on the spot, so to speak – with a digital camera, maybe; or spoken into a sound-recorder; or somewhat later on some internet site, as blog with writing and image; as a video uploaded later; or in response to a request, as in our case, with the different technologies of paper and pen; or in response to question in an interview at the end of a visit.

To sum up at this point: our focus is not the ICTs and their affordances and capacities or limitations. Our focus is the (transformative) agency in meaning making – whether that of the curator or of the visitor. We insist that the focus on representation is essential to get a picture 'in the round' of all aspects of communication – of the *technologies of representation*, the *technologies of dissemination* and those of *production*; and of all conjointly. Each by itself gives a partial account only of communication. Further, we wish to draw attention to some constants, lest in a totally absorbing attention to flux, essential social human constants are lost sight of. In the case of the Museum and its social purposes, for it to be successful all these factors need to be understood in their totality and interaction as best as can be.

We want to focus at the (relatively, more or less) stable givens of communication in museums: as sites for making meaning and for communication; the exhibition as a *designed* space organized, as the result of processes of selection, themselves guided by yet other designs – those of the Museum and the State, because, as in the research project in which our work was done, we have a sharp eye on the constantly reconfigured

relations of State, Society, Museum as institution, and visitors as ‘representative’ of a specific – often fragmented, increasingly diverse – public.

Old questions such as ‘How do we communicate ‘effectively’?’ are present in all this, and our approach is meant as a real aid in that. The new versions of that question - ‘In what way does the digital change (our view of) communication?’ ‘Does technology change the agency of participants in communication?’ – need answering, though not by disregarding the constants of communication. These include, centrally for us, the processes of transformation that the visitors of museums are involved in as they make meanings of the designed environments. Our contribution is aimed to show what can be *done representationally* with a specific kind of technology, bringing digital technologies agentively into communicative action in that wider frame.

(Digital) technologies in the Museum: examples

Here we wish to show how digital and other technologies integrate with an overall design made by visitors in their engagement as communication in a gallery - for instance, what is made salient, what forms of coherence and cohesion are produced by them of an exhibition as a whole. Instances of a different focus, for instance discussions of how technologies mediate meaning can be found in Pierroux’s work (2010); or using the notion of ‘Multiliteracies’; the integration of technologies into ‘learning activities’ in Paris and Mercer (2002) or the use of (video) technology in ‘participatory methodology’ in Museum research (2006).

Here we are keen to foreground the agency of the visitors in their making of meaning, *with* and to some extent ‘irrespective’ of the technologies involved. While the motivation for the introduction of digital technologies in the Museum (and their use, we admit, by researchers as well) in general seems to be to develop tools that ‘enhance “the museum experience”’ and maybe ‘learning’, the question of what communication actually is, and what constitutes ‘learning’ is not really posed. We wish to make that a guiding issue.

We present six examples from our study: two from the Museum of National Antiquities, two from the Museum of Far Eastern Antiquities, both in Stockholm; and two from the Museum of London, in London. In the study we approached visitors as ‘pairs’ – friends, grandparent and grandchild, couples, etc. All were asked for their consent to be videoed, given a digital camera to take photos as they wished, asked to wear an audio-recording device, asked to draw a ‘map’ representing their sense of the exhibition at the end of their visit, and asked to participate in a brief interview.

The Museum of National Antiquities: Stockholm

a. The audio guide: Producers’s interest and agency

Carl, 11 years old, and his aunt Christine, 25, visit the Museum of National Antiquities and the exhibition *Prehistories I*. They have decided to use the museum’s audio guide, available for loan to visitors at the reception desk. The guide offers a way to closely study some of the themes that are introduced by way of the arrangement of objects, in

panels and in other resources. The tracks of the audio guide are activated through transponders that are placed at selected spots of the exhibition. Narrations of about two minutes are played when visitors press a button on their guide; in some cases it is possible to listen to additional narrations giving 'in-depth information' about the materials already introduced.

Here it seems that the audio guide shapes the visitor's focus of attention to a selection of themes and objects made by 'the museum' as a producer. In this way, the producer's agency and authorship are emphasized. As one consequence, the two companions talk very little with each other.

For the researcher / bystander this makes it difficult to analyse what if anything is going on between them. Even though the conversation is limited, on the video it is possible to see how the pair stop at points suggested by the guide; and their body positions reveal their engagement with a specific content or theme. In this way the visit is framed by someone else's interest; and Carl and Christine devote themselves to following the instructions on the audio guide rather than making choices according to their personal interests. Compared to other visitors' experiences in this exhibition, it seemed as though this visit became more of an individuated experience rather than a mutually communicative experience. In the interview afterwards, this was confirmed by Christine who said that she regretted to have chosen to go with the guide, in that it became a restriction for her engagement with the exhibition, and that she would have wanted to read more of the written texts.

In the 'map' made by Christine (fig. 2) at the end of the visit, the audio guide is represented as a text panel with transponder, a record of something that was particularly salient in the exhibition.

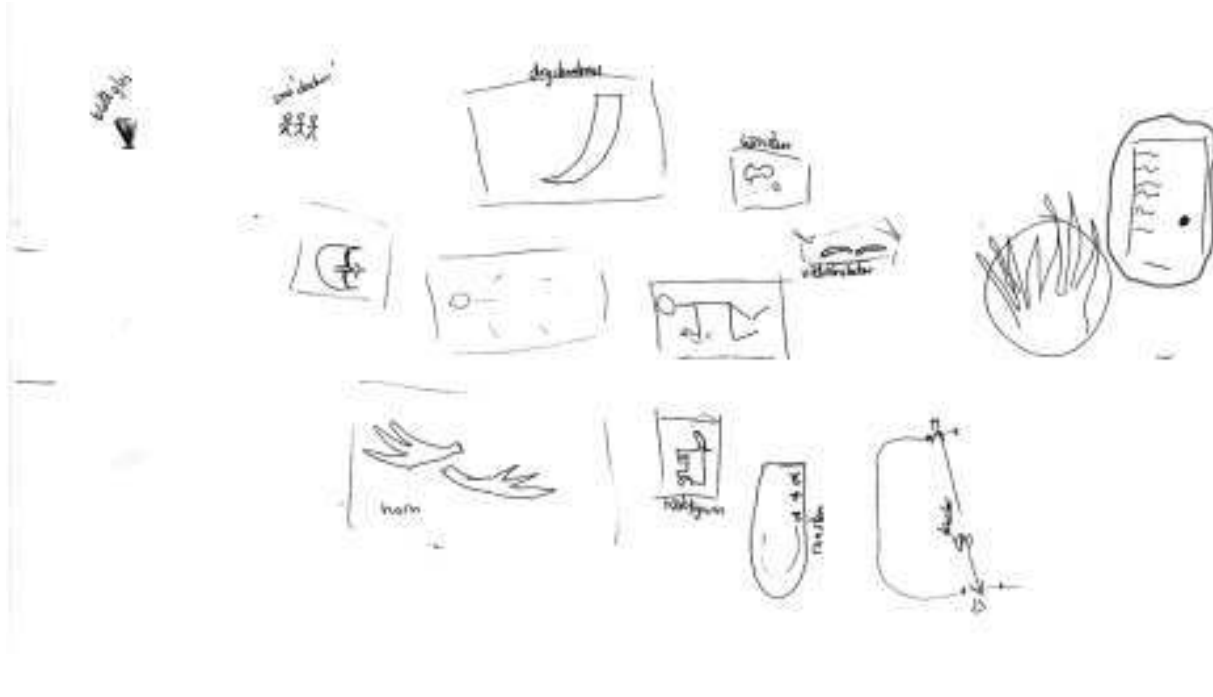


Fig 2 Text panel with transponder in the upper right corner (encircling made by the

authors)

b. Digital camera: A tool for selecting and framing

Ella, 8 years old, is at the Museum of National Antiquities with her mother, visiting the exhibition Prehistories II. Since Ella cannot yet read very well, her mother reads some of the written texts to her: the mother speaks out loud and comments on something she has read. In those moments, Ella wants to know what her mother's comments are about and asks her to explain what the text says. Characteristic of this visit is the fact that Ella takes a lot of pictures with her digital camera. In comparison with all the other visitors in this study, she is the one that takes the most pictures – her collection consists of 43 photographs. She seems to have been very devoted to her 'task' of documenting the exhibitions.

Ella moves around a lot inside the different rooms, apparently searching for nice motifs for her camera: she *selects*. Her meaning-making is the effect of her selection, focused by her interest in certain among the many objects which she encounters - with things that in some way or other stand out as especially beautiful, strange or just interesting *to her*. It is the appearance of those objects for her and to her, rather than any intended meanings of the curators that seem decisive for her engagement. Her interest in this situation is both about looking at exciting things in the museum and about performing her task to document the exhibition. The camera is used by her as a resource for framing the visit and it plays an important part in Ella's meaning-making through her selections. Guided by her interest, the camera allows her to frame aspects of the exhibition; and it allows her to express her interest, attention and engagement during the visit.

Museum of Far Eastern Antiquities, Stockholm

a. Visitors' interest and agency

Susan and John, a couple in their thirties, visited the exhibition 'The Middle Kingdom' at the Museum of Far Eastern Antiquities in Stockholm.

In the context of this article we would like to focus on our conversation with Susan and John after their encounter with the exhibition, as it provides an opportunity to say something about *interest* and *agency* as rooted in social aspects of meaning-making, and about the multiplicity of meanings and interpretations within an exhibition.

As with the rest of our informants in the study we began our concluding interview by asking Susan and John to draw a map of the exhibition. Susan used her map (Fig. 3) as a basis for a recount of her interests in relation to various aspects of the exhibition and of the choices she had made during the visit. She explained that once inside the room she had walked straight to an exhibit with colourful dresses that caught her attention. However, John had walked in an opposite direction and she instantly felt a need to comment on and talk about the things she encountered. She therefore decided to change direction and join John in his trajectory, thus re-designing her initial path of navigation

Susan's decision to change her path indicates how the social aspects of the exhibition as an arena for communication affects the selections – and thus the meanings – made during the navigation through it. By altering her trajectory, the exhibition-as-text changed. In the same way the two visitors designed their own individual exhibitions through the strategies they applied, resulting in differences in terms of the meanings they made. At the same time, the example shows how (social) meaning was introduced as Susan had to make a decision whether to give priority to the possibility of interacting socially with John during the visit, or to focus primarily on the objects that caught her attention at first. In terms of agency, she made an active decision based on her evaluation of what was more important to her in that situation: to interact socially with her partner rather than experiencing the exhibition in a certain order.

b. Digital camera: Visitors' agency, engagement, attention

Margret, a lady in her late sixties visited the Museum of Far Eastern Antiquities with her husband, her brother-in-law and his wife. The following excerpt from our interview with her, concerning her pictures from the exhibition, shows how mobile technologies such as a digital camera can affect the approach to museum exhibitions and how they can influence the meanings made in relation to it.

- Interviewer: Is this the first picture? It says sculpture from the Song-dynasty.
Margret: Yes...
Interviewer: Is that the first image?
Margret: Yes, when I discovered that there were different dynasties and different objects, I began to take pictures of the objects and the descriptions that informed of where they came from and from what time. So my idea was that if I had strolled like this by myself I would, one doesn't remember, one doesn't remember from the exhibition all the time. Then one could go home and read. That's how I thought.
Interviewer: Okay.
Margret: Otherwise I wouldn't remember.
Interviewer: As an aid for the memory?
Margret: Yes, as an aid for the memory.
Interviewer: Anything else you thought about in connection to what was written here?
Margret: No, I thought it was very difficult to read. It was hard to read the description. I thought that I perhaps could go home and read. But now I rem.. I think there was a picture... Were there no pictures before this? I took... yes this is the last picture. That's the end.

Margret explains how she used the camera as a tool for inscription (see Kress & van Leeuwen, 1996/2005). According to her account she used it primarily as an aid for her memory and as a way to overcome difficulties in reading inside the exhibition space, by saving pieces of information for later. The technology of the camera thereby offered a possibility to save bits and pieces of the things she was interested in, as a way of expanding the encounter with the exhibition over time and across social and physical circumstances. By deciding what she wants to bring with her in the form of pictures, she

also sets the conditions for her own meaning-making later on. She re-designs the exhibition through the choices she makes and thereby restricts the meanings possible to make at a later revision of the pictures. Her activity within the exhibition is reminiscent of a collector who picks up things that seem to be of interest in order to evaluate them more thoroughly at a later point.

Serendipitously related to this, the example also gives an indication of another aspect regarding technology and meaning, as it turned out that we began the interview looking at the wrong picture. Instead of hesitating, she found a strategy to cope with the pictures at hand by explaining what she had thought when she took them. Later on she discovered that the first picture actually was the last one. The ability to re-organise the order of pictures in this way opens up for a re-design of the exhibition, as it is represented through the recordings. Pieces are combined in new ways, opening up for new meanings to be made in relation to the documented texts, objects and artefacts from the exhibition. *Agency* is central here, as it is up to the individual visitor to focus her *attention* and *engagement* in relation to her interest within the specific situation. The set of pictures from each visitor's interaction with the exhibition can thus be seen as a materialisation of their *interest* and *agency* in relation to the exhibition within the specific circumstances of their visit.

The Museum of London, 'London before London'

a. Visitor's *agency* in redesign

In our study in the exhibition at the Museum of London, we approached a mother in her thirties and her 12 year old son, as they were visiting the 'London before London' gallery at the museum. They were given two digital cameras to take shots of things that most interested them.

Both mother and son were quite excited about the fact that they were going to take photos during their visit. Taking photos seemed to be leading the exploration and kept them quite preoccupied. For both of them it was the first time ever that they had visited a museum, which suggests that neither 'mum' nor 'son' were participants in the discourses linked to museum visiting and the practices that go with that.

As in example 2, in Stockholm, the digital camera served as the main medium that facilitated their engagement with the artefacts. It provided the legitimisation of their navigation in the galleries. The boy was handling a medium which, for him, made the interaction with the exhibits easier, as it took away the awkwardness which 'direct engagement' might have entailed. In this case, what 'held the ground' for their learning was the medium. This overpowered the possibility of their social relation setting and sustained the 'learning space' for each other.

Viewing and engaging with objects here happened mainly through the camera lens. It provided a framing for the the object; it got the 12 year old to be fully aligned with the artefact. The technology became the means of mediation. Nevertheless, the young man was the agent in *selecting* and in *framing* aspects of the environment and in so doing he shaped his own understanding of the gallery space. The use of the digital camera here offered the young man the possibility of authorship as a 'redesign' of the exhibition. He worked within the realm of the affordances of the medium to create a sequence of shots

that represented what he had chosen to select, to attend to, and to frame in specific ways according to his interest and his response to the exhibition as a complex series of prompts.

b. Contrasting interests; contrasts in engagement

Figure 4 shows the 'map' of this same 12 year old, visiting the museum with his mother. When he was asked to draw a map of the exhibition, he chose to represent an aeroplane, a tree, a spear, a tool and a skull. Each of these elements stands for items that were displayed in *different* parts of the prehistoric exhibition 'London before London'. The items in the 'map' feature elements that were salient for this visitor. Clearly his attention was particularly drawn by a small model aeroplane, which was set within a diorama. This showed that the contemporary site of Heathrow airport was a site of archaeological importance, as there had been an ancient settlement. The technology used in the diorama enabled this visitor to view the contemporary airport and the settlement alternatively, through the use of mirrors and lights. The 12 year old's map shows his interest in this exhibit very clearly. His whole (recollected) experience of the exhibition was built around that model aeroplane, which he chose to represent as the dominant item in his 'map'.

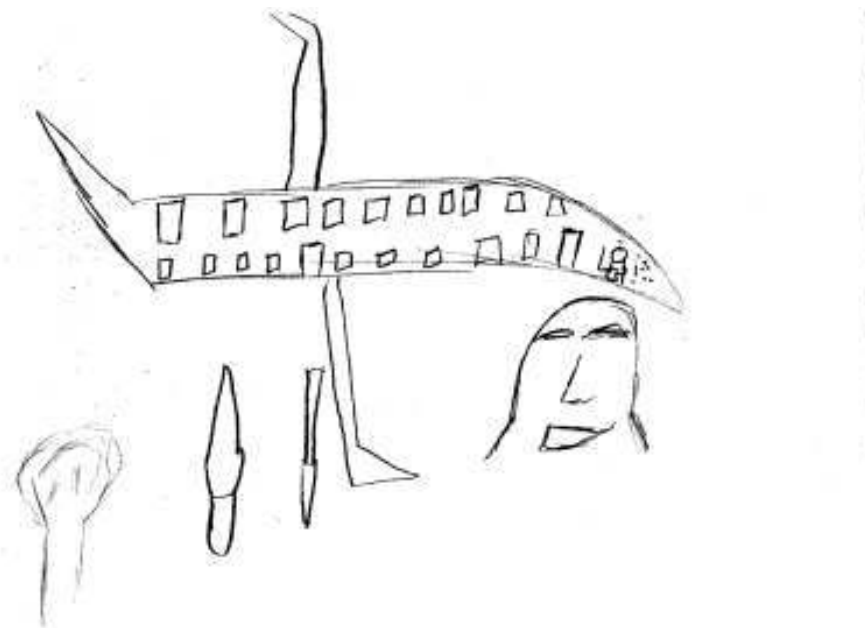


Fig. 4 'Heathrow': A twelve year old boy's map from the exhibition 'London Before London'

One could argue that this 'map' is an instance of misconception and misunderstanding of the exhibition designer's intentions. By an entire contrast we see this as an instance of communication, as meaning-making in a process of framing, selection and interpretation, an 'accommodation' of specific prompts in the exhibition (irrespective of whether new or old technologies are involved) and a transformation of this into a new, meaningful entity to this 're-designer' of the exhibition.

The boy 're-designed' / transformed the resources that were made available in quite distinctive ways. The main driving force in this process of transformation and in this re-design is his *interest*. In our approach this process of transformation of available

resources can be seen as learning. 'It is the active transformative engagement, on the basis of principles that they are bringing in to this engagement, i.e. personal interest' (Kress, 2008: 11).

Different *interest* produces different sequences of attention, framing, selection and transformation. As an example, Figure 5 shows the map of one member of (a pair) of 18 year old German girls, who had come to London for a week 'to get to know' England. They spent a significant period of time in the exhibition; and one of them produced the drawing in figure 5.



Fig 5 Visitor's 'map' of 'London before London'

It is not a representation of any existing part of the exhibition: rather it is a tightly integrated, closely coherent 'collage' of elements from various parts of this exhibition.

Looking at the salient aspects of these responses, such as the choice of artefacts, size and centrality in the rendering of their representations, the degree and form of coherence, we can ask: What is it that causes the visitors to make selections and what are the principles that inform their interpretation? Or, from the perspective of 'learning': What is it that produces their response to the 'pedagogy' and the 'curriculum' of the designed exhibition space? In both these responses to the exhibition, what stands out quite starkly is the notion of *interest* that informed the selections. What does emerge is that there is – nearly as a matter of course - a contrast between what is designed as salient in the exhibition and what is re-designed with salience by the visitors in their relation to that exhibition. What is apparent in all case though is that the visitors 'learn' and re-design the exhibition according to their own interests and agendas. These inform what they frame into their own designs of what the exhibition is about.

Conclusion

The exhibition design is an articulation of apt signifiers, where the notion of aptness is conditioned by the various discourses in operation in the Museum. The design is the result of the agency and the work of the curator(s), it is the textual organisation of their discursive choices and selections. These become the prompt for the visitors' engagement and set the ground from which selections will be made by them on the basis of their interest.

This overall exhibition design has always included technologies, whether the 'new' digital technologies or older. These are part of a range of resources curators select from and employ to 'design' an exhibition, according to aptness for purpose. The re-design and *interpretation* of the exhibition relies upon the agency of the visitor and it is mediated by their interest. Whether digital or other, technologies have their effects; Technology offers possibilities for different kinds of representation and communication, as it provides additional tools for curators and visitors to investigate their own interests and make meanings about them in a range of 'tangible' way. The constants of meaning making though remain, even if and when integrated into the potentials of the technologies.

This insight into the concepts of *design* and *re-design* raises questions for us especially in relation to what a social semiotic perspective can offer in terms of learning. Should the recognition of the agency and interest of the learner be acknowledged as a necessary addition to a theory of learning? Such a perspective would shift the attention from technology as determinant of social interaction and learning, to the museum visitors as a social agents and as learners able to accommodate all technological resources made available through the exhibition design for shaping their own agendas for communication.

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Learning Through Art History: The Multimedia Centre and Visual Art Lab about "Pordenone"

Valeria Finocchi, Dunja Radetic

The paper is about the Multimedia Centre and Visual Art Lab dedicated to the 16th century painter Giovanni Antonio de' Sacchis of Pordenone (CMP). It consists in a communication and information system, dedicated to the use of the new digital technologies applied to art history and thought as a discovery journey through artist's life and opus through several interactive multimedia stations. In order to optimize the learning of the content, we choose the strategy of externalizing visually the mental process of art historical research, using tools and methods of the art historian to visualize the art of Pordenone.

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INTRODUCTION

This paper presents the experience of the Multimedia Centre and Visual Art Lab dedicated to the life and work of the painter Giovanni Antonio de' Sacchis of Pordenone (CMP). The centre is still in the developmental stage and will open next fall in Pordenone. Starting from an idea of the Rotary clubs of the Province of Pordenone the initiative has taken shape at the behest of the Banca FriulAdria-Crédit Agricole, the Town of Pordenone and Trade Associations. The scientific aspect of the structure was assigned to a research group of the Department of Art History and Conservation of Artistic Heritage "G. Mazzariol" (now Department of Philosophy and Cultural Heritage) of the Ca' Foscari University Venice (which elaborated on the original project and deals with the development of historical-artistic content), in collaboration with the University of Udine, which is working on the informatic structure of the centre. The display model of the project was drawn by the Boscariol Associati study of Pordenone.¹

The CMP is a complex structure, which can be considered from different perspectives, on the basis of the value that it assumes for each of the institutions involved. From our point of view, namely that of Art History scholars working in the field of cultural heritage, the design of the CMP has brought out significant problems, which are part of the scientific work of the research group of Ca' Foscari, coordinated by Prof. Giuseppe Barbieri and composed of graduate students, researchers and professors of the University of Venice. The group has most recently been studying how to use works of art, especially in terms of display in order to improve the relationship between the art and the observer from the point of view of its understanding; in this context the group works especially on the issue of the use of new multimedia technologies for communication of visual art and has developed several multimedia projects and exhibitions.

The CMP, therefore, has been configured from the beginning as a project, both theoretical and experimental, dedicated to the use of the new digital technologies applied to art history, whose overall objective is to provide visitors a new and more effective way to approach art, especially painting, not only to admire its aesthetic qualities, but to understand its meaning and learn to interact with it effectively. For this reason, our research has focused on the identification of effective communicative strategies for visitors, in order to optimize the learning of the content (HOOPER-GREENHILL, 2004).

Brief description of CMP

The CMP consists of a communication and information system, conceived as a journey of discovery through an artist's life and works through the use of several interactive multimedia stations. It consists of three environments unified by a set inspired by the Renaissance *studiolo*.

In the first room, the visitor meets the artist: first, he can read a great number of quotations taken from the *fortuna critica*, linked to a painting or a detail, both projected on a screen. After that, the

¹ We would like to mention and thank the people who worked on the CMP project, because the success of this project stems from the collaboration between all the different components of the working group: first, the Organizing Committee and the Scientific Committee of the project and specifically Dr. Gian Piero Brunello, Dr. Giovanni Lessio, Prof. Giuseppe Barbieri, Prof. Caterina Furlan, Prof. Augusto Celentano, Prof. Gian Luca Foresti, Dr. Carla Del Ben, Arch. Ivo Boscariol, Dr. Christian Micheloni and Dr. Niki Martinel.

visitor discovers the general historical and artistic context of his work, thanks to several videos projected on the wall and dedicated to various works of art.

The second room highlights relationships between works of art through three stations dedicated to technique, iconography and formal aspects. Each station is composed of two screens: an interactive touch monitor and a bigger one for visualization of the selected content (on the wall). In this way, the visitor interacts with the touch screen discovering information about the paintings through a dynamic learning process while the results of this interaction process is visualized and experienced by other visitors too.

The third room is a kind of immersive space: three walls and the ceiling are covered by projections. The approach to the paintings is mediated by the use of cinematographic language, creating special effects through distortions and reversals of perspective.

INSIDE THE CMP: THEORY AND PRACTICE

The research group of Ca' Foscari began from a specific request of the commissioner: build *in* Pordenone a Centre dedicated *to* Pordenone, which should be a centre, but also to spread awareness of de' Sacchis' work to a non-specialist audience. This centre would be also physically connected to the museum that houses some of his works in Pordenone.

Giovanni Antonio de' Sacchis is an artist of primary importance in the cultural and artistic heritage of the city of Pordenone and important for the dynamics of effective identification and promotion of the whole province of Pordenone; he held a position of great prominence in the Italian art of the first half of the sixteenth century, and is, in fact, considered the greatest painter of the sixteenth century in Friuli; he worked in the lands of the Patriarchate of Aquileia, in Veneto, Lombardy, Emilia, Liguria, Umbria and – according to biographer Giorgio Vasari - achieved a reputation as a competitor to Titian.

The pictorial work of de' Sacchis (Pordenone, 1483/84 - Ferrara, 1539) began in the early sixteenth century; it can be approximately dated to 1506 given the existence of a triptych featuring St. Michael the Archangel, St. John the Baptist and St. Valerian, made for the church of Santo Stefano in Valerian, in 1508 de Sacchi's frescoes were executed in San Lorenzo a Vacile, between 1513 and 1514, and those of Villanova Vallenoncello. About 1518, he began his travels throughout Italy: Alviano (Umbria), in Cremona, Piacenza, Genoa, Venice. Exposure to the latter city greatly affected de Sacchi's painting career, and perhaps his work even competed with that of the great Titian, painter of the powerful, who according to Vasari saw in Pordenone (already defined the contemporary *pictor modernus*) a dangerous competitor.

If the formative influences of de 'Sacchis were initially all Friulian and Venetian (he was influenced by Gianfrancesco Tolmezzo, Pellegrino da San Daniele and Sebastiano del Piombo), subsequently during his time in Cremona, where he remained in contact with the Emilian Mannerism, his art evolved still further. There is also talk of a probable trip to Rome, where he encountered the incomparable works of famous artists of the time: Raphael and Michelangelo, the observation and study of these works have led to changes in the style of Pordenone, shifting it towards Raphael's grace combined with the monumentality of Michelangelo's figures.

Since we had access to the entire corpus of works of art by the artist and to any type of

information related to them, the idea was to build a media centre that exploited the potential of digitization and new technologies, creating an approach to art originating from the past using procedures and reactions of the contemporary viewer, who usually access information through new media. In fact, all the works of art presented in the centre are going to appear exclusively in digital reproduction as a part of the interactive multimedia stations.

Our idea is not in any way to replace or simulate the original works, but to increase the potential of the image in order to induce a type of fruition quite different from that of a conventional museum, and to propose an approach to knowledge other than that conveyed by a narrative text. In that respect, we are not creating a “virtual museum”, but a *space of information* in which the presence of the digital reproduction of an artwork opens a wide field of possibilities.

The absence of original artworks, and use of reproductions instead, allows a new kind of freedom to experiment using more open approaches to knowledge acquisition. When we use digital reproduction of artworks, the space between the viewer and the image is not thought of as an aesthetic relation, but as a visually densified field through which an amount of additional data is conveyed.

The digital reproduction lends itself easy manipulation; it can be reused many times in different contexts; it can be “deconstructed” in order to attract a visitor’s attention to certain details, and induce him or her to reconstruct and contextualize the parts. We will explain it more in detail and with concrete examples in the following pages.

The reproduction can be also layered with substantial additional information, and processed by applications it can assume interactive features. This potential of expanding visually the image as a map of information, has been theorized by Antonella Sbrilli as a “work of art as its own interface”. Sbrilli's image interfaces were thought of as a system of connection between iconographic details and its description as from the model of “annotated art” (SBRILLI, 2001).

This system of mapping or tagging the image with information is a very interesting development, in fact it is mostly used for application dedicated to a single image. Also in the CMP multimedia stations, the single image is utilized, but not only to provide simple data (date, author, client), rather to allow the user to understand the inner mechanism of the work of art. This is the process that characterizes the work of an art historian, that process that the eminent art historian Otto Pächt referred to as *the metamorphosis of the object of art to the work of art*, “die in uns und mit uns vorgeht, wenn aus einem unentzifferbaren oder unverständlichen Text einer wird, der wir lesen uns verstehen können”. In order to read and understand the “text”, we have to understand the vocabulary, grammar and syntax: “Die Vokabeln der Sprache des Kunstwerks der Vergangenheit, das wären etwa gegenständliche Konventionen, Formen und Bräuche, die in die Entstehungszeit des Kunstwerks automatisch verstanden wurden, uns aber nicht mehr geläufig sind” (PÄCHT, 1977).

But the scope of art history does not simply end here: it is an operation that involves the linking of data inside the art work and art works with each other; it means creating a speech, creating narratives. So, in order to build a learning process about Pordenone and the art of the sixteenth century, using the entire body of work, that was as effective as possible, we have defined this strategy: *visualize art history as a process*, a metaphor for a system which in practice has been designed as an interplay of physical objects and visual digital interfaces.

We have to say that the dialogue with colleagues working in the fields of information technology

and media studies helped us to develop an interdisciplinary theoretical approach. The theoretical background of media studies, combined with the practical experience of interactive tools for visual digital interfaces and some examples from so called 'new media' art, led us to the idea of externalizing visually the mental process of art historical research.

Starting from this theoretical basis, the concept design of the centre interjects the works of Pordenone in a system of simulation of the procedures used in art historical research. So images are considered as bearers of information on two levels: one is the inner meaning of the image, the other is displaying the operational models which relies on the art historian to obtain this information.

Inside the CMP, this happens through the use of two different procedures, one general and one specific:

- Along the three rooms, each one dedicated to an aspect of art historical research: in the first room the sources and the reconstruction of the context are examined, in the second one the internal components of the work of art are analyzed and a comparison made from among the works of Pordenone, then , in turn, the third focuses on issues of emotional vision;
- The specific analytical and comparative multimedia stations of the second room, which are designed making use of the procedure that the art historian pursues when examining a work of art.

Let us consider how this brief theoretical conceptualization will become actualized in the CMP environment, taking as an example the work of Pordenone's *Madonna della Misericordia*, dated 1515-1516 and housed in the Cathedral of Pordenone.

Meeting the artist

The first room is devoted to analyzing the sources and to the reconstruction of historical and art historical contexts. The first stage, "*Fortuna critica*" involves a study of art literature from Vasari to the latest sources to extrapolate the most significant quotations about the art of Pordenone, and in particular, the written references that underline its unique characteristics or, again, to highlight the connection between the artist of Pordenone and his contemporaries. The sentences will be projected on the wall in the CMP entrance and coupled with particular works that serve to make them "understandable" from a visual standpoint. In this way, the user will immediately begin to combine words and images.

An example would be the following:

<p><i>Nostra Donna, con quel tipo giovanile e leggiadro, e con quella posa calma e dignitosa [...] ricorda in tutto le belle figure di Giorgione e di Tiziano.</i></p>	
<p>CAVALCASELLE, 1876</p>	<p><i>Madonna della Misericordia</i>, Detail of the Virgin</p>

After that, there is a multimedia station entitled "**Works and context**"; it consists of a wall projection system and a selection of content to display, simulating a slide projector. The visitor will select the art work to display choosing from among a variety of slides depicting works of Pordenone and inserting the chosen one into a slide projector. This, in turn, activates a video.

The video provides information about the historical and art historical context (events that were happening in the Veneto / Friuli at that time, details of the work that recall the works of other artists, the characters depicted in the painting etc.), and especially strives to clarify the issues related to the commissioning of the painting, as well as showing archival documents retrieved by art historians. The goal, in fact, is to immerse the work inside the network of relationships that surround the "outside" of the work of art, to let the visitor understand that these are fundamental aspects of its implementation, often even more important than "invention" of the artist (Settis).

In the case of *Madonna della Misericordia*, the video will certainly testify to the commission of the altarpiece by Francesco Tedio on 8th May, 1515 (Di Maniago, 1819) and the indication of its future place in the Cathedral (which was different from today's positioning) and place the painting in a relative connection with the *giorgionismo* then prevailing in the area, highlighting thereby the prevailing interaction with the art historical context of the moment.

Analysing art works

The focus of second room is *text* analysis - the work in its main components: this operational pattern of the historian of art is based on the classical categories of art history, such as technique, iconography, and formal aspects.

The interactive possibilities of digital interfaces allows the revelation of the dynamics of the interpretation of a work of art, to visually represent them, and *to act as a transformative agent of information into tools*. The viewer then, actively builds the sense of the work being driven through the information provided by an interaction with a hypermedia system of data already selected and organized, but which offers more possibility to find paths of meaningful construction.

The **interactive station dedicated to iconographical aspects** is based upon an iconographical index, in which are included all the figures from the Pordenone's body of work. This iconographical index is a physical book form which the visitor selects one topic. This selection activates a first monitor on which all the figures filtered as a keyword selected from the index are going to be displayed. An audio narrative will explain the hagiographical and iconographical aspects relative to the selected figure.

A further selection of figures is also going to be possible: from the selection, a visitor chooses one figure which will be displayed on the second monitor contextualized as the whole artwork. On the first monitor an additional window will appear with text about this specific artwork, which will explain the relations between the selected saints and other figures represented.

This process leads the visitor to follow the informational path which is used in classical iconography: the recognition of a figure on the basis of its attributes, contextualization of the figure on the basis of the relationship with other visual elements present in the artwork, and finally the construction of a general meaning. Once the pattern is understood by the visitor, he will be encouraged by visual signals, to proceed with the exploration of figures of the same saint in other visual contexts, or of the other figures taken from the chosen artwork. In this way, we hope that the visitor will learn how to build a network of information about the saints and the relationships between them, not only by learning mnemonically the specific meanings but by contributing actively to the process of meaningful construction.

In the *Madonne della Misericordia* there are at least three diverse iconographical topics, which can be visualized: The Mother, Saint Christopher and The Infant John, each one with its own significance.

IMG

The **station dedicated to more formal aspects** consists of a system of questions and answers. Here too, the visitor is encouraged to explore and think about the image. The questions are part of a multimedia system of visualization tools and hypertext patterns: although is a limited system from which the visitor is able only to "extract" its available information (KWASTEK, 2008) but without

the possibility of making changes (not to change them), the interaction model forces the visitor to make choices, to supply the correct or the incorrect answer.

Here too, the idea is to induce a process of interpretation through a visual system. The questions are correlated sequentially between them, in order to permit the visitor to go step by step through the stages of an in-depth understanding of the image. The system of questions and answers was designed in a way to cover all the classical concepts on which the formal and stylistic reading of a work is based, such as perspective, colour theory, composition, gesture, etc. The visitor will receive explanations both in the case of correct answer and in the case of wrong answer.

Here is an example:

QUESTION: why are the characters in the foreground smaller than the others?

1. Because they are fantasy figures

Incorrect answer: These small characters belong to the real world, while the main characters are representations of a transcendental world

2. Because they are "less important"

Explanation: During the Middle Age painters had to represent characters of different social levels within the same painting. This difference was, for example, the difference between rulers and subjects or between worldly and sacred characters. To do this, they used a dimensional scale, for which the characters of less importance were represented in smaller proportions. Pordenone also used this device, even in the sixteenth century, medieval symbolism had become outdated. It survives, however, in some popular religious images, such as that of Our Lady of Mercy: Mary, with her mantle, protects a group of believers - in this case the patrons of the painting.

Visualising images

In the third room or section, the goal is to "let the work speak" through a strategic view of its formal, iconographic, technical characteristics, or by emphasizing the relationship between the work of art and the architecture that contains it; this can enhance the narrative value of paintings, through the manner of depiction and use of a specific soundtrack. This is done by enlarging images, foreshortening, moving characters, duplication of details on the various surfaces and other communication strategies that will be defined as the characteristics of the works, exploiting in this sense the potential of film making. The vision, then, is to be very "contemporary" and to incorporate different experiences of the critical analysis of images through film made during the twentieth century (For instance *critofilm* by Carlo Ludovico Ragghianti)

We would like to emphasize that the first two rooms or sections into which visitors are invited to embody some of the typical trademarks of the art historian. Replicas of physical objects used by the art historian (slides and Polaroids, the scholar's desk and iconographic vocabulary, etc.) are linked to multimedia devices in order to activate exploration of content, thus creating a hybrid system functioning between reality and virtuality.

Although in this case it is not a real simulation (as in the case of virtual or augmented reality), the “enactment” of the art historical craft undoubtedly helps visitors to learn. This is a widely recognized fact based on studies in the use of multimedia (LANDRISCINA, 2009). The simulation, in fact, “imposta una modalità più naturale di apprendere, perché presenta il problema invece della soluzione e induce a porsi domande, invece di fornire immediatamente risposte” (DEPLANO, 2010).

To summarize, our simulation requires the central presence of two different types of content: data (names, dates, documents, sites, materials, people), which (incorporates all that we know about the painter and his work; and procedures (search for sources, making comparison of objects, methods of inquiry relating to the painting etc.), or the arrangements of the art-historical research and its tools.

Data and procedures comprise the two structures which are the basis of the complex system within the CMP. The elements of the structures, transmitted by the multimedia stations in the three rooms, relate to each other according to different communicative perspectives: the visitor, therefore, is not “forced” into a linear narration, chronological, thematic or typological. On the contrary, the visitor builds his/her personal interpretation making choices, interacting with the devices, questioning the choices to be made.

The visitor then learns through exposure to a systemic perspective, through which learning is not a mere sum of information, but comes from the relationship between the cognitive approach and the emotional approach : by "emotions" we mean the sensations of pleasure (or displeasure, why not?) resulting from the resolution of complex problems achieved through visiting the interactive area devoted to style, the curiosity that comes in the attempt to associate the characters in the section devoted to iconography or even the impressions formulated by the vision of videos in the third room. From this relationship, and the finely-tuned balance between the types of content delivered, we find the key to the success of this project, in terms of efficiency and effectiveness, which we expect to monitor in the first months after the opening.

CONCLUSION

To conclude, our aim then, is not to lead only to the contemplation of the images, but to the exploration and learning process relating to them. We propose, therefore, a sort of hypervisualization of image *and* of processes for its reading. In this way, we hope to provide the visitor with the knowledge of the work of Pordenone not according to the linear narrative paradigm, but through a simulation exercise of the process that is the basis of interpreting or ‘reading’ of the work, in order to familiarize each visitor to a certain extent with “the craft”, in the hope that he/she will also be able to apply this new knowledge to other works of art.

But not only relate it to other works of art in general: in fact, it is our hope that the visitor will be able to make use of this data intellectually and conceptually- while contemplating original artworks of Pordenone. Because of this, the CMP is envisaged as an “open-ended” system, which

does not conclude with the end of a visit to its spaces, but is hopeful of becoming the centre of a network of exhibition contexts, creating a bond *with* and *between* museums, churches and palaces where the works of Pordenone are now displayed, enticing the public to visit them. Only in this way can the experience of the CMP be considered well and truly accomplished.

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Creating live experiences with real and stuffed animals: The use of mobile technologies in museums

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Abstract

In this paper, we present a preliminary analysis of ongoing work that examines ways smartphones have created new forms of sociality and participation in museums. We draw upon initial findings from a study at the *Gothenburg Natural History Museum* as well as a number of studies conducted at the *Universeum*, a science center in Gothenburg. Drawing upon these studies, we focus on the *documentation practices* that take place during museum visits (i.e. the process of taking photographs and recording videos), as well as on *sharing practices* (i.e. how photos and videos are shared during and after visits).

Introduction

Technologies like smartphones that many visitors bring with them into museums offer a wide range of features for creating and sharing media such as text, images and video (Pierroux, Krange, & Sem, 2010). Responding to the increasingly prevalent role of these technologies in combination with online social media, researchers have begun to deepen our understanding of their use in museums and science centers and, in particular, their role in visitor learning (c.f. Gammon & Burch, 2008; Kelly & Russo, 2008; Pierroux, Krange, & Sem, 2010; Russo, Watkins, Kelly, & Chan, 2006). In this paper, we present preliminary analysis of from our ongoing work to understand how visitors' use of smartphones creates new forms of sociality and participation in museums. Our analysis builds on empirical material collected through an ongoing study at the *Gothenburg Natural History Museum* as well as a number of studies conducted at *Universeum*, a science center in Gothenburg. Drawing upon these studies, we focus on the *documentation practices* that take place during museum visits (i.e. the process of taking photographs and recording videos), as well as on *sharing practices* (i.e. how photos and videos are shared during and after visits). First, we show how the museum visit is challenged when the experience is documented, and how documentation itself becomes a key concern for the visitors. Second, we discuss how online sharing of videos and photos opens up the museum exhibit to new types of visitors, thereby expanding the reach of the museum. Third, we discuss how visitors use mobile photography apps to manipulate photos to communicate their experiences through both the subject and style of images.

Interactivity and sociality in museums

Technologies such as smartphones are now often brought into museum contexts by visitors but even before the development of these devices, museums and science centre exhibitions were often the site of technologies for visitors to interact with. The notion that a museum exhibit is interactive in nature is one that is tied to the technology of the exhibit itself. The phrase ‘interactive exhibit’ conjures up a vision of a hands-on mechanical or digital device that, in contrast to traditional exhibits, invites visitors to touch and manipulate it. This idea can be traced back to the work of Frank Oppenheimer in the creation of the first modern science centre the *Exploratorium* in 1969, and to the work of Jean Perrin at the *Palais de la Découverte* in 1937 (Butler, 1992). Both these scientists sought to share their passion for science with the public by creating experiences that made science and a sense of discovery accessible. Interactive exhibits in the tradition of Oppenheimer and Perrin have been widely acknowledged as beneficial in supporting sustained engagement from visitors and this has been linked to creating rich learning opportunities (Henderlong & Paris, 1996; Sandifer, 2003). Research into visitors’ experiences with interactive exhibits has tended to focus on such positive aspects of the genre. For example, research indicates that such exhibits foster intrinsic motivation (Csikszentmihalyi & Hermanson, 1995) and reduce the effects of museum fatigue, a concept used in the exhibition design and research communities to describe the effect that manifests itself when visitors become mentally tired during a visit (Falk & Storksdieck, 2005).

While much of the discussion around interactive exhibits has referred to positive qualities related to supporting visitor engagement, recently researchers have begun to question the nature of the interactivity at interactive exhibits and their effects on visitor sociality. Heath and vom Lehn (2008), for example, question the ‘interactive’ nature of interactive exhibits by suggesting that many exhibits are designed to be used by a ‘principal user’ and are often designed in ways that restrict interaction between visitors. Similarly, Bowers et al. deflate “the myth of the individual user” and argue that when designing an exhibit there should be less single-user applications, and more “open” applications that encourage interaction, not only with exhibition, but in between the visitors as well. The authors suggest that single-user applications (such as computers and individual screens) should be removed, as these seem to interrupt the “sociality of the museum visit” (Bowers et al. 2007). Instead, they argue that museum exhibitions should be designed in order to allow social interaction, as well as interaction with the exhibit. The work of these researchers suggests that some technologies introduced into museums and science centres with the specific intention of increasing the ‘interactivity’ of visitor experiences does so at the expense of interactions among visitors.

Another type of technology widely used in museum exhibitions, is audio guides. Like many interactive exhibits, a key characteristic of an audio guide is that it is a personal technology and as such may inhibit sociality between visitors. With this technology the restriction of interaction

between visitors is manifested through the requirement that visitors wear headphones. Once wearing headphones it becomes difficult for visitors to interact and this may not only disrupt sociality but even lead to a sense of isolation (Grinter, Aoki, Hurst, Szymanski, Thornton, and Woodruff, 2002). This phenomenon is similar to critiques of mobile phone technologies that claim the use of smartphones inhibits interaction between physically co-located individuals. The technology in focus in this study, the smartphone, however, does not require the use of headphones and many of its uses are tied to visual media such as text, images and video. Equally, smartphones are by their nature communication devices that facilitate interaction between people through a variety of different modes and media. Particularly in combination with social media platforms such as Facebook, Youtube, Twitter, Flickr, and blogs, the always online nature of smartphones makes them a powerful technology for facilitating social interaction through multi media. It has become relatively common for museums and science centers to use social network technologies in order to facilitate new types of participation in museum exhibits. Stuedahl and Smørdal (2011) claim that one reason social media has been adopted by an increasing number of museums and science centers is its potential to help visitors co-create and interact socially with museum exhibits themselves. This aligns with the now common call for museums to be more responsive, democratic, reflective and to take the 'museum conversation' beyond the walls of the museum (Black, 2010).

Although claims have been made about the potential for social media to take a central role in learning in informal environments such as museums, libraries and galleries (Russo, Watkins, Kelly, & Chan, 2006), the technology is also considered to be a growing issue in museum environments. Unlike museum owned technologies such as interactive exhibits and audio guides, visitor owned technologies like smartphones are outside the control of exhibition developers and museum administrators. By opening up new forms of interaction, social media challenges existing communication models and few museums have a clear strategy for engaging communities in content creation. Key amongst these issues is a concern that the authenticity of information from museums will be reduced when it appears in a social media context and this raises questions about how far museums are willing to relax their authority over the content associated with them. In contrast to this view, however, there is also a perception of social media as enriching a museums authenticity by enabling it to maintain a cultural dialog with its audience in real time. (Russo, Watkins, Kelly, & Chan, 2006).

As technology develops and new uses and behaviours emerge, both the possibilities and issues associated with visitor use of smartphones constantly challenge museums and science centres to respond. What is already clear from a variety of research studies including our own work, however, is that many visitors make extensive use of their smartphones while visiting museums whether those museums have strategies that address the behaviour or not (e.g. Gammon & Burch, 2008; Pierroux, Krangle, & Sem, 2010; Weilenmann & Hillman, 2012). In this study, we examine the visitors are already using their smartphones during museum visits and, in particular, investigate changes in interactivity and sociality.

Setting and data collection

As part of the larger study this paper reports on, data collection is currently taking place at the *Gothenburg Natural History Museum* which is the oldest museum in Gothenburg. The museum, which was founded in 1833, is located in central Gothenburg and appeals to a wide range of visitors of different genders, ages and social backgrounds. The museum's exhibitions are notably traditional and the interior has been well kept and barely modified over the past decades. In addition, adding to the traditional feel there is very little digital technology and few interactive exhibits in the museum. In contrast, this paper also reports on data collected at the *Universeum* science centre. This institution is also in central Gothenburg but as the largest science centre in the nordic region, has a distinctly different character to *Gothenburg Natural History Museum*. While the natural history museum is traditional in nature, with exhibitions consisting almost entirely of preserved and mounted animals, the exhibitions at *Universeum* are either hands-on in character or feature live animals in simulated jungle and ocean environments.



Figure 1: Visitor taking photograph with a smartphone

The material this paper reports on is part of a larger project that explores the contemporary informal learning experiences of young people by focusing on ways that mobile technologies are integrated into learning in informal settings (see Figure 1). Locations for empirical work

in this project include a number of informal educational contexts where nature is a theme such as natural history museums, zoos and nature schools. These settings are explored using ethnographic fieldwork, including informal interviews, observations and video recordings of interactions (cf. Heath & vom Lehn, 2008; vom Lehn & Heath, 2005). Fieldwork in these settings allows us to explore a range of issues connected to ways that young people engage with and develop knowledge about nature, document their experiences and communicate about them. The work is a continuation and development of a previous study that focused on the ways in which young people use mobile technologies to engage with scientific content in science centers. While the science center context we examined featured a wide variety of digitally based exhibits that support rich interactive experiences, the natural history museum context is, by contrast, a much more traditional museum environment with little digital technology. In both contexts, however, we have observed that many visitors bring their own mobile digital technologies with them that they use to document and share their experiences in a variety of ways. Content analysis (Hodder, 2003) of this ‘visitor generated’ content and ways it is shared online (Rogers, 2010) is then performed. Data collected in relation to the natural history museum setting is then compared to our previously collected material at the science center, allowing us to highlight differences and similarities in these settings.

Emerging uses of smartphones in museums

In this section, we describe the *documentation practices* that take place during museum visits (i.e. the process of taking photographs and recording videos), as well as on *sharing practices* (i.e. how photos and videos are shared during and after visits). First, we discuss ways the museum visit is re-configured when the experience is digitally documented, and how documentation itself becomes a key concern for visitors. Second, we discuss ways the online sharing of video and photos opens up the museum exhibit to new types of visitors, expanding the reach of the museum; and finally, we discuss ways mobile photo applications are used to manipulate photos, creating multi-layered, aesthetic documents of an experience.

New forms of participation around exhibits

Traditionally, interactivity in museum settings is considered as something related to the event there and then, but with smartphones the notion of interactivity is changing. Smartphones re-configure the interactivity of the museum exhibits in that it allows for new forms of interactions around exhibits. It is no longer the case that the principal activity is necessarily that of interacting with the exhibit, but there are also other ways of engaging with the exhibit. Documenting and making records of the museum visit is an important activity in itself. Clearly, the presences of cameras in museums is not new, but the advent of smartphones where it is quick and easy to share content online, entails the notion of a potential audience, when “the gaze of others is always present as a potentiality” (Okabe, 2004).

As part of our larger project on the use of mobile technologies in museums, we experimented

with the use of a new video editing tool. In Figure 2 below, we see how our users are engaged in both documenting and experiencing a particular exhibit. The girl to the right is sitting in a chair, which is part of the exhibit, recording her picture in the mirror. The two girls to the right are busy capturing this experience on their mobile phones.



Figure 2: Visitors to a museum engaging in documenting the exhibit.

In this way, the activity of capturing the interaction with the exhibit mobile phones creates new opportunities for involvement. Also, adding the activity of documenting the interaction with the exhibit, challenge the notion of a ‘principal user’ of an exhibit. Interacting with the exhibit and documenting that interaction, are two activities that are mutually co-produced and are inseparably intertwined.

Sharing exhibit experiences outside the museum through online video

Beyond re-configuring the ‘principal user’ of an exhibit and supporting new visitor roles, during our work to examine the ways visitors document and share their museum experiences, we have also found that mobile technology offers the possibility of extending the museum experience. By sharing photos and video through social media such as *YouTube*, visitors are able to expand museum experiences across both time and space. On *YouTube*, for instance, viewers are able to comment on and discuss an uploaded video. The following example of a *YouTube* conversation is taken from the comment field from a *YouTube* video posted by a visitor to the *Universeum* (see Figure 3 below). The person named “Y” is the creator of the movie.



Figure 3: Image of a video sequence from *YouTube* showing an electric eel at the *Universeum*

X1 - its beautiful

X2 - shut up your balls are heavy

X3 - is that in cologne zoo?

Y - Like the description says "Universeum in Gothenburg" it's in Gothenburg, Sweden, at a place called Universeum, a huge in-door rainforest place, totally awedome.

X5 - The electric eel is the animal that is the closest to being "invincible!" They have been known to kill caimans anacondas and just about anything that gets too close to it!

X2 - shut up

X6 - never heard of them killing them, I have seen them kill the eels but on the other way around, it usually makes any large reptiles get away.

X7 - That eel was coolness! X3 love you, x7! You must put up more videos!!

As is the case with many online forums, the discussion above contains offensive posts from one user who displays no interest in the video. Five other users, none of whom represent themselves as having visited the *Universeum*, however, show interest in both the content of the video and the location it was shot in. This example shows how the interaction around a museum experience

may continue beyond the walls of the museum mediated by video recorded during a visit that has been uploaded so that it can be discussed online. The comments above also illustrate the possibility that discussion outside the walls of the museum may not only expand the reach of a museum experience but also enrich it through additional perspectives.

Communicating exhibit experiences through smartphone photographic choices

In addition to simply recording media such as video and posting it online, we have observed that many visitors use their smartphones to manipulate the media they produce before sharing it. A particularly common use of smartphones in exhibition spaces is taking still photographs. While some visitors to the *Gothenburg Natural History Museum*, for example, carry a dedicated camera such as a single lens reflex (SLR) camera, we have observed many more using their smartphones as cameras. These visitors also often take advantage of other smartphone features not available on dedicated cameras to, for example, directly edit and share their photographs on the Internet. Having observed that visitors were taking and directly sharing photographs while visiting exhibitions, we searched for their work on a variety of online image sharing platforms such as *Flickr*, *Picassa* and *Instagram*. Some of these platforms such as *Flickr* provide users with opportunity to simply display their photographs on a site with social media features such as location tagging and comments. Others, such as *Instagram* combine a social media network with a specific application on a user's smartphone that allows them the possibility to manipulate their photographs before sharing them. Specifically in the case of *Instagram*, we found that a large number of visitors manipulated their photographs of exhibits by adding filters that changed the look of an image, for instance, to make it appear as if it were taken by an old film based camera and not a digital smartphone. Examining the 66 most recent photographs shared on *Instagram* from *Gothenburg Natural History Museum*, only five had been posted without first being manipulated with a filter. Of those visitors who had posted more than one image, over 50% had chosen a new filter for each of their photographs. Though *Instagram* has a wide variety of filters that can be used, the majority of those chosen by visitors were filters that gave their images a vintage feel by, for example, reducing colour depth, making parts of the image appear out of focus, or adding a border. In Figure 4, an example of a visitor's photograph manipulated and shared with Instagram can be seen.

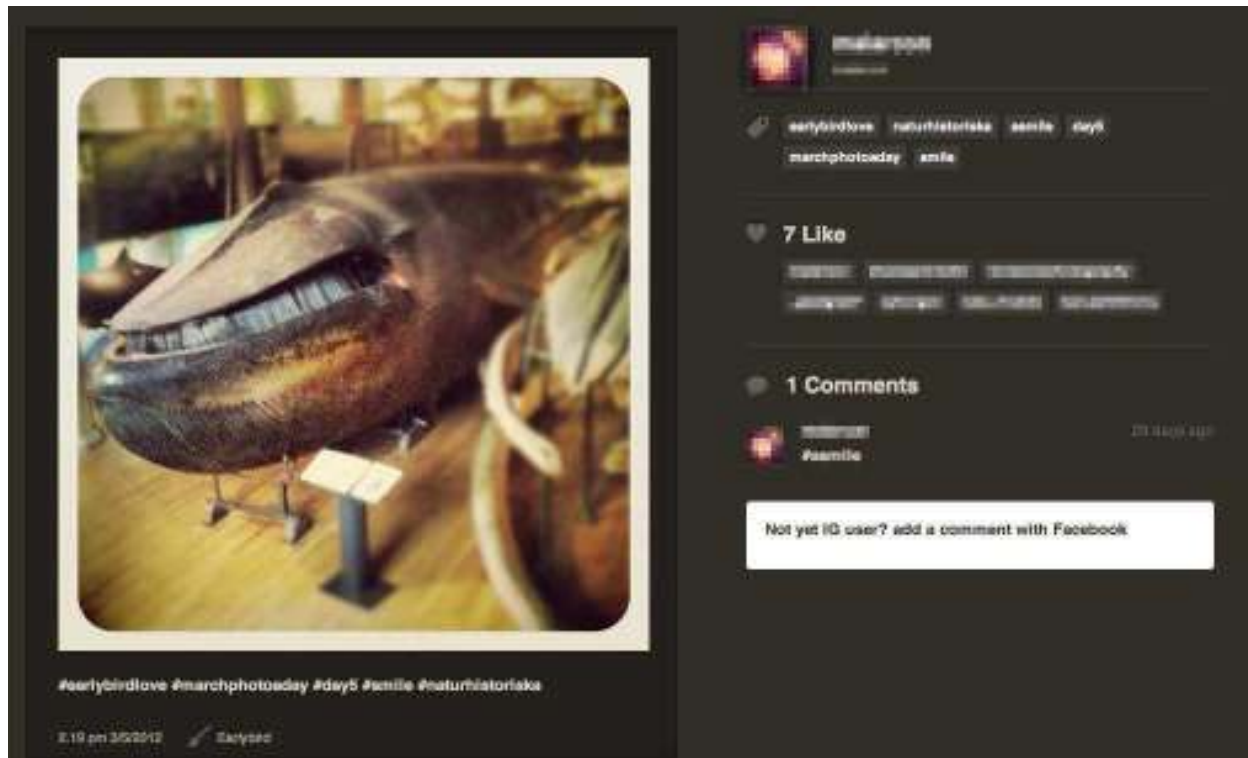


Figure 4: Visitor photograph taken, manipulated and shared using *Instagram*

This photograph is representative of many of the photographs posted from the *Gothenburg Natural History Museum*. It is taken in the Whale Room exhibit where a number of full size whale skeletons and mounts are arranged. Like much of the museum, this room has the feel of a classic museum with an interior filled with ornate carvings and dark hardwood surfaces. In keeping with the look of the exhibition, the visitor has chosen to manipulate her photograph by adding the 'Earlybird' filter. This filter desaturates the colours of an image, gives it a yellow cast, and applies rounded corners and a thick off-white border. The overall effect of this filter is close to the look of photographs taken with 1970s *Polaroid* instant cameras. In this case as with many of the images shared by visitors while at the museum, both the subject and the chosen manipulation reflect the vintage character of the exhibition. With this photograph, as with many of those shared from the museum, the visitor shares her experience of the exhibit not only through the choice of subject but also through the choice of filters. Exploiting the features that smartphones provide beyond those available from dedicated cameras, visitors create complex layered forms of visual communication and share them online all from within an exhibition.

Conclusion

In this paper, we examine three specific topics related to the *documentation and sharing practices* of museum visitors who use smartphones during their visits. These topics have emerged from the preliminary analysis of data collected through ongoing fieldwork at a variety of informal learning settings. First, we addressed the r-configuration of the museum visit through digital documentation, and ways that documentation itself becomes a central concern for visitors.

Through the activity of documenting interaction with an exhibit, smartphones support expanded possibilities for involvement while challenging the notion of ‘principal user’. Interaction with an exhibit and documentation of that interaction become activities that are co-produced and inseparable.

Second, we gave an example of the ways that online sharing of video makes museum exhibits accessible to new types of visitors and reshapes the boundaries of the museum. When visitors use their smartphones to record media within exhibitions and then share it online, interactions around their experience continue beyond the walls through online discussion. These discussions may not only expand the reach of a museum experience but also enrich that experience through additional information and perspectives.

Finally, we spoke to ways photography applications on smartphones are used to create multi-layered, aesthetic documents of a museum experience. Using applications that not only support the taking of photographs but also their manipulation and sharing, visitors communicate their experiences of exhibits through both their choices of photo subjects and the ways they choose to manipulate and present them.

Taken together, these topics illustrate a key emerging theme from our work to examine the ways young people use their own mobile technologies in informal learning settings. Rather than limiting interaction between participants, our preliminary results show that technologies such as smartphones support re-configured and expanded interaction both between visitors within exhibitions and with new types of visitors outside. They show that these increased possibilities for activity during visits and ways of communicating those experiences support new forms of engagement that rather than detracting from the richness of museum visits may instead enrich them.

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Museum Facebook Users... Who Are They?

Nanna Holdgaard, IT University of Copenhagen

Abstract

Social media has become a widespread tool among museums as part of their digital (democratization) strategies aimed at making the museum accessible and engaging. Although museums have experimented with different social media formats and platforms for a number of years, the amount of larger scale empirical research of the impact of social media and the cultural participation of publics on social media is still very limited. This paper aims to provide new knowledge into the field of digital museum communication and examines the museum social media users, who they are and to what extent they engage and participate.

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Museum Facebook Users... Who are they?

Introduction

The first phase of the web 2.0 era denotes an age of networked and interactive forms of communication including blogs, wikis, social network sites, and other online content-creation and

sharing services and platforms, and the hopes and expectations of scholars and museums were high. This is now most often referred to as “social media” era. Social media are expected to extend museum experiences into the online space, promote cultural participation and enhance cultural engagement and participation among dispersed audiences – such as young people, ethnic minorities and other minority groups and communities. By inference, these initiatives attempted to proliferate a more democratic approach to museum communication (Bernstein, 2008; López, Margapoti, Maragliano, & Bove, 2010; Russo, Watkins, Kelly, & Chan, 2007).

So far, the theoretical and empirical knowledge of online museum users and their participation and engagement in social media have been limited. Many studies present and evaluate how individual museums use social media (see papers from the conference *Museums and the Web* e.g. Bernstein, 2008; Dicker, 2010) , but studies that map the usage and impact of social media by museums and their users on a higher level across museums types are still limited – both in an international and Danish context.

The specific aims of this study are twofold: to examine the characteristics of Danish museums’ social media users; and to ascertain whether these characteristics are related to differential museum types (cultural heritage, art, natural heritage, and special museums).

The present study is part of a PhD project at the IT University of Copenhagen, Denmark, on Danish online museum communication with a particular focus on social media.

Method

The study comprises of quantitative Facebook data of 63 museums with a Facebook fan page in December 2011 – January 2012. Facebook was chosen as platform due to its high popularity among Danish museums; the high saturation of Facebook among Danes in general; and because of the large amount of data in Facebook Insights – Facebook’s metrics tool of users and their usage.

Participating Museums

An email request was sent to all 101 Danish museums with a Facebook page with more than 30 fans, asking them to share their Facebook Insight data for minimum one month (December 2011)¹ with me. 63 Danish state-owned and state-subsidized museums responded positively and participated in this study. The sample was representative sample of state-owned and state-subsidised museums with a Facebook page on the parameters: museum type and geographical location.

62% (39) of the museums in the study consisted of cultural heritage museums; 33% (21) of art museums; 3% (2) of natural history museums; and 2% (1) of special museums. Figure 1 shows when the museums in this study joined Facebook compared with all Danish museums on Facebook.

¹ Facebook Insights provides administrators of Facebook fan pages with metrics on the performance of their page. The metrics show user growth and demographics, consumption of content, and creation of content.

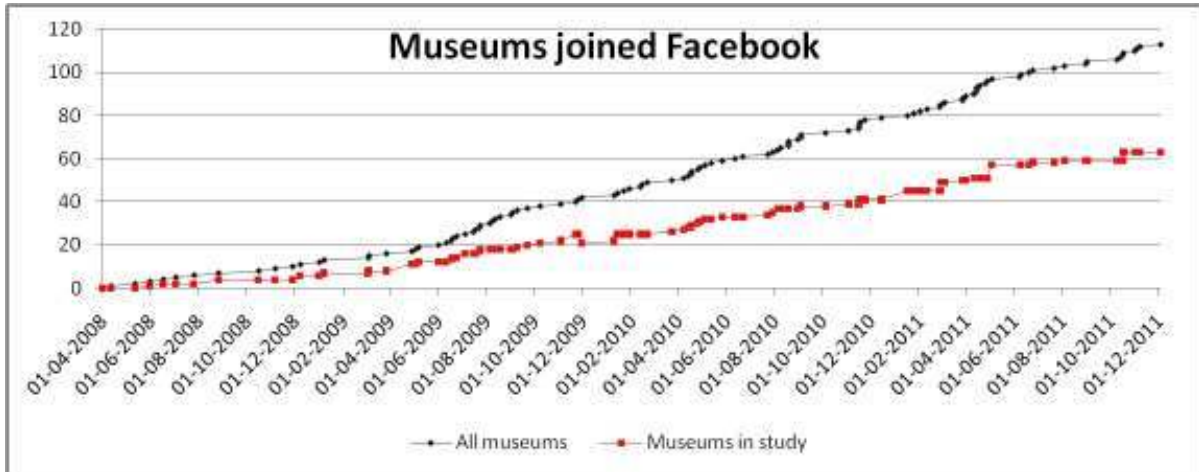


Figure 1

Data analysis

Data were analysed based on demographic categories; engagement and sharing metrics, and page consumption in the Facebook data. The demographic categories selected for data analysis in this particular study were gender, age, city, and country². Facebook defines engagement as page click, whereas sharing in Facebook lingo can be defined as “shared stories” or “talking about”. “Shared stories” include the act of liking content on the page, wall postings, commenting, sharing page content, answering a questions, responding to an event invitation, tagging or checking in. Page consumption is categorised as users who clicked on Facebook content: link, video, photo, or other clicks (Facebook, n.d.).³

1st of December 2011 was chosen as a reference point for all metrics in the data analysis and data collected for user engagement, sharing and page consumption are an aggregation for 28 days. The total number of Facebook fans of Danish museums was 96.117. The museums with most fans had almost 50.000 Facebook fans and the museum with least fans had 34 fans.

As the numbers of natural history museums and special museums in this study and in general are limited, the results of these should be interpreted with caution. The data was compared with statistics from a national museum user survey (Moos & Brændholt, 2010a) and data from a national survey of the Danish Museums' Web Users (2010).⁴

² Demographic data from Facebook Insights are information provided by the users in their Facebook profile.

³ The definitions of engagement and participation made by Facebook are arguable as they conflate the concepts to merely interaction. For further discussion on engagement and participation see for instance Carpentier (2011).

⁴ I have received right of access to the raw data from the museum web user survey. The results of the survey in this study slightly diverge from the results in the publications as users who only used museum websites but not visited onsite museums were omitted from the analysis (Moos & Brændholt, 2010b, p. 8).

Results

Gender distribution

The majority of museum Facebook users are women. 64% of Danish museum Facebook users are female and 33% are male. Figure 2 below shows the distribution of gender of museum Facebook users, onsite museum visitors and museum website users across museum type. Of the participating institutions, art museums have more female Facebook users than other of the museums. 65% of Facebook users of art museums are women whereas 31% are men. For cultural heritage museums the gender distribution is 60% female and 37% male.

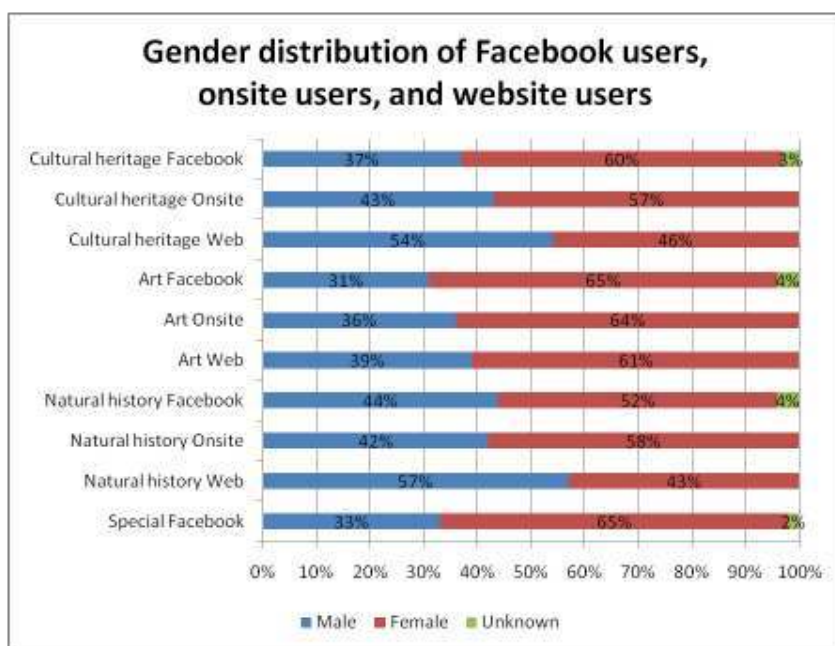


Figure 2

Age distribution

Figure 3 illustrates the distribution of age of museum Facebook users, museum website users and Danish Facebook users. The majority of Danish museum Facebook users are between 25 and 44 years old. Contrary to this are the age groups 13-17 and 18-24. These groups are under-represented compared to the total Danish Facebook users. With respectively 4% and 11% of the museum Facebook users, the age groups 13-17 and 18-24 are the smallest groups of the museum users. In the other end of the age scale is the age group 55+, 14% of Danish museum Facebook users belong to this group.

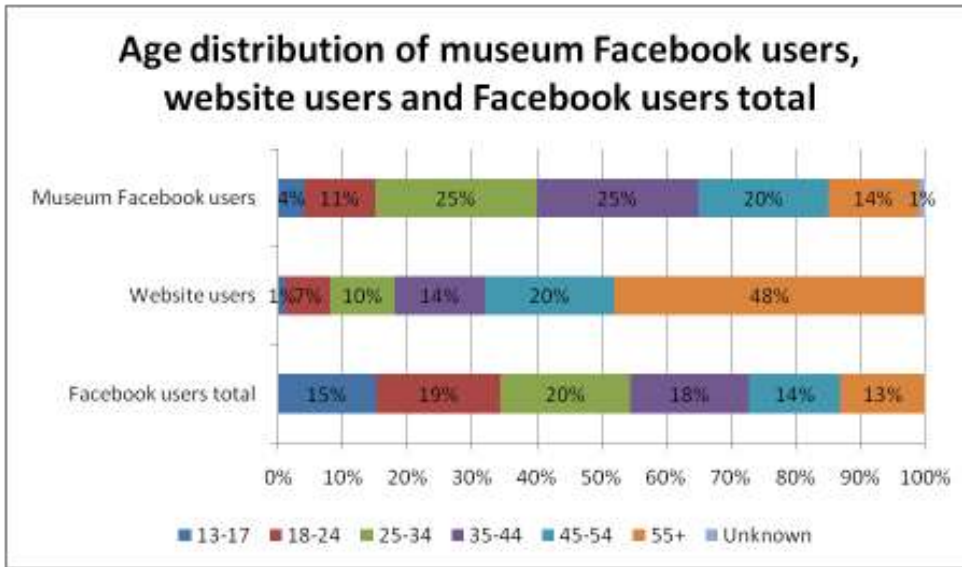


Figure 3

Figure 4 below shows how the age groups are distributed across museum type. Cultural heritage museums have a relatively older Facebook audience than the other types of museums. Less than 37% of cultural heritage users are older than 45 years and 17% are more than 55 years, whereas natural history museums appear to have a relatively younger Facebook audience. 30% of Facebook users at natural history museums are 13-17 years, in contrast cultural heritage and art museums have less than 5% of their users in the exact same age group.

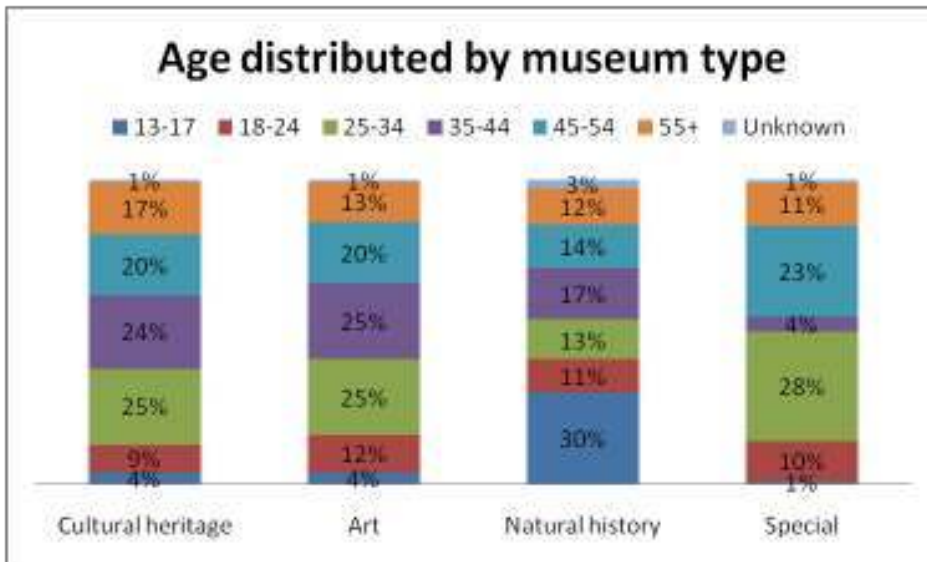


Figure 4

Facebook users distributed by country

As Figure 5 illustrates, the majority of Danish museums' Facebook users are from Denmark. 66% of museum Facebook users are from Denmark, 17% are from Sweden and 4% are from Norway,

neighbouring countries to Denmark. However, Danish museums' have Facebook fans from countries all over the world. 3% are from United States of America, 2% are from Germany, and 8% are from the rest of the world.

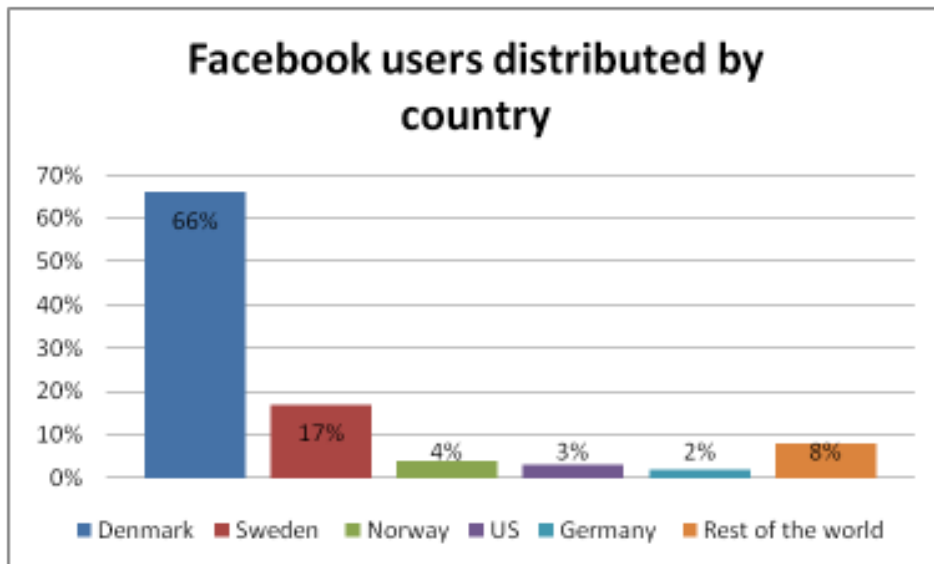


Figure 5

Active museum Facebook users

Figure 6 presents the distribution of engaged and sharing museum Facebook users. As the figure suggests, there are more engaged users than sharing users. 20% of all museum Facebook users are engaged users, whereas 7% can be regarded as sharing users. Cultural heritage museum have higher percentages of engaged fans (33%) and sharing fans (12%) than any of the other museums. Even though art museums have more Facebook fans in general, the proportions of users who engaged with content (18%) and participate (6%) are lower than both cultural heritage museums and special museums, but still not as low as natural heritage museums.

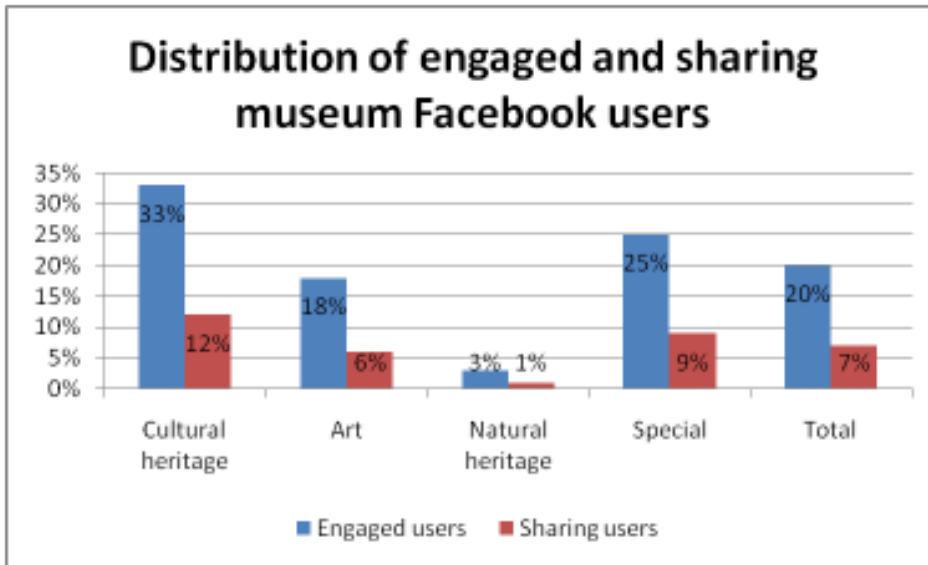


Figure 6

The majority of museum Facebook users are females and the majority of participating museum Facebook users is likewise females. Females 25-34 are the largest group of participating museum users with 18%, next is females 35-44 with 15%, females 18-24 cover 12% of participating users, and 11% are females 45-54. The youngest groups both female and male 13-17 comprise the smallest groups (Figure 8).

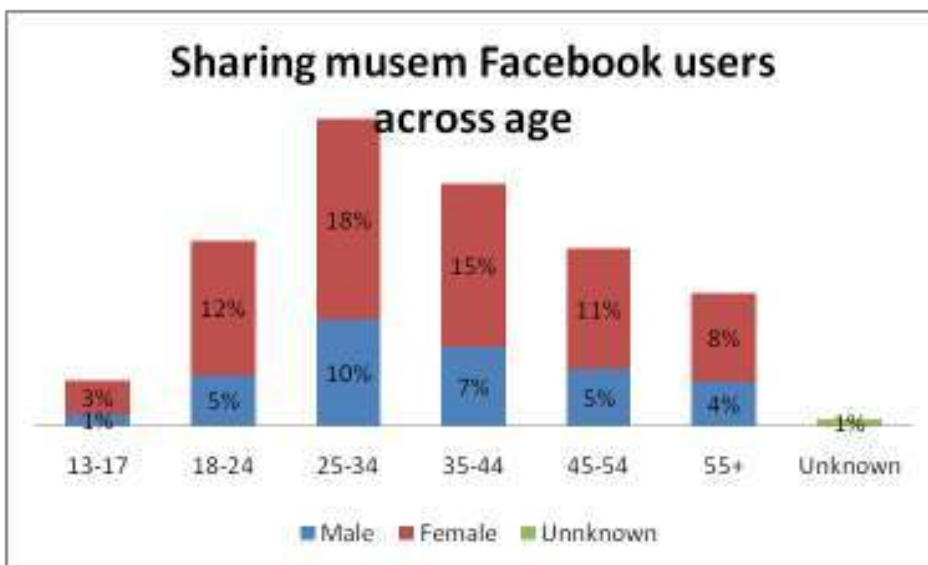


Figure 8

The figure below presents the distribution of Facebook consumption of museum Facebook users by museum type. 2% of museum Facebook users watch videos on Facebook, 10% click on links, and 28% see and click on photos. However, vast the majority click on other content on the page, comments, posts, information, polls etc.

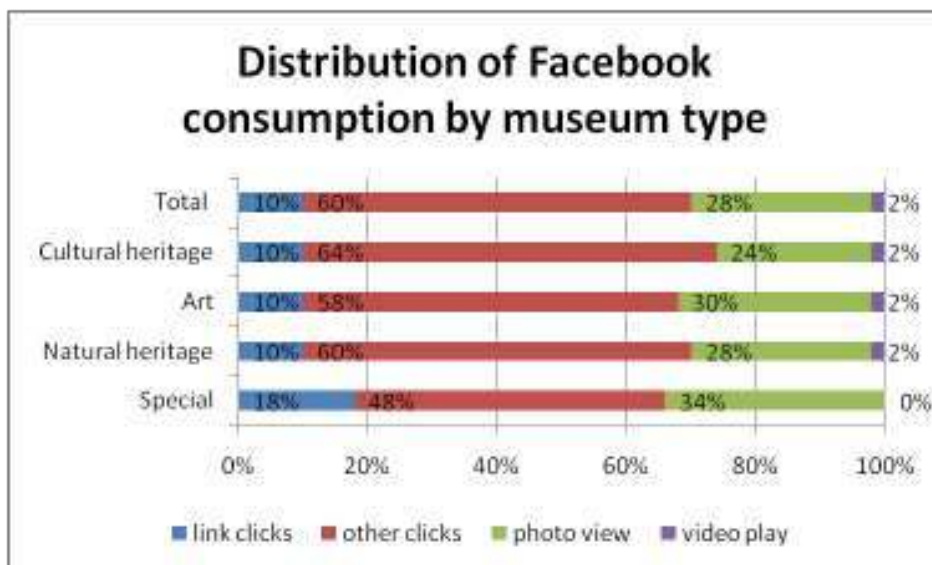


Figure 9

Has Facebook transformed the museum audience?

Social media allows the users to interact, establish communities, create, share, and exchange content as well as knowledge (Bruns & Bahnisch, 2009, p. 5). Although social media is not defined as distinct media by most media scholars as this inherently implies that other media are not social and that different social media builds on different technologies (Lomborg, 2011, p. 57). In recent years, more and more museums have embraced social media - both internationally and in Denmark (see Figure 1) - as social media has been expected to engage new museum audiences based on accessibility, involvement and active participation, thus transforming and extending possibly prolonging the museum experiences into the online but also to the social space (López et al., 2010; Løssing, 2009, pp. 13, 26; Russo et al., 2007).

Alongside the technological developments and the move into the age of social media, a paradigm shift in the museum's self-understanding took place from the object-centered museum to the visitor-centered museum (Anderson, 2004). It is not by any means implied, that the paradigm shift was determined by the technological progress, but should be related to a wider context of "new museology" where the focus is on who are the museum visitors; what is the purpose of museums; and what role of the museum institution within society (Hejlskov Larsen & Ingemann, 2005; Vergo, 1991).

In Denmark on a policy level, the paradigm shift has resulted in multiple publications and recommendations of how to engage with new user groups. Young people, in particular, have been in focus in these publications as they are under-represented groups at museums and digital media have been considered to attract and engage these users. The prevalent rationale behind this assumption is grounded in "digital natives" myth, that young people are immersed in digital media including social media, thus possess certain technological skills and have certain preferences when it comes to how they want to experience museums (Hansen & Hansen, 2007, pp. 5–6; Løssing, 2009, p. 41).

Taking the social media expectations and paradigm shift into consideration, the following will discuss whether or not and how social media has transformed the museum audience in Denmark both in comparison to the onsite museum audience and the website museum users.

Male or female?

Most museum visitor studies from the 21st century, including statistics from Denmark, conclude that women are more frequent museum visitors than men, in Denmark the gender distribution is 40% male and 60% female (Figure 2). Likewise, this study of Facebook fans of Danish museums demonstrates a similar gender distribution, 64% of museum Facebook fans are female and 33% are male. In comparison, the gender distribution of museum website users is almost equally distributed, 47% of museum web users are male and 53% are female (Figure 2). Why the gender distribution of museum website users diverge from museum Facebook fans and onsite users cannot be deduced from this study. The general statistics on Danish Facebook users does not suggest a gender imbalance⁵, since the proportion of Danish men and women with a Facebook account is almost the same. However, the time spend on the social network site is different. Women spend averagely 5 hours more per month on Facebook than men (Association of Danish Interactive Media, 2011, p. 21). If the amount of time spent on Facebook influences the level of liking and commenting content on museum Facebook fan pages in the same way is not explicitly suggested by the data set. What the museum Facebook study does demonstrate is that that more females (67%) than males (32%) interact, share, like, comment etc. content on museum Facebook pages (Figure 8).

Younger or older?

Conclusions from this study show that the museum Facebook audience is comparatively younger than both onsite museum audience and museum web users. However, museum Facebook fans are not as young as one could have expected or assumed in accordance with the digital natives rationale. According to the digital natives myth people are immersed in technology, hence possess certain technological skills and have certain learning preferences (Prensky, 2001). The youngest Facebook users (13-17 and 18-24) are the smallest groups and comprise of only 4% and 11% of museum Facebook users but the same groups cover respectively 15% and 19% of Danish Facebook users.⁶ This implies that Facebook might be useful to maintain interpersonal relationship for young people (13-24) but it is a fallacy that Facebook alone can entice young people who are not initially interested in cultural heritage to become active museum participators as often found in the public discourse of new media and museums. E.g. *"[t]he Internet is a natural part of children and young people's everyday lives, and we should seize every opportunity to use it to attract and engage young people's interest in art, culture and cultural heritage."* (Danish Ministry of Culture, 2009, p. 16). However, this is not only significant for young people – multiple studies conclude that despite the expected outreach potentials of social media for cultural institutions it is largely people

⁵ 51% of Danish Facebook users are women and 49% are men (Socialbakers, 2012). The distribution of gender on Facebook is exactly the same as the total distribution of gender in Denmark.

⁶ In comparison onsite museum users aged 14-29 comprise of 13% of the total Danish museum users but 23% of the total Danish population (Moos & Brændholt, 2010a, p. 61).

with an existing interest in cultural activities and cultural heritage, that engage with cultural institutions online (e.g. Boritz, Ramsing, Jensen, & Lund-Andersen, 2011, p. 73).

Museum Facebook users are predominantly younger than the average onsite audience, but are young people then more active on museum fan pages than older digital immigrant museum Facebook fans? Results from this museum Facebook users study concludes that 4% of museum Facebook users who share content on Facebook are 13-17 years and 17% belongs to the second youngest group (18-24) (Figure 8). The youngest users (13-17) share content to a limited degree whereas the second youngest users (18-24) are more active museum Facebook users. The majority of Danish museums still consider Facebook a traditional transmission one-to-many media where messages are pushed by a sender to a receiving audience and not as a social network platform as such; hence publish updates on activities (guided tours, family events etc.) and exhibitions at the onsite museum in a brochure-fashion (Holdgaard, 2011). The reason why the youngest users are limited in number and as active users might be, that this communication style does not appeal to them and are not perceived as relevant to young people. Most young peoples' museum habits are dependent of family or educational institutions' engagement and interest in museums (Kobbernagel, Schröder, & Drotner, 2011, p. 51; Moos & Brændholt, 2012, p. 55), thus young people are not reliant on museum Facebook pages to keep them updated on museum activities. In comparison, the majority of museum Facebook users who are in their late twenties, thirties or beginning of forties are also the users who are most active on museum Facebook fan pages (see Figure 8) as they might see greater value of sharing museum updates, event etc. with their family or like-minded friends. Likewise, at this stage of life it may be more acceptable to express an interest in museums and cultural heritage as part of identity management and self-presentation (Goffman, 1959), hence to demonstrate possession of cultural capital. However, this cannot be concluded on the basis of this particular study.

Museum Facebook fans in the age 45-54 (20%) are equally overrepresented weighed against Danish Facebook users in the same age group (18%). According the onsite museum users statistics, this age group are an over-represented group compared to Danish population⁷, this might explain why there are more museum Facebook fans in the age 45-54 are compared to Danish Facebook users as museums with a large number of onsite visitors in general too have a large number of Facebook fans.⁸

Local or global users?

The majority of museums in this study communicate entirely in Danish on their Facebook page about museum activities at the onsite museum. Therefore, it was unanticipated that a relatively large percentage (34%) was international fans. On the other hand, on Facebook users are not limited by physical constraints, opening hours, entrance fees etc. in order to "visit" the museum, access content, entering a dialogue etc. And in comparison with onsite museum users, there are more international users on Danish museums' Facebook pages than at onsite museums.

⁷ According to the national museum user survey onsite museum users 50-64 comprise 34% of all museum users whereas they cover only 23% of the total Danish population (Moos & Brændholt, 2010a, p. 61).

⁸ These findings are yet unpublished but will be part of my PhD dissertation.

Cultural heritage museums onsite have more international users than any of the other museum types, on Facebook art museums have the highest percentage of international users.⁹ However, as art museums have more Facebook fans compared to cultural heritage museums and as art museums are more likely to post content in English, this might be the cause.

The vast majority of international users of Danish art museums are from Scandinavian countries, primarily from Sweden (53%) and Norway (12%). As Swedish and Norwegian have many similarities with the Danish language, museum Facebook fans from these two countries are able to read, understand, interact with and participate on museum Facebook fan pages from Denmark. Danish art museums have significantly more international fans compared to cultural heritage, natural heritage, and special museums (Figure 5). As assumingly not all international fans of Danish museums on Facebook understand Danish, it can be suggested that international users and users in general do not exclusively become fans of a museum in order to receive information or news from the museum, but there might be other motivating factors like the wish to support a museum; to show Facebook other friends, that you know or have an interest in a particular museum; to receive discounts, play games; watch videos etc. However, this study does not examine the motivation of museum Facebook users.

From place - to presence - to professionalisation - to participation?

Multiple projects and studies have demonstrated that is not just enough for museums to have a social media presence it is what you do that matters (e.g. Boritz et al., 2011; Holdgaard, 2011; Russo & Peacock, 2009). With few exceptions Danish museums do not prioritise digital media including social media as an integral part of museum dissemination, communication, or marketing strategy etc., but rather see them as a digital add-on (Holdgaard & Simonsen, 2011). This study also revealed a low level of knowledge by Danish museums of Facebook as well as user experiences and behavior on Facebook. Less than half of the museums in the study did not know how to neither access nor read the data in Facebook Insights and more than 1/3 did not know of Facebook Insights at all.

A study conducted in 2010 of Danish museums social media presence demonstrated that frequency of postings and quality of content published by Danish museums' on their Facebook pages were relatively low (Holdgaard, 2011). The study was repeated again in 2011 and even though the number of Danish museums had almost doubled, the same pattern was identified. Nevertheless, Danish museums' in this study had in total 96.111 fans 1st of December 2011, but only 20% of these are engaged users as of Facebook's conceptualization of engagement and 7% of the users share content (Figure 6). Cultural heritage museums have most active users, the percentages of cultural heritage museums are almost doubled compared with art museums, thus this displays that it is not the number of fans that matters but again what content you publish, how you interact with the users, etc. Jakob Nielsen's 90-9-1 principle is frequently used as rule of thumb when evaluating online participation; 90% are lurkers, 9% contribute from time-to-time, and 1% is active participators and creators (Nielsen, 2006), however this model is not relevant in relation to the distribution of active museum Facebook users as Facebook Insight does not measure active participation or creation as

⁹ 22% of all Danish onsite museums are international visitors. 25% of cultural heritage museums are international visitors (Moos & Brændholt, 2010a, p. 9).

such but merely measure the percentage of users who click and what content they interact with (click on). As Figure 8 presents, 10% of the users click on links, 28% click on photos, and 2% watch videos¹⁰. These percentages will change as Danish museums change their communication and interaction style on Facebook and start to publish more videos, photos, polls, games etc.

However, the percentages of Facebook engagement or sharing on museum Facebook pages do not necessarily signify that the majority of users are indifferent to the museum Facebook content. Users can follow a museum's updates in their new feed without engaging (click) with it, and studies have shown that users do enjoy and follow museum Facebook updates and dialogue without participating themselves (Boritz et al., 2011, p. 74). In any case, as it has been argued by Russo et al. (2009), user motivations, engagement and participation cannot and should not be explained by archaic dichotomies of active and passive participations, as these structures are insufficient to illustrate museum experiences and behavior in distributed in social media. Instead content, context, exchange and distribution should be taken into consideration as social media are participatory and social networks with complex dynamics.

Conclusion

The objective of this paper was to examine who Danish museum Facebook users are across museum type in order to understand if museums on social media attract other audiences than onsite museums.

Museum Facebook users are:

- Predominantly females (as onsite museum users)
- Generally younger than onsite users but not as young as the digital native rationale would dictate.
- Mostly from Denmark, but more than 1/3 are non-Danes, mostly from Scandinavian countries. Art museums have most international fans
- 1/5 of the fans engage and 1/10 share museum content. Cultural heritage have more active (engaged and sharing) users than any other museum types
- 1/3 of the fans click on photos and 1/10 click on links

It has been stated numerous of times that demographics and categorization of usage cannot define or explain user engagement and participation, but I believe that knowing who museum Facebook users are is one of the first steps in the process of professionalising and optimizing Danish museums' usage of social media. However, it is important not to stop here but with this knowledge of museum social media users and their user behavior, continue to research the underlying motivations behind online cultural engagement and participation in social media.

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¹⁰ The number of museums that have videos on their Facebook page is limited.

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Transforming learning and visitor participation as a basis for developing new business opportunities in an outlying municipality - A case study of Hjørring Municipality and Børglum Monastery, Denmark

Thessa Jensen
Peter Vistisen

Abstract:

The aim of the paper is to show how teachers, students, and businesses can develop business opportunities in cooperation with each other, and to show which problems both ethical and practical might arise due to different aims in the group of users.

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Transforming learning and visitor participation

as a basis for developing new business opportunities in an outlying municipality –

A case study of Hjørring Municipality and Børglum Monastery, Denmark

Starting point of the above mentioned project is the Christmas television calendar by TV2 (Danish television) for 2011. This calendar was shown every day from 1st till 24th December for half an hour on TV, filmed at Børglum Monastery. The monastery is a museum and farm, the former depending heavily on tourism, as do many of the family attractions, museums, and small businesses in Northern Jutland. 3% of all businesses in the region depend on tourism as their main income (Danmarks Statistik, 2008).

Being a main actor in the historical and cultural development of Northern Jutland, the decision to use the monastery in a film or TV production seemed straightforward. The municipality of Hjørring decided in 2008 to collaborate with Aalborg University to use one of the regions most prominent historical figures, the bishop Stygge Krumpen, as basis for a project, which should leverage the development of new tourist attractions and transform a visit to the region into a more cultural and learning based experience (Matchmaker, 2010:24-25). Thus the story should be seen as a fulcrum for different small and medium enterprises (SME) as well as museums and other cultural institutions.

In 2010 the number of visitors is 23.000 for the monastery (Danmarks Statistik, 2010). In December 2011 the monastery was open every weekend, during which 15.000 visitors went through the exhibitions, which at that time still included parts of the television set (Nordjyske, 2011). As with other film and Christmas calendar shows the impact of the show was immediate and huge but has since faltered, due to the non-existent marketing strategy of both Hjørring Municipality and Børglum Monastery. This can be seen in the southern region of Sweden, Skåne, where the crime stories of Wallander by Henning Mankell were placed and filmed (DN.se, 2009).

The challenge for both Børglum Monastery and Hjørring Municipality lie thus in the future utilisation of the increased attention and interest due to the Christmas Calendar, and the anticipated renewed interest if the film about the portrayed family will be a reality. The film is expected produced during the summer 2012 (Nordjyske, 2012).

Because of lack of funding and no apparent marketing strategy the project's website hasn't been updated since January 2012 (www.krumpen.dk). Any per chance visitor has to resort to the indicated links to other websites like www.lysetsland.dk in this way rendering the Krumpen website useless.



Figure 1: The inactive www.krumpen.dk (left) and the active, but less specific, www.lysetsstrand.dk (right).

Hjørring Municipality is aware of the problem with a “dead” website and contacted Aalborg University in autumn 2011 to create increased traffic on the website. The problem being that the project Stygge Krumpen isn’t commonly known in Northern Jutland which means that SMEs aren’t interested in developing products, events, or attractions using the design and the history the project is based upon. This in turn makes it difficult for Hjørring Municipality to get funding for their project ideas, creating a negative downward circle of action.

Since the challenge was creating traffic on the website itself, it was decided to shift focus from the SMEs to the end user. The whole idea behind Stygge Krumpen was re-examined, using the 3 Domain Model (3D model) by Peter Vistisen (figure 1 and Vistisen, 2011).

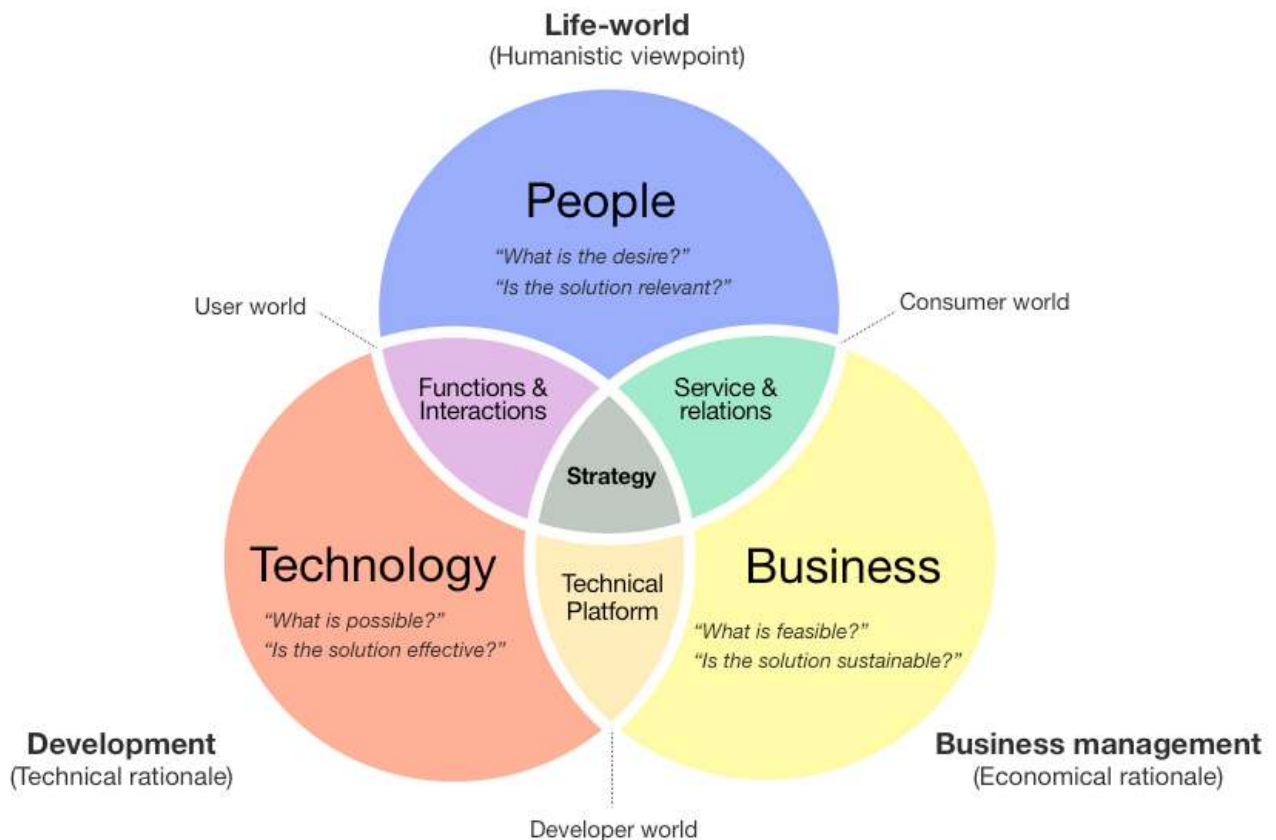


Figure 2: 3 Domain Model by Peter Vistisen

The three domains being business, people, and technology, combined and intertwined in a holistic perspective on how different knowledge domains correlate in the process of creating user-centred innovation, which are sustainable in a business context. Through a hermeneutical perspective, the 3D model suggest that user-centred innovation must come from the unified overlap between the economic perspective of business, the rationalistic perspective of technology, and the humanistic perspective of user-centred design. The model is used to identify the needs of the end user, the 'People', and relate these to the SMEs (Business) as well as museums and other attractions, before finally deciding on which technology is to be used to enhance traffic on the website. The 3D Model has the development of strategic design as its aim and is thus useful in reflections on marketing as well as web and other design issues.

The final concept development was conducted in a workshop with students on the 7th semester Interactive Digital Media at Aalborg University, using the analysis of the current problems together with the requirements from the municipality.

The requirements being:

- The concept should focus on learning and transforming the visit to the different attractions in the region (People)
- Historical and cultural awareness (People, Business)
- SMEs should be integrated in the concept (Business)
- Low cost in creating the content for the website (Technology)
- Low cost in maintaining the website (Technology, Business)
- Use of the Stygge Krumpen design line (Technology, Business). The design line of the Stygge Krumpen project is supposed being used by the SMEs in connection with new products and services. At the time being (spring 2012) the design is visible only on the website: www.krumpen.dk

The 3 Domain Model takes all of the requirements into account shown by cues in the brackets. Using the model during the analysis gives the possibility to examine the questions asked for the three main topics. At the same time the model shows that part of the solution will be under the control of either the businesses or the municipality (being part of the business topic) while other parts of the content will be under no control or just partial control by other participants in the project.

The model therefore acts as the articles main framework for discussing the barriers, which exist in praxis's where multiple companies, and organizations have significant differences in their dominating rationale, and furthermore describes, how a holistic perspective on the problem domains can overcome these barriers.

People

"What is the desire? - Is the solution relevant?"

To increase traffic on any website it has to contain useful and meaningful information. This is at the time being not the case for www.krumpen.dk. It is obvious that many of the desires of tourists are taken care of on websites like www.lysetsland.dk or www.visitnordjylland.dk. Both developed with tourists as the end user in mind.

Who is the end user of www.krumpen.dk? For one it has to be someone who can buy products and partake in events developed by the intended associated SMEs. At the same time visiting figures from Børglum Monastery shows 46% of the visitors being families with children (Kunckel, 2009:10). The Rottbøll's themselves have expressed the wish for being more interesting for families. At the time being the monastery doesn't have many exhibits, which in any way could be interesting for children.

Taking this information at face value, the workshop with the students focussed on engaging children in the development of the content. If children are experiencing interesting and meaningful events, they will typically pass this on to their parents and grandparents. Thus using Word-of-Mouth to spread the knowledge. Parents will typically see to that their children are entertained and if possible even educated while on holiday (Gram, 2007). Gram shows that children are the main instigators when planning holidays. Children decide what to visit and participate in and the parents oblige. At the same time children like to get involved in the events, which take place during the holidays. Involvement can be anything from bodily engagement as well as developing a given event (Christensen, 2007). The best way to engage children in a given event is to get them to develop the content of the same. This will at the same time give the possibility to teach the children and engage them in the events unfolding different places in the region.

The project requirements further stipulated a learning approach. Here the school came into focus. If it was possible to develop a concept, which enabled schoolteachers in primary school to use the Stygge Krumpen project as a part of their curriculum then both teacher and pupils could be interested in other parts of the project and spread the word even further.

With teachers becoming part of the end user group, different requirements to the concept were established. While still taking care of the "learning, cultural and historical setting", now the working context had to be part of the considerations for the content development concept. Teachers can teach in different settings and in different timeslots: from one lecture (45 minutes) to whole workshop weeks (temauger) and anything in between. The concept had to be flexible on this point, making it possible for the teacher to choose how much time should be spent on developing the content.

Furthermore, easy use of the concept with only a minimum of preparation would enhance the teacher's experience of the concept and lower the threshold for participation on both the teacher and the pupils side.

But the teacher alone would be too small of a user group to be able to spread the word about Stygge Krumpen project. The children's parents had also to be a part of the concept. As said above, parents are very interested in giving their children a memorable holiday experience.

Parents as a user group again have other requirements than teachers or pupils. They are interested in their children's work, but are also protective of their children. The parents are a big part of the visitors, Børglum Monastery and other SMEs in the region are interested in. The concept has to activate this group, because parents are the main consumers, paying for the experiences, services, products, and the like.

This can be mapped as a elastic user relationship (Cooper 2007, 118) in which the children, teachers, and parents creates a dialectic between the functional and service oriented relations to the concept (figure 3).

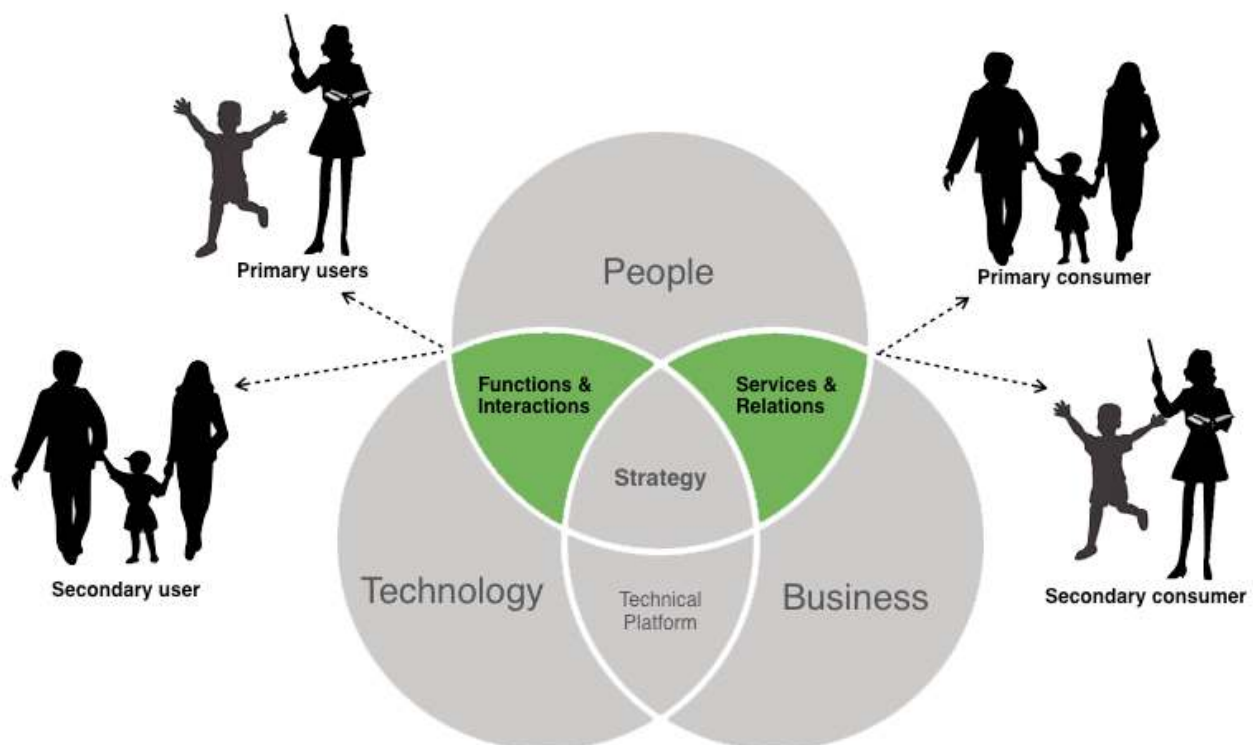


Figure 3: The mapped dialectics between the teacher's, children's and parents' different relations towards the concept.

All of the above are part of the humanistic viewpoint and has to be considered when moving on to look at the business and technology point of view. The three groups of people specified as end user are:

- Children, developing the content as well as being participants in events and visiting attractions
- Teachers, using the content development as part of the teaching curriculum
- Parents, being interested in their children's work as well as being influenced by their children as where to go on holiday

The three different user groups, and their changing relations to the concept, not only rise some questions about how to develop a concept which can be meaningful for every single group as well as all three of them at the same time. Because the website being partly

commercial, it also gives rise to ethical considerations. Children as such are often depicted as vulnerable in a marketing context, and setting their work in a commercialised environment puts them under the direct influence of advertising and marketing. Topics, which are problematic in any teaching context let alone in a context where the content produced is used as a part of a marketing project which children as well as their parents will be subjected to. At the same time, a co-operation between school and business, and especially institutions like museums, adds a new perspective on the development of children's as both consumer and citizen. The environment being educational, gives new possibilities for both teacher and parents to discuss and develop the cultural and historical identity of the children, as well as their identity as citizen and consumer (Olesen, 2003).

The question was, how learning, children, and development on one side could be put together with the website in a meaningful environment on the other side. One of the possible answers was developing material for the teaching purposes at primary schools in the municipality of Hjørring.

The aim of the material being:

- 1) Part of the curriculum already part of the education
- 2) Easy to use and adapt in the learning and teaching context of the primary school, thus being of interest for the teacher
- 3) Easy to use either on a day to day basis or as a workshop week (tema uge)
- 4) To show the finished product on the website
- 5) To use the local attractions as a part of the learning experience
- 6) To give parents an insight into their children's work
- 7) To interest parents and children in the history and attractions of the region
- 8) To provide SMEs a base for participating in the Stygge Krumpen project

The first three topics are aimed at the teacher and the main concern here is how to encourage the use of the material for the development of content for the website as well as grounding the learning potential. Less preparation and easy access should ensure teachers to use the material in education. The story of Stygge Krumpen is already part of the curriculum of primary schools in Denmark and using the surrounding attractions and localities is consistent with the pedagogical ideas of the Danish primary school.

The fourth topic gives rise to some practical as well as ethical challenges. One of the unresolved problems being who is in charge of updating and, if necessary, censoring the content of the website. At the time being the website is "dead", not being updated for some months, because the municipality doesn't have an intern, who normally would be in charge. This also shows that the municipality isn't able or willing to put any kind of economic base behind the project. One solution to this problem would be to give the teacher access to the website's content.

The ethical problems are even more problematic: how can a more or less commercial website conform to the ideas and pedagogical ideology of the primary school? This discussion has already prevailed when Danish schools due to cutbacks in governmental founding considered the idea of sponsoring teaching materials and the like through local businesses. As it is, the Danish governments backs sponsoring schools by private businesses as long as it is not for operational purposes (folkeskolen.dk, 2009). While the sponsoring would be openly and visible for children, teachers, and parents, putting material on the website of the Stygge Krumpen project would in the first place not be visible marketing for any businesses in the region. First when looking at the finished product on the site itself, the marketing would start: using free space for advertising as well as the material, developed by the children itself will be creating interest for the attractions and events involved in it. This form for covert marketing in connection with both children and public schools gives rise to ethical issues. Solving these would have to be done on a case-to-case basis. Is Børghlum Monestary to be viewed as a SME or as a museum, which holds part of the regional history? Is developing an event for the monastery marketing or participation in unravelling the history of the place and thus giving the children a possibility to develop their personal identity?

As is often the case with ethical issues the answer depends on the point of view. "Using" school children to develop content for a website which could be seen as a covert marketing site is problematic. If the content is seen as part of developing knowledge and identity for the children, then it would be recommendable.

Business

What is feasible? - Is the solution sustainable?

To give a possible answer to the above questions it is necessary to look into the other viewpoint involved in the concept design: Business - in this case SMEs. The small businesses, which the municipality of Hjørring refer to normally consists of one owner and his or her spouse. In rare cases the owner has an employee, often only during the High Season. Since Northern Jutland is part of the peripheral areas of Denmark (udkantsdanmark) many of the business opportunities are developed by so called enthusiasts (ildsjæle) who have an ideological base for their development of any given business or attraction. Because the business as well as the owner is part of the local community, the community will often support the business - if it is aware of the existence of the same.

The 3D model shows that businesses have to ask whether they are viable or not. Being part of a small community makes it necessary for the business to attract people from outside the community. Being a SME often implies none existing financial funding for marketing purposes. At the same time the enterprises are often built on a ideology which doesn't wish to impose advertising on its possible customers. Thus sustainability, value based production like ecological farming, and the like depend heavily on Word-of-mouth advertising and the ethos, the business is build upon (Jensen, 2010). Viability thus depends on a high ethos and knowledge of the enterprise in a wider range than just the local community.

In the context of the Stygge Krumpen project marketing is focussed on the SMEs as well as the museums and other cultural institutions in the region. This can already be seen as

problematic, since it could be argued that culture and commercialism doesn't go well together.

The ethical issue seems to depend upon whether the enterprise is based on some kind of value based approach, best put together with a deeply rooted local involvement, or whether it is solely based on a capitalistic background, best defined by Friedman (Friedman, 2002:133): "(...) there is one and only one social responsibility of business - to use its resources and engage in activities designed to increase its profits (...)".

For the former there would be small or none ethical challenges concerning the involvement of schoolchildren in developing content for a marketing website. Especially since the producers and enterprises, which are to form the products, events, and attractions for the Stygge Krumpen project will have to take the transforming part of the experience as a base for their development of products.

In a rhetorical perspective this situation can be mapped in the 3D model as a depiction of Bitzer's 'rhetorical situation' (Bitzer 1968), in which the first step for the Stygge Krumpen and the SME's is to establish an ethos for the technological platform (www.krumpen.dk) and the service relation between the SME's and the users of the web-site. The next step hopes to establish a pathos appeal in which the users/consumers participate in the platform, contributing with content, visits to physical locations, and consuming goods from the SME. In the final step, the strategy is to have the users/consumers become stakeholders in the Stygge Krumpen concept, and furthermore the region as a whole, and thus have created a logos appeal for the relevance of the region (figure 4).

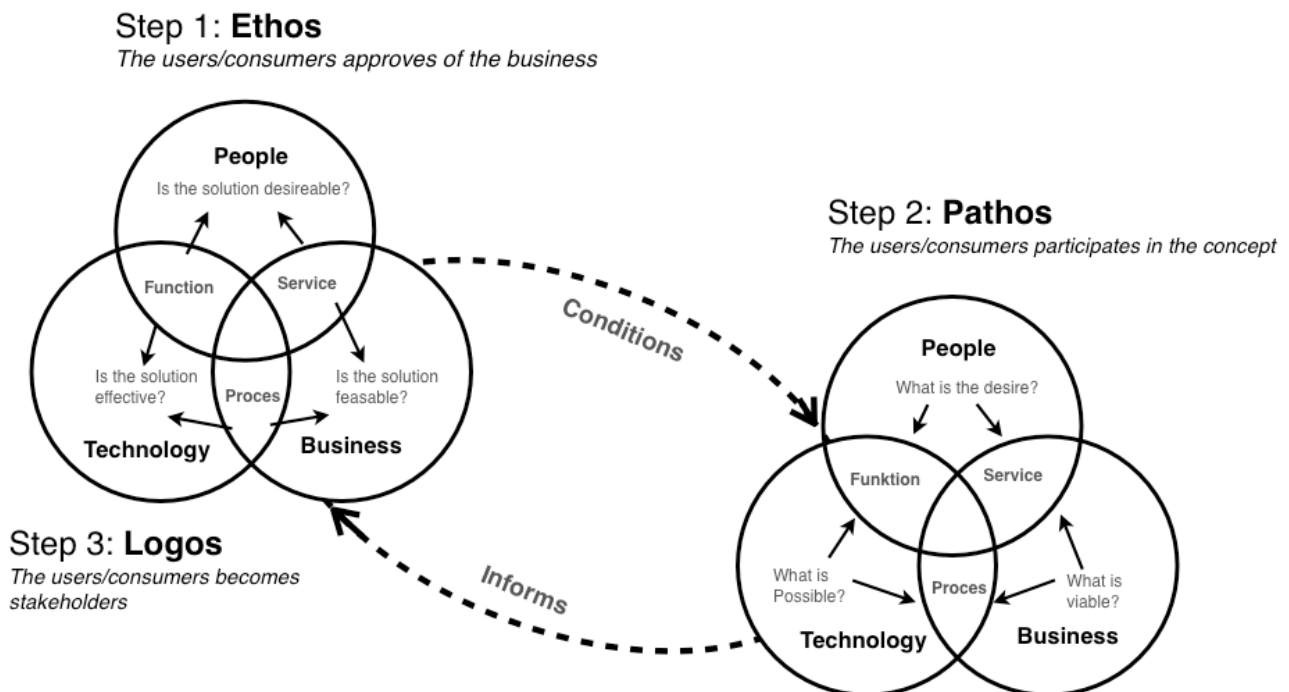


Figure 4: The rhetorical situation from the viewpoint of creating participation in the Stygge Krumpen concept - from establishing ethos, to participative pathos, and finally into a stakeholding logos appeal.

Technology

The last part of the 3D model asks what technological possibilities are in existence, and whether the chosen technology is effective/appropriate to the users. The municipality has decided to use a website - with the possibility for commenting and updating by other parties than the municipality itself. Considering the material, which should be used in connection with the schools there are a wider range of technologies available. And part of the primary school curriculum today is the use and knowledge of computer based technologies. Thus the development of web content will not pose any technology based difficulties, since children aged 12 and older are supposedly familiar with the use of smart phones, video editing and the like due to their use of the computer.

The Content

In the workshop the students were presented to the above-mentioned requirements and analysis. The main task was to create a framework for developing content for the website using schools, teachers, and the technology at hand. In the case of the pupils this meant: mobile phones and computers equipped with free software. It is assumed that the pupils can film and take picture without needing technological assistance, if any help should be needed, the classmates should be able to provide.

With this framing the students developed the following ideas and concepts:

Storyline course

The course can take a whole week or just a few days. The pupils have one assignment per day and the result of the assignment “unlocks” the next days assignment. During the course the pupils need information given through the curriculum on the historical and cultural events surrounding bishop Stygge Krumpen. The final day is collecting the different parts of the course and ends with a feast for the pupils made by the pupils. Different sites in Northern Jutland may be visited, but it also suffices just to tell about the places using Google maps and the like. The pupils are introduced to different cultural buildings and thereby historical events and figures having played a part in the development of the region.

Reformation and theatre

This course doesn't take the pupils outside the school but instead introduces the different characters in the story of Stygge Krumpen using both storytelling and “physical evidence” in form of letters from the different characters to each other. The pupils have to develop a play based on the material presented to them during the course.

Reformation and storyline

This course has Børglum Monastery as fulcrum, using its history as curriculum and developing an event for both school and SMEs in the neighbourhood. The pupils are also meant to develop a role-play and participate in the event.

Stygge Workshop

This course focuses on developing a play using self made costumes as well as the stories of the characters from actual historical events surrounding Stygge Krumpen. The connection to the SMEs is made by exploring the neighbourhood for historical clues and collecting

food and recipes, which will be used on the final day where the different products will be shown.

All of the above use the website as a way of reporting the results of the workshops and storyline. Especially the first Storyline course uses the website as a place for describing the results and thus putting content on the website. The control of this part of the communication is placed in the hands of the teacher.

Results?

The main idea of developing material for the use in a school environment is to get the parents to look the result up at the website of Stygge Krumpen. Thus the schoolteacher will have material for different kind of teaching, the children will be able to get absorbed in the learning process, because the concept is based problem based learning, the parents will be able to monitor what their child is up to at school, the municipality gets an increased traffic on their website, the SMEs get a reason for being part of the Stygge Krumpen project, since the website in fact provides easy access to a wider range of possible customers and visitors.

At the same time basing the whole project on material developed with the idea of learning and transforming experiences makes it possible to ensure a deeper understanding of the history and culture of Northern Jutland, in this way making it possible to give rise to a new and different kind of interest in the attractions and events taking place in the region. Turning the participation in the events into a transforming experience for both children and parents on the one hand, but also for the enterprises on the other hand. The enterprises being compelled to understand their part in the events as something which takes its starting point in the history of the region.

Possible results from a future implementation of the mentioned concepts could be:

- Updates on the website www.krumpen.dk without need of payment or censorship
- Collection of material on the cultural and historical identity of the people and places of Northern Jutland
- Creating local knowledge and citizenship in children
- Participation in the project by children, parents, and teachers, thus turning the top down approach into a bottom up approach and thereby creating a better foundation of the project
- Creating traffic on the website by both teachers and parents, who can be potential customers both for the institutions as well as the businesses collaborating in the project
- Connection between schools, teachers, pupils, parents, businesses, and institutions of Northern Jutland

The project of Stygge Krumpen is still going on.

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From user surveys to action in the museum - how can we attract and engage young people?

Leslie Ann Schmidt, Lisa Kapper



(workshop in the exhibition "Under the Paving Stones, the Beach", TorsdagsLounge on the 10th of Nov. 2011)

Abstract: The challenge of attracting and engaging new groups is a central discussion topic in today's world of museums. Especially the low number of young people between 15 and 25 voluntarily visiting the museums is worrying considering the risk of losing the museum visitor of the future. This paper focus on the work of the Learning and Visitors Services Departments at the cultural complex Brandts into a place that young people actively choose to visit as a leisure time activity.

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From user surveys to action in the museum How can we attract and engage young people?

1. Introduction

Danish museums and science centres offer a wide range of activities and projects that invite to interaction and participation inside the museum and on digital platforms for social communication¹. One of the target groups for many projects is the young visitors². According to the National User Survey³ this group is underrepresented in the museums and new ways of thinking and organizing the museum experience is an important step if the museums want to attract young people. It is a challenge to develop new projects and activities that combine the central elements of an experience⁴ and at the same time offer opportunities for social interaction and informal learning. Like any other age group the young is far from a homogeneous group and their motivation for a visit and the museum experience is the synthesis of the individual's identity related needs and interests (Falk 2009: p. 36). The second challenge is to communicate that a museum visit could satisfy those needs and interests. This paper intends to discuss how we as a museum can attract young visitors in their leisure time.

Many young people visit museums as a part of a formal learning programme and most museums consider that the contact and corporation with schools, educational institutions and teachers is a useful way of reaching the young visitors (Jørgensen 2012: p. 13). Consequently the museum experience takes place within a formal learning context and from a market communication aspect the teacher plays the role as the gatekeeper. According to the DAMVAD survey very few museums are in contact with young people and involve them in the planning of the interpretation (Jørgensen 2012: p. 1). During the school visit the pupils/students might discover the

¹In a best practice publication "Unge og museer" the Heritage Agency of Denmark describes 21 projects and activities that target young users.

²The DAMVAD survey covers the age group 15 – 30 years. Dream's survey works with the age group 13 – 23 years and the two surveys at Brandts cover the interval 15 – 25 years.

³The National User Survey has been initiated by the Heritage Agency of Denmark and has been carried out at all national and government-approved museums on a yearly basis during the period of 2009-2011. The survey uses quantitative methods in the form of questionnaires handed out by the participating museums in an individually calculated frequency depending on the number of visitors.

⁴Pine & Gilmore are the "fathers" of the experience economy. They have identified four types of experiences, with the richest being those that combine aspects of all four realms: entertainment, educational, aesthetic and escapist (Pine and Gilmore 1999). The report *Reach Out* describes models for analysing and methods for co-operation with users in innovative projects (Arffmann et al. 2008).

opportunities for fulfilling their individual interests and needs and they might just experience the museum as a nice place to visit even in their leisure time. However, this tends not to be the case as shown in the national surveys. In this paper we will discuss how we can transform the museum into both a physical and virtual place that young people will visit in their free time and we will look into the potential at Brandts for that development.

This raises a number of central questions. How do we as a cultural institution communicate and market Brandts towards a specific target group? What ways of communication can we use in the actual museum visit to ensure that the leisure visit differs from the educational programmes, and how can we transform the institution to respond to the young visitors needs and wish to build relationships, which is a central purpose for their appearance in the museum? (Scott 2007: p. 182, Moos and Lundgaard 2012: p. 55 - 58)

Qualitative surveys performed at Brandts in 2010 provided us with a framework for developing a strategy and an action plan for 2011 and 2012. Another survey in late November 2011 gave us a first respond to the action plan. Our challenge is communication, to involve the young people and recognise them as “stakeholders” and to ensure that the young profile does not end up as a short time project experimenting with branding, communication and participation driven by enthusiastic staff in the learning and visitors department (Simon, 2010: p. 345-346). The aim is to develop a sustainable profile, integrated into the organisation and core functions.

2. A short introduction to Brandts

Brandts consists of Mediemuseet, Museet for Fotokunst and Kunsthallen Brandts - situated in an old industrial building complex in central Odense. Altogether the three institutions show approximately 22 exhibitions a year. They share a learning centre, bookshop, ticket sale, foyer and auditorium and most visitors do not distinguish between the three institutions but focus on what to experience. By combining the three institutions the house is united under a common brand name *Brandts*. The Learning and Visitor Services Department at Brandts believe that an institution showing photography, contemporary art and media exhibitions has a lot to offer young people. Photo and media are part of young peoples every day lives and for many they are ways of expressing themselves. MedieMixer⁵ with studios and digital activities offers a great deal of

⁵ Mediemixeren in Mediemuseet opened in 2010. The target group for the analogue and digital activities is the young users. Co-production and participation are key issues and the setup encourages the users to explore and make media productions and experience authentic setups. www.mediemixeren.dk

participation and social interaction on digital platforms. Kunsthallen Brandts employs an international focus on contemporary visual art and features interactive exhibits on a regular basis.

The whole area surrounding Brandts offers many opportunities for leisure activities aimed at all ages: museums, cinemas, cafes, restaurants, music library, shops, out door concerts, a concert hall, pubs, nightclubs and a cultural activity centre for citizens and students.

Brandts has a great potential as a place to visit in young peoples leisure time. The location provides easy access and many young people already visit the area as a part of a leisure/social activity. Brandts offers a late opening with free entrance every Thursday evening, a time where students are free from studies and jobs, and with no costs this opportunity ought to attract more visitors. However, in 2010 we found that the number of young visitors was far too low and the need for a survey and strategy was obvious.

3. Results and recommendations from user surveys

When it comes to location and content Brandts might be a privileged institution, but we are still facing the same difficulties attracting visitors under the age of 30 as the main part of Danish museums according to the National User Surveys conducted in 2009 and 2010. These challenges have led to a greater focus on explaining the low number of young museum visitors. During the last couple of years a number of surveys focusing on both the young museum users and the non-users have been published in Denmark.

In May 2011 DREAM⁶ published a report⁷ based on a quantitative survey focusing on young Danes between the age of 13-23 and their use of mass media and museums. The purpose of connecting the daily media usage and the occasional museum visit was to paint a picture of young people's everyday culture and define the museum visit within this context.

The overall conclusion of the report was that young people do visit museums, although not entirely voluntary – only 15 %, the so-called *Enthusiasts*, enjoy frequent visits to all types of museums. In comparison to this 31 %, the so-called *Foot Draggers*, state that their last visit to a museum took place more than one year ago and was primarily in an educational context. As a rule, the higher level of education the more frequent visits (Kobbernagel *et al*, 2011: p. 10).

⁶ Danish Research Centre on Education and Advanced Media Materials

⁷ "Unge's medie- og museumsbrug: sammenhænge og perspektiver"

When it comes to media young people are not surprisingly an all-round generation, who enjoy media in a broad sense. The need for communication, information and entertainment forms the core in their use of electronic media, which - among other things - on a daily basis include texting (86 %), visiting social websites (74 %) and TV watching (64 %). Only 22 % are daily book readers and an even lower number of young people (12 %) will read a newspaper. The higher level of education, the greater the share of book readers (Kobbernagel *et al*, 2011: p. 13). Young people on a higher educational level also tend to be more active in producing media content and sharing it.

During 2011 the research based consultancy DAMVAD together with Center for Museologi (University of Aarhus) conducted a survey based on qualitative methods and case studies in three Danish cities, Randers, Roskilde and Odense in order to delve deeper into how young people experience and perceive museums. The survey had its focus on the relations between museums and young people. The results showed the importance of the museum letting young visitors feel welcome and providing an informal, yet engaging environment that caters for the need of both knowledge and a social space. But the museums face difficulties in meeting these needs because of an inability to promote their offers, a lack of understanding of the target group and challenges in working with user involvement (Jørgensen *et al*. 2012: p. 62-65).

The results of these national surveys have been interesting to compare with our own knowledge. However it is Brandts' in-house conducted surveys that form the backbone structure for our strategy and action plan. An early survey in 2009 looked into who were actually visiting Brandts on Thursday evenings. The conclusion was, that local students in Odense would be a potential group to reach and to encourage to participating in activities. How to reach that group was the subject for the next survey conducted in autumn 2010. It concluded that the non-users were moderate users of activities such as cinema, theatre and concerts, but perceived museums as old-fashioned and dull (Gelvan og Jensen 2010: 41). They also had little knowledge of what Brandts had to offer and they had difficulties distinguishing between Brandts and the institutions in the surrounding area (Ibid.: 43). But the participants - especially the older part (20-29 years) of the target group - showed a budding interest in art and visual culture and had suggestions on how to alter the image of Brandts. They recommended events as a way to create an informal setting for interaction between Brandts and the visitors and among the young people themselves (Ibid.: 56).

4. From user survey to action plan

Before forming a strategy we had to discuss and look for answers to a number of questions⁸. Why focus on young people and why choose this specific target group⁹? What are the consequences of a communication strategy towards this specific group and would they respond to our effort to establish a platform for social and learning experiences where the latter should distinguish clearly from our formal learning programmes developed by the educational centre? How could we involve the young users in this process, identify their various needs and interests and finally develop a strategy that covered more target groups and used various ways of communication:

- market communication including social communication platforms,
- communication with the visitors during and after their visit to Brandts and finally
- communicate inside the organization and share our ideas and experience?

The knowledge we gained from the survey in 2010 enabled us to pinpoint and qualify our goals and form a brief strategy. We wanted to:

- increase the number of young people that visit Brandts in their leisure time
- increase their participation and establish relationships
- increase the knowledge of Brandts through their network
- stress the opportunities for buildings relationships at Brandts – with Brandts as well as other visitors.

In the surveys we had consulted the users about how to communicate, but before emphasising on marketing we needed to analyse and discuss the experience we offered to the young visitors. One of our challenges was to form an action plan to be implemented within the existing budgets. We already had a list of activities and added some new:

- Thursday evening – free entrance from 5 -9 pm
- events, two annual events in partnership with Studiebyen Odense¹⁰
- 6 smaller events planned in co-operation with a focus group or external partners
- the visitor as a co-producer, - an annual competition including workshops,

⁸ Priorities in the organization are central questions. The action plan would raise the costs without an extra income to cover the spending. The strategy was initially regarded as a part of our marketing and interpretation and was developed by the Learning and Visitors Services Department.

⁹ The target group was defined after the survey in 2009 and covered students from the university, upper secondary school, educational institutions providing creative programmes and young people who use the surrounding area in their leisure time.

¹⁰ Studiebyen Odense was founded by Odense Municipality in cooperation with the city's higher education institutions as a service for their current and future students.

- events and exhibition of the participants' works
- formal and informal co-operation with educational institutions
- experience with formal and informal learning processes in our educational programmes¹¹

When developing a strategy for 2011 and 2012 in a complex organization we needed to identify a number of key areas that we found essential and within our reach as a Learning and Visitors Services Department. We decided that market communication, user involvement, young visitors' various interests and needs, front staff and attitudes, documentation and sharing our experiences inside as well as outside the organization had to be taken into account. We were also aware that this strategy was a first step and that we were heading for the potential users not worrying too much about learning aspects or social responsibility.

Communication:

In our strategy we considered the external communication as market communication. Events were a central key to reach new visitors and the users who knew Brandts already had a potential as ambassadors. Furthermore the communication with the visitors inside Brandts should respond to the young people's needs and at the same time challenge them with new ideas and interpretation. By scaffolding activities and platforms for social interaction we would initiate communication as a shared process involving other visitors and forming networks of contacts. Facebook allowed stories and productions from workshops to be shared and provided us with a platform for marketing new events and activities. Our partnership with Studiebyen Odense gave us a great opportunity for announcing events on all the social communication platforms they used. Flyers and posters produced in cooperation with our focus group or interns were spread inside Brandts, in the neighbourhood and places where the target group meet. All groups within the age 16 – 25 visiting the educational centre were informed about the events and encouraged to participate.

User involvement and visitors' various interests and needs:

Before forming a focus group we involved two students in the project. They started in February 2011 as interns and used their own experiences and all the knowledge they could gain from fellow students and friends. The purpose was to involve them as important discussion partners in

¹¹ In our educational programmes we work with three-hour workshops: introduction to the topic, visit to exhibitions, introduction to the participators' own work, their production and finally the presentation of their works and response from fellow participants and the museum educator. Some works are published and shared on YouTube and our website.

our work with marketing through social networks and to challenge our traditional ways and bounds. Facebook communication was discussed intensively and an informative and yet informal profile was established. Brandts' official Facebook page did not fit into their needs and we wanted to avoid a conflict with the "official image". As we already had a second page – "Inspired by Brandts" with a reasonable activity and mainly young people and educators, we decided to use that. The profile is used for communication about our annual art competition¹² and events related to that. However, it also turned out to be useful for the new events, for sharing stories and photos from events and comments.

A number of permanent activities at Brandts invite the user to participate¹³ and the majority of those target the young users. As mentioned earlier we have the annual art competition "Inspired by Brandts", every second year we run a documentary film project – Young Docs, all year round Medi.mixer offers fun, entertainment, learning, authentic media productions and social networking - all activities that require a high level of involvement and will fulfil some users needs. From the surveys we learned that opportunities for socializing, invitations to involvement and activities they could share with others played an important role for their motivation for visiting. That forced our educators to rethink the learning concepts and form new ways of participation at the events, which would give an introduction to art photography or contemporary art and information about topics and simple activities in an informal setting. A well reflected scaffolding of these activities was discussed in the planning process and simple technology ensured the presence of the activities and productions on Facebook instantly. Finally some users just wanted a social platform and a meeting place that was cosy as well as cool. Lounge settings were established with music, light and serving of beer and sushi. In June we used the roof terrace for an informal award ceremony and a more quiet arrangement took place with tea and cupcakes in a sensorial setting.

¹² Inspired by Brandts is an annual art competition for people studying arts, photography, crafts and media on part-time courses. Winners and other selected works are on display at Brandts in November. Brandts is running the competition in partnership with the Victoria & Albert Museum in London.

¹³ Simon's definition of the participatory museum: a place where visitors can create, share, connect with each other around a content. She describes four models for participation: contribution, collaboration, co-production and hosted projects (Simon 2010: p. ii, 184 -189).



TorsdagsLounge on 24th of March 2011



Sansebar on the 16th of February 2012

Front staff and attitudes:

Important information is generated in the front staffs' daily communication with visitors. We realised that a shared language and knowledge would qualify the discussions and enable us to find new ways and accept risk taking. A full day course in the educational centre for all front staff including marketing and press introduced them to John Falk's five categories for identity-related museum motivations (Falk 2009: p.158). Afterwards they produced short films. Through that process their experience was shared and added new knowledge. The films were used for further discussions of the visitors needs as well as how to introduce a new audience to a museum world with its long list of restrictions and codes for behaviour. Later on, when new ideas for events and activities were suggested, the front staff were involved in finding solutions and a useful dialogue has been developed.

Documentation, external and internal communication:

The user survey in 2010 gave us a qualified look into the problems and the potential for attracting young visitors. Our strategy covers both marketing and organization and we decided to give documentation a high priority. Stories and experiences are shared not only on Facebook, but in best practice publications, newsletters, articles and at conferences. Internal priorities of the resources have to be pushed in a more user orientated direction and to emphasise that process the external communication about Brandts' young profile is circulated and presented on all levels in the organization. The films produced by the front staff were presented at a meeting for all the staff at Brandts and with a great sense of humour the visitor's point of view was raised for further discussions.

Evaluation of the action plan and strategic adjustments:

In November 2011 Brandts conducted yet another survey, this time in order to evaluate the first

results of our strategic efforts. The survey, based on both quantitative and qualitative methods, showed very positive results, even though the events mainly attracted the current users of Brandts. Yet the current users did act like ambassadors recommending Brandts to new users, who were visiting Brandts for the first time - in the survey they represented 16 % of the participants (Gelvan & Lauridsen 2011: p. 21). The events, which formed the basis of the action plan, were experienced as informal, engaging, cosy and cool and had a very positive rating (Ibid.: p. 59). The relaxed setting made the museum visit seem relevant to the young participants, but still added an air of elite culture which in this context was considered a positive way to boost a self-image (Ibid.: p. 19). Despite the high number of visitors - at the two greater events in 2011 our visitors numbers reached approx. 500 per night - a lack of visibility in terms of market communication was mentioned by the participants (Ibid.: p. 69). We have now taken this into account by further engaging young participants in developing and running events – our hope is that word of mouth together with an intensified effort on Facebook during 2012 and onwards will lead to an even greater visibility in the target group.

5. The theoretical basis for our considerations and critical angle to our strategy

While forming the strategy we looked into and discussed recent research and publications about museum communication, participation and visitors needs. Nina Simon's definition of the participatory museum enabled us to start and to refine the discussions inside Brandts and encourage back-office staff to get involved in new projects. However, we still have a way to go to reach a common understanding. We analysed the communication inside Brandts and found Hooper-Greenhill's discussion of communication models in museums very useful. Our position in the organisation places us far too late in the planning of exhibitions and the exhibition programme for the entire Brandts (Hooper-Greenhill 1999). The DAMVAD survey concludes that the content in the museum is essential for the young visitors and the need for a new internal communication model is obvious. As John Falk emphasises, there are many motivations for a museum visit and from a holistic point of view there are obvious elements to improve in order to change the image of the museum and communicate about the museum as a place to fulfil various needs. Museums and identity led us to discuss Brandts specific potential and how a museum varies from any other leisure time activity. Both Carol' Scott¹⁴ and Falk look into learning aspects and relationship building and in our further work we will go deeper into discussions about the

¹⁴ According to Scott "relationships" set the museums apart from other leisure experiences. Besides from being a experience shared in company with others the museum "help people to find their place in relation to the past, in relation to the world at large, in relation to what it means to be human (Scott 2007: p.182).

balance between entertaining, learning and visitors interaction with Brandts and other visitors. Our market communication and branding was discussed and the need for a new strategy for Brandts in general is obvious if we want to reach this specific target group and reach out for a wide range of users.

6. Conclusion

We are aware, that visiting Brandts is a part of the young person's identity and fits into the values of the peer group. We are also aware that these values are constantly changing. Consequently we have to be very clear in our market communication.

By involving young users in both the market communication, as ambassadors and in the planning of activities we increase their participation and establish relationships. Our communication about activities must distinguish clearly from the educational activities and at the same time invite to many ways of participation. Events work as a useful marketing tool but also as a platform for social interaction and an opportunity to challenge the young visitors with new ideas and to expand their perception of the museum experience. With a large number of young people passing through our educational workshops we have an opportunity to inform about events and activities in leisure time.

In this strategy we focus on the potential users with a high educational level. We see the strategy as an important step towards transforming the museum organisation gradually towards a more leisure and user orientated institution. We need institutional priorities that can secure maintenance and further development of a young profile, but also strategies for reaching new users in general as well as the more vulnerable users who are most unlikely to visit Brandts.

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Reviewing Museum Participation in Online Channels in Latvia

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ABSTRACT

The goal of the research is to review museum participation in online channels in Latvia. Data source is interviews with museum specialists working in different museums in Latvia. The results demonstrate that museums in Latvia do not widely open their web sites for more participatory practices for technical reasons, and rarely for attitude based reasons. The online participatory activities in social networking sites and web sites among museums are quite uniformed; however, to some extent they reach a balance between participation and marketing, and provide learning and social value for users, although encouragement to develop users created content is needed.

INTRODUCTION

Museums have good opportunities to encourage participation in the physical environment - physical venues, authentic objects, and experienced real-world designers can be combined with lessons of participation (Simon 2010). Participation is not limited to *onsite* activities and *online* participation forms are widely spread. There are numerous studies of online participation to explore if and how museums exploit participatory potential of Web.2.0, especially as modern ICT have generated an assumption that participatory activities are part of everyday routine for many users.

A previous study on Web.2.0 related participatory activities in museums found that RSS feed is the most frequently used tool in museums to personalize information while forums, blogs and commenting features are not widely spread in web sites of museums (Lopez et al. 2010). In relation with internet-based social networking sites (SNS) that have exploded in number and popularity (Patchin & Hinduja 2010:198), museums receive critique that they often see user created content as the only form of online participation while forgetting about other possibilities, such as voting, commenting, making lists of favourite videos, giving ratings in Youtube, etc. (Simon 2010).

Latvia is one of three Baltic States and it re-established a democratic regime in 1991 (Ofinowski 2004). The number of internet users in a country comprise 70% of all the inhabitants of Latvia in 2011 (Latvijas Interneta asociācija 2011). This research concentrates on participatory activities in online channels and is based on empirical data collected in museums Latvia. The main method for data collection is interviews with museum professionals conducted in different museums in Latvia. Online channels in this research include SNS, sites to share videos and photos and museums' own web sites. The aim of this research is to explore the range and

diversity of the participatory activities applied by Latvian museums in online channels and the attitude of museum professionals towards online participation.

PARTICIPATION IN ONLINE CHANNELS

There is no single understanding about the concept *participation* - high plurality of opinions is displayed in different contexts. The notion of participation started with political participation concept and only later, the shift from political to civic participation occurred (Turnšek 2007). Research on participation can be divided into two broad categories: 1) authors treat participation in the context of global society changes and democratization (Pateman 1976, Arnstein 1968, Carpentier 2007, Burch 2011); 2) authors debate about participation phenomena within specific institutional context. Recent cultural participation research or specific museum related participation studies have been done by several authors (Morrone 2006, Simon 2010, Schick 2010). Many authors perceive participation in the terms of extent. Pateman (1970) argues that participation varies from full participation to partial participation (Carpentier 2008), while other approach distinguishes between the authentic and pseudo participation (Carpentier 2007). Cammaerts and Carpentier define participation: *(..) the degree to which decision-making power is equally distributed and the access to the resources of a certain system are constantly (re-)negotiated*" (Cammaerts, Carpentier 2006: 21); however, in the specific museum field the discussion of participation is not necessarily related with power distribution and decision making rights. To mention some examples: Simon writes about participation in Youtube and says: *"Just by watching, you are an important participant"* (Simon 2010) although technically single viewing does not contain decision making power, while on the other hand high number of viewers can have an impact and influence on decisions. Simon writes that the contribution is the most common way how visitors participate in activities of cultural institutions by helping to test ideas or developing new projects, sharing their ideas and work in public forums (Simon2010). Jenkins et al. (2006) see membership in formal and informal communities as part of the core function of participatory culture. Other relevant aspects include production in new creative forms; collaborative problem solving; shaping the flow of media (Jenkins et al. 2006). To encourage participation in online social media (SM), an organization must understand the benefits for an institution (Simon 2010) and not to limit online activities within marketing because there is a great attraction for cultural organizations to use possibilities provided by SM to take advantage of the marketing potential and consider it as a way of participation.

SM can be defined broadly as technologies that facilitate online communication, networking, and/or collaboration (Russo et al. 2008: 22). When discussing participation in online channels, it is important to mention some gaps. Several authors (Tonn et al. 2001, Jenkins et al. 2006, Simon 2010) argue about importance of knowledge in order to participate, because a number of barriers of participation are possible, including lack of education, limitations of time and motivation (Tonn et al. 2001). This kind of participation gap (Jenkins et al. 2006) concerning shortage of skills, experience and knowledge how to use ICT is important to acknowledge in the context of this research.

The previous Forrester Group survey about user engagement with SM and about social computing technology use discovered considerable proportion of users that do not create content and do not share their opinion online (Russo et al. 2008, Simon 2010). This implies that despite the lack of significant barriers, not everyone is ready to use SM for participation. At the same time the dominant opinion about the number of participants involved in participatory projects seems to be in agreement that the best participatory practices are not widely open.

(Simon 2010, Bandelli et al. 2009). Good quality contribution is easier to acquire from a smaller number of interested and engaged people than from a large number of by-passers. If a museum institution can become a “platform” connecting different users who have got different roles like content creators, distributors, consumers, critics, and collaborators (Simon 2010), for smaller groups a more extended content, personalized relationship and feedback among participants and the institution can be developed.

To discuss the issues of SM, the concept of collective expertise is considered. Participatory online media like SNS have changed and blurred many borders, and transformed the relationship in the context of expertise by giving voice to people who have not had it before. The expertise in large online communities is a continuous category, generated through a feedback loop between participation and community recognition. Under these conditions, expertise is not strictly or solely vested in individuals. In many online communities, the notion of community expertise plays an important role. (David 2007)

Jenkins points out that in the participation culture media users can no longer rely on experts and they have to be able to identify which group is most aware of relevant resources (Jenkins et al. 2006) and Surowiecki (2004) argues that collective judgments made by masses have not been estimated properly, the power of collective intelligence is emphasized also by other authors. (Lasker, Guidry 2009). In media studies the debate has been developed whether mainstream media may function as arena for civic participation (Livingston&Lunt 1994, Syvertsen 2001); however, there is support for the idea that audience generally is not ready to become involved in participation with serious purpose rather than just for entertainment (Syvertsen 2001).

Concluding the theoretical review, museums and participants both can be winners from the participatory projects. The creation of content, enriched experience and interpersonal communication are some of the potential benefits. Online channels provide ample of potential to engage in participation onsite and also by extending participation to online communities.

METHODS

Semi-structured qualitative interviews were chosen as the main research method to achieve the plurality of museum professionals' opinions. 16 specialists were interviewed in the museums of Latvia during March and April, 2011. The selection of museums for qualitative interviews was defined by several criteria – to provide the coverage of national and regional museums; private and public museums; affiliates and main organizations; different thematic museums including open space museums. Mandatory criteria for selection were that the museum had to have an internet site and an active account at least on one SNS – Facebook.com, Draugiem.lv or Twitter.com. These are the most popular SNS in Latvia: local Latvian network Draugiem.lv - engages 80% of all Latvian internet users or 55% of inhabitants (February, 2011); Facebook.com engages 20% of all internet users or 14% of inhabitants (November, 2011); Twitter.com accounts for 4% of all internet users or 3% of inhabitants (September, 2011) (Latvijas Interneta Asociācija 2011).

The list of museums: Valmiera Museum; Museum of History and Art of Cesis; Latvian National Museum of History; Araiši Museum park (Department of Latvian National Museum of History); Museum of the History of Riga and Navigation; Latvian Museum of Photography (Affiliate of Museum of the History of Riga and Navigation); Museum of Pharmacy (Affiliate of Pauls Stradins Museum for History of Medicine); Museum of Decorative Arts and Design (Affiliate of Latvian National Museum of Art); Munchausen Museum.

In all cases (except a small private museum) several interviews were done in each museum to gain information and mostly public relationship specialists, specialists responsible for the content creation of museum, specialists responsible for educational work activities were interviewed. Questions of interviews concerned participatory practices in each museum and usage of SM as a form of participation. Questions were structured in several sections from personal work related to institution related ones; they concerned the interviewees' position and work experience, comprehension of participation notion, on site and online participatory activities in museums; and questions about participants, their selection, and attitude towards them. Online participation activities in the museums were studied as part of broader complex of participatory activities in museums. Questions specifically concerned also museum activities in SM and web site, goals and initiative to involve in online SM, notion about users activity.

The data analysis can be performed either applying a marketing paradigm, viewing users as consumers or, on the contrary – a paradigm of participation, where users are perceived as active participants. A researcher's balanced position between these two paradigms is supported in the data analysis respecting that every person can take a position of a consumer and a participant in various situations; however, the museum's educational functions emphasize the importance of participation paradigm in the museum work therefore research questions explore the promoting and constraining factors of museums in Latvia for engagement in diverse participation forms.

RESULTS

Web.2.0 platform has a range of features including several types of social media – social networking sites, like *Facebook*, video and photo sharing sites, like *Youtube*, blogs and micro blogging sites. The results of the study disclose motivation to engage and attitude of museum professionals towards SM, factors that influence activity in SM and main activities in online channels.

Most often the motivation to engage in SNS is an individual voluntary initiative driven by personal faith in power of the SM that does not claim financial investment; in few cases an idea to open SNS account for museum came from outside or is described as fashionable thing to do. One museum currently using SNS admits that it was not easy to decide whether museum should participate in this superficial environment.

The activity in the SNS is determined by the following aspects: credibility of SNS, the characteristics of the main target groups of the museum, the usage of SM by these audiences, museum professionals' understanding of how to use SNS for communication with users, the amount of time museum professionals are ready to spend for SM communication and scepticism about the participatory potential of users. Several interviewees stressed that users are rather passive in expressing their opinions and commenting in SNS while only one interviewee has observed that users are rather active.

The attitude of museum professionals towards SNS is characterized by large scale differences ranging from very positive to a complete denial. Negative attitude does not always end in the refusal to use SNS and vice versa – it is possible that verbally positive attitude towards SNS is expressed and still the account of museum in SNS shows weeks or even months without posts. Several of interviewed professionals admit shortage of knowledge about the nature SNS communication; few respondents admit that they are experimenting with posting information in SNS.

One representative having denial attitude towards SNS says, the museum does not have meaningful goal to be in SNS, while some professionals still explore SNS to understand the possible outcomes for the museum. Although main goals for activities in SNS are not strictly defined, it is visible that marketing, communication, education and collective expertise purposes are important for museums. 1) Marketing purposes encourage marketing orientated information and surveys. 2) All interviewees but one expressed positive attitude towards the collective expertise by saying they read and evaluate comments posted by users. On the other hand they admit that SNS is not a place where most useful recommendations are posted. Gathering collective expertise serves as a motivation to develop surveys. The example of surveys acknowledges how activities balance between the paradigms of marketing and participation. 3) Representatives say, they use SNS to be closer with audience and to be achievable online, thus promoting communication with users. Museums also post information and novelties that are not directly related to marketing. This includes photo reports and reposting content created by others. Not a single museum limits activities in SNS to posting only marketing information. Although information activities do not engage high participatory potential, they are helpful to develop online community, to invite feedback. 4) Intentions to educate users can be observed in the content of delivered information. It is crucial because one of the participation gaps is the lack of education. 5) One museum representative mentioned that museum used SNS to mobilize audience to vote for the museum in the competition, thus inviting users to participate in decision making. Believing in the activity of participants and interest in the outcome is crucial for participatory activities. At the same time the audience support to the museum gives additional marketing benefits.

Some museum professionals admit they are not convinced about the best way how to communicate in SNS and therefore they experiment. Some admit doubts about the efficiency of information posted in SNS because the regular massive flow of information quickly deluges single posts. The communication in various SNS is not similar, also the audience is diverse. In one museum several employees bare responsibility each for different SNS because they believe every SNS claims different experience to communicate successfully. Almost every representative admits some kind of confusion related with comprehension of the nature of SNS. Therefore seminars and discussion would be helpful to understand the communication specifics of museums in the SM context, including the community building online.

Some specific theme oriented museums (for example Museum of Photography) attract specific type of audiences that have got common and constant interest in the photography. To some extent it is easier to build online community with specific audience sharing common interests than for museums attracting wide audiences.

Few museums open their websites for users' comments, sometimes this is because of technical reasons, while in some cases professionals believe the purpose of a museum web site is to provide constructive information and therefore it is not the most eligible environment for discussions and that SNS are more appropriate discussion environment. Consequently the usage of participatory potential of museum home pages is limited, it does not go further than forums and commenting tools, while in some cases web sites display no interactivity at all; however, it would be apropos to point out that virtual museums are still in the development process in Latvia. Regarding museum own websites interest in collective expertise is not high although Web 2.0 platform provides a wide range of participatory tools not only in SNS but also for web sites.

Social photo and video sharing sites options are not widely used. For example *Youtube* contains videos concerning activities of only three museums included in this research. And even then museums are not authors of the posts as videos are contributions of participants. Museums also post their information in different portals, news portals and some museums in specific professionals' portals. Few respondents admit they believe that portals for professionals are a good place for discussions and comments.

The results show a number of activities balancing between participation and marketing and also confusion about the nature of SNS among museum professionals that do not promote participation in online channels. All options of Web 2.0 are not revealed yet and there is room to develop online content creation activities.

DISCUSSION

While this research is focused on the museum participation in online channels in Latvia, it is difficult to separate online participation from participatory activities onsite, because they should be viewed as a cluster of participatory activities. The empirical data of this research allows to argue that the amount and quality of online participatory activities not always correspond to onsite participatory activities and limited amount of online participatory activities does not mean that museum is not encouraging participation at all.

The results of this research partially coincide with the results of previous research. For instance, Simon (2010) argues that museums often treat user created content as the only form of participatory activities, while other possibilities are ignored. The content creation participatory activities online are not widespread in the museums.

Previous studies argue that the best participatory practices are not widely open (Simon 2010), and this is confirmed by the current study, where both empirical studies of users behaviour and also the experience of interviewees confirm that general audience is rather passive than active. The issue about passivity of audience is not one-sided, because museums extensively use SM for marketing and information, therefore passivity of users can be understood to some extent. A large stream of social media handbooks, emphasizing social networking as a great marketing tool are published (Barnes 2009; Cooke & Buckley 2007; Kelsey 2010) and, probably, impacts museum representatives attitude towards online activities. However, often the content of activities is a mix between participation and, and there is nothing wrong if a museum can take advantage from both.

Regarding online communities, it is premature to consider the existence of steady online communities for the museums in Latvia in SNS. Even more because several museum professionals express an opinion similar to that of some authors (Jenkins 2006, Syvertsen 2001), that in the social media environment users are more entertainment orientated. To some extent the amount of time that museum specialists can devote to online social networking activities hinder the quality of museum communication online, therefore the shortage of human resources in the museums to some extent influence the quality of communication. Still the examples of online community can be observed in specific theme oriented portals (for example portal *Fotokvartals.lv* devoted to photography). The online communities are sources for the collective expertise and, to some extent, the interest in online community building would be confirmation of interest in the collective expertise. Web sites with no options to comment, shortage of online communities, strong interest in experts' opinions means, that there still is unused participatory potential.

CONCLUSIONS

In this research I focus on the issue of how museums in Latvia use online channels for participatory activities and what is the attitude of museum professionals towards online participation. The main channels for online participation are websites, SNS, including micro blogging sites; social photo and video sharing sites and other SM types, like blogs, are used in a very limited amount. The museums in Latvia do not widely exploit Web 2.0 tools to open museum web sites for more participatory practices for technical reasons, and rarely for attitude based reasons. The online participatory activity among museums is quite uniformed, however, to some extent they manage to reach a balance between participation and marketing, and provide learning and social value for users, although additional encouragement of content creation and the usage of different Web 2.0 tools is needed.

It would be worth to explore in more detail, why museums hesitate to promote users' created content online and to exploit participatory tools of Web.2.0, therefore a detailed content analysis of Latvian museums' web sites and activities SNS will be done in a future research.

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An Agenda for Designing Natural Interaction in a Museum Context

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"Everything that's already in the world when you're born is just normal; anything that gets invented between then and before you turn thirty is incredibly exciting and creative and with any luck you can make a career out of it; anything that gets invented after you're thirty is against the natural order of things and the beginning of the end of civilisation as we know it, until it's been around for about ten years, when it gradually turns out to be alright really."

Douglas Adams, 1999

Abstract

This paper introduces an agenda for designing "Natural Interaction" that originate in investigations into new digital technologies, embodiment, interaction-design and natural user interfaces. The agenda introduces four themes that seek to inform professionals working with communication and productivity about how current digital technologies could integrate and support a "Natural Interaction" approach to communication-, interaction-, and information-design. The themes are qualified through a case at Bangbo Museum in Frederikshavn, Denmark.

Introduction

One of the seminal texts in defining the discourses of HCI in the past 25 years is *"Understanding Computers and Cognition"* by Terry Winograd and Fernando Flores. The first chapters sketch how computers are being integrated into human activities and how the previously dominant *"rationalistic tradition"* is not the only one relevant to address the questions occurring *"when we recognize that in designing tools we are designing ways of being"* [Winograd 1986]. The understandings advocated by Winograd & Flores have largely been integrated into current practice and education around design of computer systems and interaction. However, computing has also grown more complex, distributed and embedded than foreseeable in 1986. The current manifestations and potentials of digital technology indicate that it is time to revisit the "humanising computing" agenda of Winograd and Flores.

Computing and digital technologies are no longer a novelty, but an integrated and fundamental part of most peoples lives and as the Douglas Adams quote indicate, then the generations born around 1986, have lived all their life with digital technologies and therefore take the presence and abilities of digital technologies for granted. Actually one could question if talking about *digital* technologies is relevant anymore.

My favourite anecdote to illustrate the coming of digital natives is about a toddler just capable of speaking, who had taken over the family iPad and gotten used to browse and manipulate images through gestures. One day a printed photograph was on a table and the toddler started gesturing on the image, but no reactions from the image – it maintained size, position, orientation, etc. So after a few attempts the toddler exclaimed her judgement over

the printed photograph: "*Broken!*" [Kelly 2011]. The age, use of language and previous iPad only experience with photographs indicates that the little girl did indeed think the printed photograph was broken as it did not exercise any of the expected usual capabilities. She saw the interactive and dynamic capabilities of the digital image as inherent properties of any image; the lack of these clearly being erroneous.

The four themes of this text represent an attempt at articulating an up to date agenda entitled "Natural Interaction". Natural Interaction is built on solutions that exploit the powers of digital technologies and support human presence, perception and cognition. See [Jacob 2008]. The agenda looks like this: Theme 1 address concrete technological possibilities. Theme 2 summarises a hermeneutic phenomenologically understanding of human presence and perception. Theme 3 address information as a design-material. Theme 4 address the consequences of Themes 1-3.

The Case

In 2010 two graduate students from ExperienceDesign at Aalborg University designed, implemented (and tested) a novel exhibition-component at the Bunker museum at Bangsbo Museum in Frederikshavn, Denmark. The component aims at communicating about the WW II area and in particular Bangsbo Fort and the danish resistance. Visitors are given an ID card which identifies them when interacting with or in proximity to elements of the exhibition. The component is designed as a game, in the sense that participants at the end of the event will be provided a score. Visitors must work in pairs. Initially they are provided information about the time of WWII in Denmark and the danish resistance. This is done while situated in the bunker-environment and a screen-projection of an actor playing the part of a danish resistance leader will then ask the participants to enter another bunker to solve tasks and collect information in a german bunker. In the german bunker there are artifacts and lifesize german soldier replicas and the bunker is equipped with various sensors that track and monitor the actions of the participants. In the german bunker there are artifacts and responsive lifesize german soldier replicas and the bunker is equipped with various sensors that track and monitor the actions of the participants. The collected information must be reported back to the resistance leader and together with information collected about their conduct in the german bunker, the score is calculated. [Maul 2010]. The thesis was awarded a 12, still a part of Bangsbo Fort and very popular.

Museums in transition (too)

Museums are very human – or they should be. They tell us about ourselves and allow us to explore who we are, the world we live in, how it became this way and maybe where we're heading. Therefore the activities and processes of communication, education, learning, exploration, etc. are at the heart of museumstrategies and –objectives [Muslov 2006].

Museumvisitors should experience a communicative continuity when moving from the outside world to the realm of a museum [Krippendorff 1989]. The Natural Interaction agenda reach beyond the context of museums and provide anchoring in the tendencies, potentials and understandings of contemporary computing. But due to their communicative objectives, then museums have the opportunity to build upon, extend and explore the tendencies, potentials and understandings of digital technology. As seen at Bangsbo Fort where some inspiration is found in computer games and the solution contributes to the understanding of what is possible when integrating digital technology.

The agenda is relevant to museums of all types and sizes because the considerations originate in interaction and interface design, which is basically about communication. Interactivity has been defined as various communicative modalities of power over content - does the consumer and/or producer control the content [Jensen 1997], [Preece 2007]. Museums communication at all levels; from the very subtle interaction with some element in the exhibition, to the overall purpose of the exhibition. And ideally these pieces of communication connect meaningfully while controlled by the visitors.

A challenge to the professional museum-communicator is therefore to properly understand digital technology before implementation. Because, as with any technology, then it affects the possibilities of designing and the potential understandings of the visitors. Donald Norman developed the theory of Designers conceptual model, System image and Users conceptual model. He explains how the designer expects the user to have or obtain the same understanding (the same model) as the designer put into her model, but in reality, then the user only sees the system image and shapes her conceptual model upon an interpretation of this [Norman 2002]. The theory very simply explains why the task of designing is a sensitive undertaking that require the designer to understand the components that constitutes a design and thus manifest the system image to the user.

Theme 1: Pervasive presence of information collection, information access and information processing

This theme is rooted in the perspective on computing known as ubiquitous or pervasive computing originally described by Mark Weiser of Xerox PARC [Weiser 1991]. Weiser focus on the consequences of the increasing (visible and invisible) presence of enabling technologies. The vision of ubiquitous computing might be one of the most successful predictions of how computing would evolve, but what is concretely the technological status and tendencies?

Digital, massproducible and economically accessible input- and output technologies have enabled a previously unaccessible level of detail in the design of digital interaction (eg. sensors). And there is a widespread presence of technologies that link information, people and places. The historian George Dyson, in a recent interview, estimated that the "*digital universe was expanding at the rate of 5 trillion bits per second*" [Kelly 2012]. How does that happen ?

The granularity for collecting, accessing and processing information in a digital format has increased dramatically. By granularity, I refer to how many technologies are digital (dependent on a digital chip to function) and I refer to the number and variety of activities they are part of. The terms collecting, accessing and processing should be understood in the broadest possible sense (including exchanging information) and are not limited to activities controlled by humans, but also those controlled by the devices themselves.

Soem examples: Image capture and presentation is digital and even used as an input technology (eg. QR codes). Audio playback and capture is digital and voicecontrol has seen commercial success. Touch is common for screen and other surface based input. Haptic technology tactile feedback is close to commercial introduction. Location technologies have created new types of communication through mashups and new activities like geocaching. Connectivity via mobile, WiFi and various types of close range communication (eg. keycards) are taken for granted. Location and connectivity creates mobility of data – anything, anytime, anywhere; and possibly anyhow because of cloud-computing making access only dependent on id and password. The Nintendo Wii introduced gesture-based interaction, but was

surpassed by Microsoft Kinect that require no controller to receive input from body-movements and gestures. Various interaction modalities are enabled by a multitude of sensors: accelerometers, gyros, light, sound and proximity detectors, compass, thermometer, fingerprint, retina and facial expression recognition. And other sensors monitor physiological data like heart rate and galvanic skin resistance. This recital only address hardware, while much digital technology actually happens in software. Email, Twitter, Facebook, and Youtube only have a digital existence and so have the hundredthousands of mobile apps.

Humans and animals used to be the only entities capable of collecting, accessing and processing information, but digital technologies now present the same capabilities. The physical world is getting digitised and we consume the world in this format. The granularity of collection, access and processing has reached a stage where digital seems to have become or is in the process of becoming the primary modus for mediated perception and interaction with the world. Eg. then the sensitivity of a smartphone accelerometer makes it possible to control a remotely operated helicopter and doctors perform surgery via camera and other digitally controlled tools. The amount of information collected and exchanged digitally enable the performance of these actions because they allow the operator to focus on the task and not the tool. The granularity of information available creates the possibility of a very close connectedness to the objective of the action and not the tools used to perform the action. Digital technologies makes the world perceptible to humans on human terms. Digital technologies turn information into a material and the bitbased nature of digital extends the possibilities of weaving a fabric from many and different sources. Bits are not, like atoms limited to a certain context, but enable new constellations and relations, not only among bits. Bits also allow atom-based artifacts to be enriched, altered or affected by information taken from other atom-based artifacts or contexts [Negroponte 1995] and [Ishii 1997].

The Bangsbo case could not be realised without the digital nature of the technology used. Wireless connected id cards that makes each visitor unique and likewise the information registered about movements and interactions. Various modalities for interacting with the resistance leader and objects and soldier replicas in the German bunker. And most of it happening without the visitors actively interacting with the technology. The technology is discreet and allow each visitor to have unique experience and get the feeling of being immersed into a different reality, but still based on the same perceptive and cognitive abilities used in the outside world. The game indeed does utilise the ability of pervasive presence of information collection, access and processing.

Theme 2: The body as interaction device

This theme looks at how we understand ourselves, our presence in the world and thus the requirements for the tools we design. The outset is the understanding of human presence in the world as physical "body-first" entities and not cartesian mind-based entities. The world is present and available before we perceive it [Gibson 1977] and we perceive it with our senses first and our intellect secondly [Dourish 2001].

This becomes relevant to the design of interaction as digital artifacts need not be manipulated via a proxy (eg. mouse and pointer), but could offer properties and affordances that address perception and reaction based on a wider set of senses and stimuli. Tools and artifacts should be ready-to-hand in the Heideggerian sense [Dourish 2001], [Winograd 1986]. Focus should be on the task to perform, not operation of the tool. When sneaking about in the German bunker then attention should be at moving quietly and swift, not to wake the

sleeping guard. Attention should not be at sweeping your ID-card to register presence in the room. I'm on a quest, not in a museum!

[Dourish 2001] is focused on embodiment which he views as the "*unifying principle for tangible and social computing*". He presents a definition of embodiment and embodied interaction that builds on a hermenutic phenomenological understanding of human activities and perception. The definition is build on the concepts of philosophers Husserl, Heidegger and Merleau-Ponty, sociologist Alfred Schutz, cognitive psychologist J.J. Gibson, Michael Polanyi and others. Dourish defines embodiment as: "*the property of our engagement with the world that allows us to make it meaningful*" and he goes on to define embodied interaction as: "*the creation, manipulation, and sharing of meaning through engaged interaction with artifacts*". These definitions reflect very well up against the perspectives presented by theme 1 and 3. The definitions have an implicit focus on information as the perception and interperation of information is also the source of meaning.

[Jacob 2008] presents the idea of Reality-Based Interaction based on a framework for describing human relation to the world. The framework introduces a very operationally oriented understanding of embodiment: Naïve Physics – human common sense knowledge of the world; Body Awareness & Skills – human attention on bodily presence and skills for controlling and coordinating the body; Environment Awareness & Skills – human sense of the surroundings and abilities to negotiate, manipulate and navigate this environment; Social Awareness & Skills – human attention to other people and skills for interacting with them.

The Bangsbo case does quite obviously only work because it is based on embodiment, but [Christensen 2007] is more interesting for this theme as the study compares three quite different attractions to computergames and provide findings on the role of bodily presence and interaction across three attractions. One attraction allow visitors to follow walkways in exotic environments with free-ranging animals. Another attraction is a classic art-museum with pieces exhibited on walls and pedestals and explanatory plaques. The third attraction is a large shopping-mall and store of stable goods. Both museums offer a museum-shop. The study found that the zoo, the shopping-mall and the museum-shops have integration of bodily interaction in common – and involves the components presented by the Reality-Based Interaction framework. The art-museum uses the body to move the mind around. This is not wrong from the perspective of traditional museum-communication, but it does not support how humans relate to the world and how the world is experienced. It could be argued that a traditional art-museum is embodied as you move around and use your eyes to percieve the rooms and objects. But the experience is primarily based on presupposed knowlege of the aesthetic, historic, cultural, etc. context in which the pieces should be understood. [Christensen 2007] compare the art-museum to an encyclopedia by. It's like walking in a book. This is fine, but the engaged audience is limited to those that accept the premises and if compared to the potentials of combining technological capabilities and the understanding of embodiment and considering how the Bangsbo case manages to simultaneously engage, involve and educate the visitors (without compromising the historical integrity), then the Natural Interaction agenda does indeed allow and encourage re-invention of communication at the classic art-museum. This however, may challenge the view of what is art and the line between entertainment and communication.

Theme 3: Re-understanding information in terms of presentation, representation, navigation, search & findability

Our relation and understanding of information is shaped by the presence we give information. As an example, then mouse-based interaction (direct manipulation) and the graphic desktop metaphor have provided the image of file-containers as folders, actions and processes as taking place in closed areas (called windows) and tools as text-based lists or images (called icons). The desktop metaphor is fine – eg. from a standpoint of familiarity, efficiency and productivity, but if done differently then other aspects of information and the relations hereof would occur. A different metaphor would have yielded other modes of presentation, other representations, etc. But the desktop metaphor was the one selected at Xerox PARC and later duplicated by the Macintosh and Microsoft operating systems. Basically, then metaphors like the computer desktop are abstract skeuomorphism. Skeuomorphism has some advantages, but it also sustain the properties of the referenced object and influence expectations for the interaction. I believe we need to revisit the digital material and understand digital information and interaction on the terms of its binary nature. What characterises digital ?

[Wigor 2011] call attention to the distinct opportunity of digital interaction that they call "*Super realism*". The digital design may mimick some trait of reality, but it may also add non-real capabilities; capabilities that build upon and extend the mimicked model. Eg. a list of objects on a touch-screen is scrolled by a flick gesture, but the list will move faster and further than if the same flicking power was applied to a real world rolodex. The fast scrolling is perfectly acceptable and comprehensible, but has capabilities far beyond the original real world model. So there is a skeuomorphism in the reference to the rolodex, but the digital nature of the design allow an extension and re-invention, that contains the positive sides of each parent. Arthur C. Clarke said: "*Any sufficiently advanced technology is indistinguishable from magic*" I would paraphrase him and say: "*Any sufficiently advanced technology is indistinguishable from reality*".

When designing with the digital material then we should consider how it is *presented*: the order and structure; how it is *re-presented*: the shapes, colours, sounds, movements, tactility, etc.; the *navigation*: the relations that enable travel and support of technical means of interaction (touch, audio, spacial orientation, haptics, etc.); *searchability*: supporting different search strategies [Morville 2010] and *findability*: how to signify the information, so that it can be identified and found if relevant and required [Morville 2005].

This theme connect to considerations about why people visit a museum and how they use the museum. What is interesting and why is it interesting? How is something made interesting? What information should be accessible and in which format? I supervised a group of students analysing the new "Expedition Northsee" exhibition at Nordsøen Oceanarium, Denmark. The students found that few visitors actually got involved into the intended experience, but had a good experience anyhow. The exhibition design is a failure on the conceptual level, but from the visitors perspective it is successful. Among other things because both adults and children were allowed to browse and skip around, they needed not follow the experience design. The Bangsbo case is similar as it use digital technology to create an environment, but no structure. It also supports the possibility that there might be as many answers as there are visitors, but the digital material allow a dynamic design with many entry-points to the information in the game. Designing for search, findability and navigation is as relevant to the Bangsbo case as it is to the art-museum. Presentation and re-presentation of information should be dynamic and reflect who, why, and where. Information is a material, not a goal. Hypertext, mashups and

super realism will enable novel modes of presentation, re-presentation, navigation, findability and search.

Theme 4: Transgression of realities from virtual to real and real to virtual

This theme is both a consequence of the three other themes and a theme in itself.

As a theme in itself, then it should be seen as an ontological and epistemological approach that questions the concept of real. Digital is often in science and popular debate equated with virtual and seen as the opposite of physically real. Real as in "occurring in the physical multidimensional world of atoms". Virtual is usually conceptualised as artificial or "not really existing". But many phenomenons only exist virtually – eg. digital images, Facebook and mobile text-messages – and this (so-called) virtual presence is their real and original instantiation. Does the concept of virtual prevent a proper understanding of these phenomenons? I think not. Their users treat them on the terms of their actual existence and manifestation – as digital phenomenons that are dynamic, hyperlinked, superreal and weaved together in a fabric of many bitbased sources. Nobody prints a Facebook update – to make it more real or the contents more reliable, but they happily click, forward, comment and "like" updates, links, images, videos, etc. Facebook is as real as a daguerreotype – it's just another technology - another format of information. They even share the feature of handheld mobility: a daguerreotype is a glassplate and so is Facebook when viewed on a touchscreend smartphone or tablet. In some respect, then Facebook is even more real than a daguerreotype, because the latter is actually a copy of reality. A unique copy of those few seconds of reality. Facebook is dynamic and reflects the actions of the participants. It is always new. Facebook is real-time reality, but a fairly new material for reality.

So, it sounds as if phenomenons that originate in the digital realm are perceived as real and treated as real, but previously atom-based technologies, that have turned digital or are in the process are perceived as virtual – or atleast as not rightly real. Unless of course you're a toddler who has never seen a printed photograph, then the printed photograph is broken. in order to properly understand and utilise the potentials of the digital material then an ontological and epistemological perspective that understand digital phenomenons as real must be attained.

Seeing this theme as a consequence of the three other themes, constitute a movement that will consequently create a transgression between real and virtual which will eventually turn the line between real and virtual into an invisible two-way contium. And by defining *transgression* as an individual theme I hope to push this movement, which I see as inevitable. It is a movement that is already happening and very eloquently described by [Pine 2011], who presents a model called the *Multiverse*. The model is meant to inspire new thinking about how digital and physical realities relate to each other and what are the possibilities of these realities. The model is 3 dimensional and consist of three axes: Matter (Atoms) vs. No-Matter (Bits); Space (Real) vs. No-Space (Virtual) and Time (Actual) vs. No-Time (Autonomous). These axes creates a cube of 8 different -verses. Each with different properties depending on the defining axes. This model brilliantly shows how the transgression is possible and already happening. And it illustrates the role of digital technology and therefore also why the agenda must now focus on understanding this material that has been rapidly maturing for 20 years.

The Bangsbo case is a transgression. The resistance leader is bits, but the task he orders can only be solved among atoms in real time. The actants act as they always do, but monitored

and their actions collected, processed and mashed up with the result of their quest. The bunkers, guard replicas and objects found, seen and touched are atoms of historical reference and used to concretise and immerse the visitors into a story introduced via digital media. In the multiverse model of [Pine 2011], the Bangsbo solution would qualify as "Warped reality" as space and matter are significant, whereas time is that of the past. Clever use of digital technologies creates a new reality that warp the participants back to the Danish resistance of WWII. Those that created the Bangsbo solution were not hesitant about the digital material and focused on the idea, not the technology.

Conclusion

The four themes of Natural Interaction are circular in the sense that one would not exist without the other. They describe an approach to understand the consequences of digital in an equally philosophical and concrete sense. Pursuing the agenda will reveal a spiral: the more we transgress realities the closer we get to creating designs that support embodiment. And the closer we get to supporting embodiment, the more integrated must our understanding and handling of information have become.

The crux of the agenda is theme 3. Theme 3 defines understanding of digital as a design-material. This understanding is based on an acceptance of digital phenomena as just as real as atom-based phenomena (theme 4); and it is based on a final break with the split between mind and body established in the late renaissance (theme 2); and it is based on the binary nature of digital technologies that enable constellations not previously possible (theme 1).

But digital technology begins and ends in the physical universe. Atoms are captured and converted to bits, processed and presented through modalities that allow consumption by atom-oriented humans. The human approach to the world is rooted in our physical presence and Natural Interaction is the next agenda for computing; and this will help us better tell our stories.

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Web, SNS and migration heritage: Connecting with source communities

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Work in progress – please do not quote

Web, SNS and migration heritage: Connecting with source communities

Museums in Western Europe are challenged by increased diversity within the populations that make up their potential audiences. Many museums of cultural history now acknowledge the culture of ethnic minority groups as an important subject in multiethnic societies. Themes as how to represent migration memories and colonial history have also gained attention within Museum Studies. For instance, *Museum International* devoted a themed issue to migration museums (Vol. 59, No. 1-2, 2007), and anthologies with titles such as *Museums on Postcolonial Europe* (Thomas 2010) and *Migration and Memory: Representations of Migration in Europe since 1960* (Hintermann and Johansson 2010) have been published¹. In some countries, as for instance United Kingdom, museums have worked with cultural diversity, migration and postcolonialism for a long time, but in other contexts these subjects are newer; as in the case of Denmark, where immigrants have until recently been relatively invisible in museums (Kjørup, 2008).

These developments within museum practices are often discussed in terms of how to promote cross-cultural understanding through museum exhibitions (i.e. Sandell 2007). Another central issue is the question of how to collaborate with *source communities*, understood as “groups in the past when artefacts were collected, as well as their descendants today” (Peers & Brown, 2003, p. 2). The concept should be seen as being relevant both in relation to migrants and to groups that have not migrated, but whose culture is visible in European collections. Moreover, since collections of migration heritage and postcolonial history are presently under construction at many museums, collaboration with *source communities* does not adhere only to “old” collections in ethnographic museums, but are also relevant to ongoing collection practices. An important theme in relation to source communities is ownership and repatriation of cultural objects (see i.e. Pentz, 2008). Furthermore, working with source communities implies a two-way information process where groups are given access to memory materials and the expertise of museum staff but are at the same time recognized as able to contribute with valuable perspectives on their own culture (Peers & Brown, 2003, p.1).

¹ See also Goodnow & Akman, 2008.

In my current work I am examining how the present focus within Museum Studies on migration and postcolonialism can be extended to include museums' use of online resources. Web exhibitions, digitized collections, blogs and social network sites all offer new possibilities for connecting and collaborating with source communities. Of course this idea is not all new, and important work has already been done. Andrew Flinn has described a number of projects where museums and archives use social software and participatory software for "harnessing and sharing community knowledge" (2010, p.43). Katherine Goodnow (2010) has also described a variety of projects. She points out how online resources such as web exhibitions have potential for reaching new audiences, and also have increased sustainability since websites are likely to be available for much longer than temporary exhibitions.

A comparative approach that includes museums of different types and sizes is crucial here, since museums can have quite different backgrounds for representing migration history and also very different relations to their source communities. Some museums are specialized in migration and focus on many different groups; as for instance the Cité nationale de l'histoire de l'immigration in Paris (see i.e. Stevens, 2010; Museum International, 2007). Another type is minority museums that focus on a specific group; e.g. the Danish Jewish Museum (Laursen, 2008; Kjørup, 2008). And then there is a variety of major museums with collections originating from groups that used to live faraway and could be represented as exotic Others but who, due to migration processes, have become present in the immediate context of the museum; for instance Victoria and Albert Museum in London (Nightingale & Swallow, 2003)².

Big museums will usually have more resources (both in terms of finances and staff) and will thus be better capable of creating advanced Web exhibitions and experimenting with participatory software. Such bigger museums may also have staff, which is specialized in digital communication. Small, specialized minority museums may, however, have the advantage of a close relationship with their source community and of deeper knowledge about its memory politics and sensitive issues. This becomes important in order to use digital resources in a way that are actually meaningful for the community in question. For a larger museum, especially if it has a history as a former colonial museum, it may be more difficult to the gain the trust of migrant communities, and such a museum

²These examples are merely chosen to exemplify differences between museums that might find a need to collaborate with migrant communities, not because the museums have worked especially with web resources to reach communities.

could benefit from the experiences of smaller museums. A collaborative research agenda could further dialogues between different types of museums. As pointed out by Laura Peers and Alison K. Brown: (...) museums may wish to demonstrate their willingness to adapt and to facilitate meeting the needs of source communities for intellectual and political reasons, but only some museums – the larger ones, and often the university museums – will have the staff resources and impetus to publish about their projects and experiences” (2003, p.15).

In collaboration with PhD-fellow Laura Schütze (University of Copenhagen) I am at present doing case studies of the use of Web and social network sites at three very different museums.

Tropenmuseum

The first museum we are examining is the Tropenmuseum in Amsterdam, the Netherlands. This is an example of a major museum that was built as a colonial museum (opened 1926). The museum was given its present name in 1950, after the Dutch had been forced to acknowledge Indonesia’s independence in 1949. According to Robert Aldrich, colonial history was “largely erased” from the exhibitions for many years, but today the museum has a ”thorough and thoughtful” approach to this part of Dutch history (2010, p. 24- 25). The museum has a large website and parts of the museum’s collection are accessible through a variety of web based databases (i.e. the museum’s own database, Virtual collection of Masterpieces and Wikimedia Commons). When it comes to social network sites the museum is present on YouTube, Flickr, Facebook and Twitter. Furthermore curators have been blogging about their work. Since the museum has a broad ethnographical profile and is not only focusing on migration and minority groups in the Netherland, the museum could potentially connect with a wide variety of source communities both in the Netherlands and beyond. Just one example of how the museum uses social media to acknowledge different groups is this tweet from the museum’s Twitter-stream³: “#didyouknowthat it is today in #Surinam ‘the day of Chinese immigration?’” (orig. wording in Dutch: “#wistjedat het vandaag in #Suriname ‘dag van Chinese immigratie’ is?”). This tweet can both be read as general information to a broader public and as acknowledging of the Chinese-Surinamese minority in the Netherlands, through simply showing that the museum is aware of their existence.

In our present work we will focus on the use of social media in relation to one specific exhibition at Tropenmuseum. In 2010 the museum held an exhibition of photographs by Leonard Freed (1929-

³ Tropenmuseum’s Twitter-stream had 2850 followers on March 16, 2012. The museum primarily tweets in Dutch although some tweets are in English.

2006) an acclaimed American photographer that was a member of the prestigious photographic cooperative Magnum Photos (from 1972). The special exhibition showed photographs from the period 1958-1962 that portray postcolonial migrants arriving from Indonesia. The museum's exhibition of these early Freed-photographs may be said to have an element of visual repatriation, since the photographs are shown in the context, where they were originally taken, and is thereby reinserted in contemporary Dutch discourses on postcolonial cultural memory work. In order to collect information about persons in the photographs curators at the museums experimented with using blogpost, Flickr, Facebook and Twitter as well as "old media" in order to reach source communities. Through analysing SNS-interaction about the photographs and interviewing staff at the museum, we will discuss this exhibition as a form of visual repatriation (Edwards 2003)

Immigrantmuseet

The second museum is Immigrantmuseet (Danish Immigrant Museum) located in Farum, Denmark. This museum is an example of a small museum with a broad approach to migration history (Hermansen & Møller, 2007). The physical exhibition has been totally redesigned after the museum has moved to new locations and the new exhibition opened on January 29 2012⁴. The long process of redesigning and building the exhibition made the museum staff aware of the possibility of increasing visibility through the website and through the use of Facebook. The museum has also experimented with blogging about events at the museum, but since blogging can be quite time consuming, Facebook increasingly seems to be taking this function. However, the digital newsletter remains important in order to reach audience groups (especially elderly people) that are not using Facebook.

The website has been used to develop themes for the permanent exhibition, and furthermore online exhibitions on specific groups have been developed. The museum has collaborated with source communities in order to collect material and life stories for these exhibitions. We will focus especially on an online exhibition about the historical presence of Roma and travellers⁵, which combines text, photographs, audio clips and a film from 1962-64 that follows the movement of travellers from wagon-homes to apartments. This multimodal exhibition will be examined as an example of digital repatriation of memory products.

⁴ Laura Schütze is currently analysing this exhibition as part of her PhD-thesis.

⁵ <http://www.immigrantmuseet.dk/index.php?page=roamer-og-rejsende>

Museum Maluku

The third and last museum is a small, minority museum that has experience with close collaboration with one specific source community. Museum Maluku in Utrecht, the Netherlands, represents the history and culture of the Dutch-Moluccan community. In recent years Museum Maluku's staff has, with the help of interns and volunteers, carried out several digitizing projects in order to make the museum's extensive collection of memory materials accessible to Dutch-Moluccans as well as to the general public (for description of some of these projects see Marselis 2011). The mission of the museum is "to collect, to preserve, to research and to present the material and immaterial heritage of the Dutch-Moluccan community in the Netherlands". Furthermore, the vision statement describes the Moluccan community as "an integral part of Dutch society while at the same time retaining its unique characteristics and strong ties to the area of origin, the Moluccas. The heritage of Moluccans reflects this position"⁶. The museum can be said to interpret the Dutch-Moluccan community's situation as a case of *simultaneity*, which implies that enduring transnational ties are not incompatible with integration in the country of settlement (Levitt and Glick Schiller, 2003). The museum building in Utrecht contains a permanent historical exhibition and a knowledge centre. Furthermore, MuMa stimulates contemporary Moluccan cultural expressions through temporary exhibitions and cultural events. The website is crucial in order to tell the public about exhibitions and events going on, but is also used to make users aware of media texts about Moluccans in other media. Hereby, MuMa acknowledges that that memory work of the Dutch-Moluccans is going on in many different forums. Richard Sandell has proposed that museums' exhibitions should be seen as resources that exist alongside others in the broader mediascape, and that users' interpretative processes will draw on a diversity of resources (2007, p. 24 & 93). This positioning of the museums in a wider mediascape is also visible through the museums postings on *Facebook*.

Museum Maluku and Facebook

In our current work we are focusing on the museum's use of Facebook. As is the case with many other museums, Facebook is used to communicate about exhibitions and events to a broader public, but furthermore Museum Maluku's Facebook-profile has an important role in relation to the source community. It is used to communicate with the Dutch-Moluccan community and acknowledge cultural events and memory of this group. But Facebook postings are also Facebook-postings are

⁶ Mission and vision statements at the museum website (www.museum-maluku.nl , accessed July 29 2010)

also used to articulate ongoing relations to the Moluccan Islands (today part of Indonesia) and it has the potential to connect the museum to Moluccans living outside of the Netherlands.

Museum Maluku had on March 16 2012, 9287 friends/followers on Facebook, which might not sound like a lot but is compared to some other museums quite a lot. For instance The Danish National Museum had 4765, Tropenmuseum (Amsterdam) had 2758, and the Danish Immigrant Museum had 528. The internationally very well known Anne Frank House had 19.860, and was running a campaign in order to reach 25.000. So for a small quite specialised museum, Museum Maluku seems to have a well-established presence on Facebook.

During my research about the museum's strategies of digitization I have regularly been in contact with information manager Wigard. When I first interviewed her in 2008 she expressed concern about the museums' Facebook-presence, as something that was hard to handle. While the museum was primarily posting in Dutch, users from Indonesia would post messages on the wall in Baha Indonesia or Moluccan Malais, and often these messages would have nothing to do with the museum. She described the museum's activities on Facebook as a problem since it was so hard to control. Since then, the museum seems to have gained more experience on how to use code-switching positively and thereby acknowledge that persons outside the Dutch context can be interested in what is going on at the museum. The museum has made advantage of the "push media"-effect of Facebook-postings - meaning that information about heritage projects and cultural events could be "pushed" towards the museum's friends/followers. Such postings are sometimes done in English, so that "friends" abroad can know what is going on. Even if they cannot be present at the museum, they might get a feel of the events through photos and YouTube-videos.

Moreover, Facebook is used for more purely phatic communication for instance through posting a bilingual greeting to Muslim Facebook-friends at Eid that marks the end of the Ramadan-month (illustration 1). While most Dutch-Moluccans are Christians the museum hereby signals the diversity within the source community – in this case both users commenting are from the Indonesian context. In a similar way Mother's Day and New Year are marked – often accompanied by beautiful photographs from the Moluccan islands. In this way museum staff seems to have accepted that "irrelevant postings" in the sense of not having anything to do with activities at the museum may be important in order to maintain a network.



Illustration 1

Facebook is also used to make “friends/followers” aware of media texts in the Dutch context and for instance a television documentary, where the Dutch writer, Adrian van Dis, who grew up in Indonesia and have written about this background, travels in Indonesia. The museum reminds their Facebook-followers that the programme will be screened tonight, and the following day invites them to comment on the documentary (Illustration 2).



Museum Maluku has a long tradition of collaborating with the Dutch-Moluccan community in relation to photographs within the museum collection. On a regular basis the museum receives new photographs and often these are posted on the website and the Dutch-Moluccan community is asked

to help identify place and persons. Facebook serves as a convenient platform for making followers aware of new photographs and draw users towards the website, where the rest of the photographs are then posted. This type of work will also be discussed in terms of visual repatriation.



Brief ending:

At present we are still in the process of collecting material and interviewing staff at the museums, so this paper has mainly been a way of presenting our project.

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Issues involved with research while using a communicational device to understand children's appropriation of the exhibition via museum experiences in their free time

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Abstract

Our doctoral research aims to take into account the interpretive reasoning of children via their overall visit experience, taking into consideration all dimensions that affect them. It is thus interesting to examine the relationship that the young visitors establish with the exhibit (the objects, activities, spaces, and even the institution) through an empirical methodological process based on an ethnographic approach.

We have designed a methodological communicational device based on mediation : "the simulation of the role of the guide" for the researcher. The analysis of the children's accounts enabled us to work out frameworks of children's interpretation and point out four "children-interpreters" figures depending on their appropriation method.

Problematics and context of research

Falling within the field of cultural practices, our doctoral research focuses on the museal experience of children, particularly their way of understanding exhibitions.

Museums are part of the non-formal education sector compared to institutions of formal instruction such as schools (Jacobi and Coppey, 1995). Studying the child's visit in an leisure context, as part of a family outing, enabled us to better focus on the non-formal nature of this activity as this might not be observable in a formal school outing.

We will be concentrating on museum exhibitions aimed at raising children's awareness of the sciences, because these have already been targeted towards a young audience. This is illustrated by a large body of research which has been carried out in didactics, sociology, behavioural psychology, social psychology and educational science and projects such as the Cité des Enfants in the Cité des Sciences et de l'Industrie, in France,

which is built on the same guiding principles as the Exploratorium in San Francisco. It is, therefore, possible to take into account and benefit from the advances made by research carried out in these fields ¹.

We have chosen to study science museums that make scientific knowledge available to the general public by meeting their specific intellectual and social demands. Their roles and forms of communication will necessarily evolve. Science museums are also the only ones to allow children to touch and handle models and have an active “hands-on” experience.

In the context mentioned above, attempting to understand the young visitors’ processes of interpretation leads us to the very core of some approaches of mediation which study the active part played by the public in the construction of meaning.

As far as the studying of a visit by our subjects is concerned, we have chosen to adopt the phenomenological approach that studies the relation between visitors and their environment. This approach will help us highlight the concept as developed by the philosopher J. Dewey of the experience as the interactivity of the individual with his environment. This is a distinguishing factor when compared to existing research which opens up a plural dimension to the experience but which is also limited to the learning aspect on which it focuses (cf. the works of Falk and Dierking).

Following the publication of “*Interpreting our Heritage*” by F. Tilden (1957) which favoured an interpretation that was specific to children, we can say that interpretation by children ² is a field of museology that merits further study by researchers.

Being interested in the question of the public sphere means researching children’s “*points of view*” as revealed by them as young interpreters. This, in turn, will allow us to understand their interpretative processes which are helped by the exhibition and which then help them form their vision of the world (or the “*Utopian World*” according to J. Davallon).

Creation of a communicative method in order to study a little understood group, that of child-visitors

¹ A large body of work in the field of science acquisition has come out of the work on museology, incorporating the questions about child behaviour and their beliefs about scientific concepts as well as their cognitive behaviour.

² «Interpretation addressed to children (say, up to the age of twelve) should not be a dilution of the presentation to adults, but should follow a fundamentally different approach. To be at its best it will require a separate program » (Tilden, 1957, 47).

« Another characteristic very pronounced in younger children [...] is the love of personal examination through three senses other than sight and hearing » (Tilden, 1957 : 50).

Studying the phenomenon of a visit means observing the delicate way in which young visitors “construct meaning” out of what they see, as explained by the philosopher M. de Certeau. He suggests giving back the power of expression to “ordinary” people.

The importance of expression was pointed out by the authors I. Danic, J. Delalande and P. Rayou (2006 : 96). This is because it reveals the point of view of the child and sheds light on situations and interior processes. They also noted that the chance of expressing themselves that was given to the children was appreciated by them. Attention should also be given to the relationship with the researcher who shows trust in them by allowing them to express themselves.

What is unique here is that our ethnographic approach aims to get closer to the on-going processes in order to be able to understand the signs that the children give. This is known as the qualitative approach which is based on an empirical methodological process developed in a comprehensive perspective ³ which seems to us to be the best-suited for studying the experience.

We have attempted to employ a range of methods that are usually used in museology to better understand the public, such as following up on observations and interviews at the end of the visit. But our results have not enabled us to account for all of the dimensions that are included in the experience of the visit. We therefore looked for a method that might be appropriate and for this we turned to the concept of methodological device.

Mediation and communication for a communicational methodological approach

Within the framework of cultural mediation, understanding the phenomenon of the visit as a phenomenon of communication between the exhibition and the visitors is possible if we go through the processes of communication in the visit, in particular the processes of interpretation and/or appropriation of the message highlighted by the intermediary of a communication situation.

It seems therefore, that, if we consider our device in a communication situation, we will be able to study on-going processes. This is why we have chosen the communicational approach to develop our methodological device. Studying interpretative subjects while exploring the process that helps in the construction of meaning draws us closer to the notion of mediation (Gellereau, 2007) ⁴, one that is often associated with that of the

³ Comprehensive approach : « *Intellectual positioning (epistemological positioning) [...] which postulates that every man can have an in-depth understanding of what another individual actually lives through and feels (human intercomprehension)* » (Mucchielli, 2002 : 29-33).

⁴ “In the context of construction of meaning, the notion [mediation] postulates that the meaning is not intrinsic to objects but is built up by subjects during interpretation processes, through languages and devices” (Gellereau, 2007 : 29).

device. In order to better understand the interpretative processes of our young visitors, we will look at mediation from the point of view of the construction of meaning. For A. Klein et J.-L. Brackelaire (1999 : 68), the mediation space, using the device as an intermediary, becomes a place of exchanges and of incorporation : « *the "devices" [...] constitute spaces of revival and production of experience and hence, implication and incorporation in social life* » (in a psychoanalytical context). Going back to the concept of the device comes from this necessity of creating and of having spaces of (re)creation and of the appropriation of experience by implicating us in the exchange.

That's why we have chosen a communication situation, that of the "mediator" between the exhibition and the visitor. We invite the child to take on the role of guide for the researcher. This is the communicational methodological device of the simulation of the role of the "guide" that we will develop in depth stressing the fundamentals of the notion of the device. Then we will present its application and the results that it generated thanks to the notion of mediation.

Device : concept and characteristics

The diversity of approaches from various disciplines such as communication, sociology and philosophy is seen in the review "*Hermès*"⁵. One of its issues is called "*The device, between use and concept*" (1999). It offers a compact study of various approaches to this subject which inspired us.

The definition of the dictionary "*le Trésor de la Langue Française*" for the term "*device*" in the technical and widely-used sense : "*Manner in which parts of an appliance or a machine are arranged with a precise objective*" and hence "*a set of elements arranged with a set objective*"⁶. A link with the technique is thus established, a domain where the concept comes from and which explains the frequent use of this notion of the device linked to that of technique⁷.

The device and how it is anchored to an environment

According to A. Berten, the concept of device can help us "*overcome the dichotomy between technical and symbolic aspects, between dissociation and immediacy, between*

⁵ "Le dispositif : entre usage et concept", n° 25. Hermès. CNRS éditions. 1999.

⁶ Trésor de la langue Française. Definition of « Dispositif ». Accessible on internet : <http://atilf.atilf.fr/dendien/scripts/tlfiv5/advanced.exe?s=434511330>.

⁷ According to Peeters and Meunier, this notion mainly comes from technically-oriented domains as technicians have to operate organised structures. Moreover, that use may also come from our increasingly technical environment (Peeters, Meunier, 1999 : 16).

activity and passivity". For him, working out the device is " *devising the way the individual is most likely to place himself in his environment, to tame it, to alter it, to absorb it, to regurgitate it*" (Berten, 1999 : 43). In the case of the exhibition, where there is a combination of technical factors (staging the world represented by the authors), and symbolic elements (the world that the visitors themselves delineate or the "Utopian World" according to J. Davallon), this concept of environment would be entirely relevant here.

If this environment can be defined both by the resources presented and by the potentialities of the actions that can be achieved through them and/or through their organisation, then, focussing on the device amounts to examining more closely the positions that individuals take up in this environment, how they tame it or alter it, and how they conquer it (Berten, 199 : 39) ⁸. In other words looking at their experience with the device.

It might be tempting to connect these operations of dynamics of construction of meaning triggered in the performance space (R. Silverstone)⁹, where the actors can use their own subjectivity, compare their points of view and thence make adjustments. Studying the procedures used in the performance space would be the same as thinking about the device in the exhibition.

The device as the place of mediation of knowledge

The device is also described by researchers as the place for mediations, with a range of potential abilities to be developed. A. Berten considers that the familiarity with objects and people establishes an "*affective and physical*" mediation between oneself and the world, between oneself and other people". As stated in Berten (1999 : 39), the device is a sort of interface which leads to the concept of mediation.

For sociologists A. Hennion, S. Maisonneuve, E. Gomart (2000 : 168) " *The real power of devices resides in their capacities to generate a wide range of skills which highlight the productive character of the device*".

The device as a potential framework of appropriation of experience

⁸ This environment constitutes « *a congenial world which we approach, tame, modify, create, and admire, which is a source of nurture and pleasure* » as stated in A. Berten (1999 : 39).

⁹ Discursive spaces : spaces of rhetoric, play and performance

In their article A. Klein and Jean-Luc Brackelaire point out that devices might raise the issue of a "*culturally necessary mediation*" for people to be able to have a good hold on all the dimensions of their own life, i.e., an ability "*to link themselves to the various worlds they evolve in*". They add that "*this quest for places where experience and involvement in social life may be resumed can be revealed by the device and materialised by looking for frameworks or settings in which the subjects can implement the dynamics of experience, and set the ground rules for involvement and achievement*" (Klein, Brackelaire, 1999 : 69) following E. Goffman whose research work focuses on frameworks through which we perceive reality as a social construction (initially a G. Bateson's concept). This sociologist sought to describe how subjective experience of an individual is organized, how they build the "reality" of the world.

Through the use of a communicational approach, the device, through its content, renders resources available and can enable actions to take place, thus crystallizing the experience in an environment. The way in which different operations come together in order to carry out a task can thus be shown. It is thus possible to detect how the users learn to use the device, modify it, or take it on board by giving it some of their own subjectivity. This potential to elicit skills makes it a knowledge mediation space. The qualities expected of the device are to become a potential framework for the updating of how the experience is appropriated by the children through the different operations that it encourages.

THE METHODOLOGICAL COMMUNICATIONAL DEVICE

The innovative aspect of the methodological device : setting up the role of the child as a guide.

We are now looking to the setting up procedures of the methodological communicational device (assigning the child the role of a guide), the researcher's place in the process, and the role that he can play in bringing to light the children's performance.

This innovative methodological device is part of an overall protocol which re-uses from previously experienced methods, the elements which can provide new insight into the children's behaviour, their ways of taking this museum environment into account, with a view to appropriating it.

The methodological path thus first means carrying out the discreet tracking of visits ¹⁰, while observing the children's reactions as they visit the exhibition, as well as their family

¹⁰ Tracking of visits : note-writing, sound recording, path tracking notes

interactions. It also involves taking into account the pedagogical aid (if any) provided by the museum itself.

At the end of the family visit, the researcher suggests to the child that he become the researcher's own guide. On making contact with the family, the researcher endeavours to earn the parents' trust, and ensure that they realize the role the child is assigned is to show the researcher round the exhibition alone. The role of mediator allows the guide to take control and gain access to the child's point of view.

The "guided visit" brings to light interpretation in the course of action and requests both speech and the development of the guide's thought (visiting is both a journey and a path) in the public space of the exhibition. This assignment as a guide results in mediations through narratives and dialogues between the guide and the researcher, an opportunity for them to relate and communicate. This method highlights the operations of interpretation, understanding and appropriation, in an attempt to make sense of the exhibition.

In order to understand how the children approach the various museum mediations and take up the exhibition, the mini-lab devised in assigning them the role of guide allows us to appreciate their interpretative strategies, hence, the construction of their relationship with the exhibition.

The interview at the end of the "guided" visit enables us to know if the children are used to visiting museums, if they have been here before, and if they already have had some familiarity with the current theme.

Building up the exploratory field

This exploratory research involves 19 children for the two exhibitions. These children haven't been through a pre-selection process. They are being observed as they step into the exhibition room, and their age is evaluated to ensure that they fit into the expected age group of 7-14 years old.

As far as possible, depending on the factors of the visit (mode of accompaniment of family members, their prior knowledge of the theme, their own culture, including museum culture) we seek to identify the constituents which play a role in the children's interpretation, and not to quantify the part each element plays. We concentrate upon how they articulate or interfere with the children's appropriation process of the exhibition.

The choice of temporary child-centred thematic exhibitions, in the field of Science.

The sites chosen were two temporary exhibitions in Paris which both presented themes with a narrative framework which served as a thread running through the visit, aiming at raising children's scientific awareness.

The four rooms in the first exhibition, "*The Feast of the Dinosaurs*" at The Palais de la Découverte, relied on emotional reactions thanks to its life-sized dinosaurs and its vivid sound effects simulating their cries. That exhibit also included a learning space center showing more information on dinosaurs (including T.Rex) and presented the paleontologist's profession.

The second exhibition "*Shadow & Light*" at the Cité des Enfants, part of the Cité des Sciences et de l'Industrie, provided a wide range of play activities with light sources and the creation of shadows, stressing the permanent reference to "*Archibald's theory*"¹¹ regarding the three constituents required to produce a shadow : a light source, an object and a surface.

The staging was done through the metaphor of the house of Archibald house, who was passionate about shadows, aimed at increasing public awareness through the artistic dimensions of the exhibition.

THE ANALYSIS METHOD AND THE CHALLENGES OF MEDIATION

E. Goffman's research works (1991) helped us describe how the children work out their interpretation framework to build the "*Utopian World*" of the exhibition. These various frameworks depend on individuals and bring out different interpretations of the same reality. In our current research, we could point them out through the children's accounts.

The analysis of accounts given by the children-mediators in their roles as guides

Taking inspiration from the guided visits presented by M. Gellereau (2005), we focus our analysis of the children's narratives on the relations with objects, places, and the

¹¹ Archibald is a fictitious character, designed for the purpose of the exhibition and a display on a blackboard reads : "Archibald's theory : to create a shadow, you need a light source, an object in the light and a surface where the shadow can be seen".

institution. We will also highlight the relationship to knowledge, within the framework of raising children's awareness to science.

If, as Colette Dufresne-Tassé's research work might have led us to hope, we might have expected that the children's would adopt the narrative thread of the exhibition. Unfortunately that did not happen (Dufresne-Tassé, 2001). The children mainly limited themselves to describing what was on show. For the study of the children's descriptions, the dictionary of discourse analysis by P. Charaudeau and D. Mainguenu (2002) refers back to the works of J.-M. Adam et F. Revaz (1996) concerning the seven operations in the description process.

The children's construction of space consists in situating objects or their action, which refers either to the topic anchor operation, i.e. the initial naming of the object to be described, or the final labelling at the end of the sequence ¹².

It also consists in stating a number of properties, (the aspectualisation operation) either by the fragmentation of the object into components or by the characterization of the whole or parts of the process involved. Although the discourse object generally relies on individuals, here, concerning the exhibition, it actually relies on "objects". This space construction is achieved in accordance with a space-time axis. Studying objects within that space-time framework is also an operation in itself. Descriptions can also involve analogy relationships, *"by a comparative or metaphoric assimilation which allows a description of the whole or parts of the process involved, by studying their relation with other objects"*. Re-naming the whole or parts of the process involved can only be achieved at the end of the operation.

Those are the different approaches that guided us through our analysis of the children's narratives.

On the emergence of children-interpreters patterns

This device has enabled us to clarify the construction of mediation by children playing the role of guides. The analysis has enabled us to distinguish between four types of children-interpreters and how each of them illustrates different exhibition appropriation methods.

The first is the figure of the learner child-interpreter, seeking knowledge, using three approaches ; observation or experimentation, thorough knowledge of the exhibition, which can go so far as grasping the designers' intentions.

The second type of visitor is the busy bee collector, acting as an ever-inquisitive

¹² In such a case, it is an answer to the implicit question : « what is all about ? »

explorer, eager for knowledge whether it is related to the exhibition or not.

Third, the "sharer" type characterizes the child who understands the exhibition through the relationships with other visitors, and by sharing knowledge and aesthetic feelings, enabling co-construction of meaning to take place.

The "enthusiastic inventor" defines a fourth original category of children who having already a passionate interest in the subject, makes this the thread of the visit. This passion can be pre-existing, related to the children's usual leisure-time activities, or can be triggered by the exhibition's scene-setting or games.

This passionate attitude reveals a child's capacity of invention ; it demonstrates how the child seizes this opportunity to appropriate the exhibition, (referring to M. de Certeau's "ordinary" culture), away from the communicational "norms" that the exhibition designers may have intended.

A critical look at the method

Compared to interview methods, our methodological communicational device to some extent avoids the limitations inherent to interviews, because of the active part the child can play anytime, as a mediator. In this way the interviewee escapes fussy questionnaires.

As they experience their first improvised role, children are bound to be inventive as "guides".

The new framework adopted by the child (who moves from being a family visitor to a position where he is "guiding" the researcher) emphasizes how profitable the family visit can be, as part of prior experience, as the child describes what is being displayed.

It is thus possible to witness, through the links established during the interview narrative, how the child's interpretation process has evolved, within the same surrounding. However, in a way, this is a second interpretation which doesn't correspond with that which is elicited during the first discovery of the exhibition.

Consequently, we would like to develop a new method aiming at collecting that "first-hand" interpretation, without any family interference ; for that purpose, the child will discover the exhibition with the researcher from the point of first entering the exhibition.

The position of the researcher in the communicational device

As the researcher is involved in the device, he plays a fundamental role. First, he devises the scientific experimental situation and protocol, then his first meeting with the children demands tactfulness, because the course of the experiment depends on trust.

Within a family activity framework, the child's parents need be amenable and the child himself must be willing to take part and play the role of guide. In a very limited time, the researcher has to gain the confidence of both parents and children, and get them to accept the "intruder" during their leisure time.

The researcher observes the young mediator, makes sure his discourse is intelligible, asking him to reformulate it, if necessary. In a way, the researcher assumes a "maieutics" approach : he acts as a childbirth assistant by providing the child with the most appropriate conditions leading to a natural interpretation.

Conclusion

This research focuses on the interpretation of children's reactions in the context of museum experiences outside of school with their families. This descriptive and comprehensive research required the creation of a communications methodological device that "puts in place the role of a guide"

The researcher becomes, to some extent, a "social naturalist" who tries to find out, empirically through observation, the interactions between the children and the environment of the exhibition. He also decides on the indicators to be used for the analysis of how the children structure their interpretation.

The device gives an heuristic dimension : four figures of children-interpreters could be defined and delineated. These figures reveal modes of the children's appropriation of the exhibition. The figure of the passionate inventor interpreter reflects an approach to the interpretation which is particularly novel. Taking this doctoral research further will involve seeing whether these types are also relevant in the contexts of an art exhibition or an ethnographic one.

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Community engagement, museums and organisational change: using Participatory Action Research to explore staff understandings of community engagement

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Abstract:

In the UK, notions of engagement, diversity, accessibility and outreach have been widely embraced across the museum sector. However, there is still much debate as to the impact of this participation work, which is too often confined to the margins of the organisation. This paper addresses these debates through a long-term ethnography of a large museum service. The research explores the potential of Participatory Action Research (PAR), to produce a collaborative enquiry, working *with* and *for* staff to investigate their own understandings of community engagement and change. It is suggested that PAR with staff can begin to provide some of the tools for transforming the museum.

Themes: transforming institutional organization; transforming research methodology

Whose cake is it anyway? Participation in museums

In the UK, a recent report across 12 museums and galleries, led by the Paul Hamlyn Foundation, examined some of the key issues limiting engagement and participation in museums (Lynch 2011a). It is a hard hitting report, which concludes that:

“Despite presenting numerous examples of ground-breaking, innovative practice, the funding invested in public engagement and participation in the UK’s museums and galleries has not significantly succeeded in shifting the work from the margins to the core of many of these organisations. In fact, as this study demonstrates, it has curiously done the opposite. By providing funding streams outside of core budgets, it appears to have helped keep the work on the organisations’ periphery”
(Lynch, 2011a: 5)

The report presents a number of main points as reasons why engagement and participation have not become embedded across UK museums and galleries:

1. A practice of engagement which is risk-averse and characterized by high levels of control, leading to false consensus and ‘empowerment-lite’ for participants.
2. Using people to ‘rubber stamp’ plans
3. Policies and practice based on ‘helping out’ and ‘doing for’ – focus on group/individual deficiencies
4. Linked to this, the idea of communities as passive beneficiaries rather than active agents
5. Absence of strong and committed leadership
6. Project funding is short term, with an unsustainable impact – preventing the mainstreaming of engagement.

One aspect which comes out very strongly from the report, and which has been picked up widely as a key finding across the UK sector, is the dependence on the ‘merry-go-round’ of project funding for engagement work: project funding leads to short-termism, a lack of strategic planning, and pressure to produce positive reports to secure future funding. As an outcome of this report, the Paul Hamlyn Foundation (phf) has developed the ‘Our museums – communities and museums as active partners’ programme. The initiative provides support in the form of a three year grant to facilitate a process of organisational change within museums that are committed to active partnerships with their communities. Such an award has been made to the museum service in this research.

The Museum

The Museum¹ is a large museum service that manages 12 individual sites, with extensive and varied collections of archaeology, art, history, science and technology, textile, and natural science. These collections are of regional, national and international significance. In recent years, attendance figures have averaged over 2 million visits across the sites in the year 2010-2011. All the sites have free admission. Seventy-four per cent of visitors are local visitors, and 62% visit as part of groups with children. The museums has a strong education department with teams across all of the larger sites, and over 150 000 children taking part in organised educational activities (2010-11); as well as a volunteer team with 655 active volunteers.

The Museum has a long tradition of community engagement, and its stated mission statement, values and aims show great commitment to the ethos of being relevant and connected to communities. As a result of this, the Museum has a strong national and international reputation for the quality of its engagement work.

¹ The Museum is anonymised in this study

Why change?

The Museum's engagement with the 'Our Museums' programme is driven by the organisation's previous engagement with the phf research², and a genuine commitment from the director and management – driven itself by, but also despite, the constantly changing political, policy and funding landscape. It is partly led by necessity (budget cuts), opportunity (bidding for public service delivery in time of change, localism and Big Society agenda in the UK); and a long-held belief and ambition on part of management group.

In a final part, the paper will consider the assumptions – explicit and also unarticulated assumptions that make up this programme. It is interesting first to consider some of the initial findings of the ethnographic research of the museum service to explore some of the different understanding of communities, engagement, and participation. First however, the methodology that has informed all aspects of this research is outlined to further consider the role of Participatory Action Research as a collaborative and reflective learning process.

PAR in museum organisations

The research is driven by a concern to engage with the views, perspectives and perceptions of staff, and as such it is driven by a desire to be collaborative – from the questions asked, ongoing opportunities to comment on the work, to later opportunities to contribute to the writing. PAR is defined by Kindon et al (2007: 9) as, offering 'a collaborative process of research, education and action explicitly oriented towards social transformation', and it has traditionally been used to social justice ends working with marginalised groups (Cornwall and Jewkes 1995; Greenwood, Whyte and Harkavy 1993; Reason and Bradbury 2001). At the heart of PAR is a collective, self-reflective enquiry that researchers and participants undertake, so they can understand and improve upon practices in which they participate and the situations in which they find themselves. PAR differs from conventional research in a number of ways. Firstly, it focuses on research whose purpose is to enable action. Action is achieved through a reflective cycle, whereby participants are involved in the collection and analysis of data, and determine what action should follow. Secondly, it is particularly attentive to power relations, advocating for power to be deliberately shared between researcher and researched, blurring these distinctions so that the researched cease to be objects of research, but active participants/researchers in all aspects of the process. Thirdly, PAR is different to less dynamic approaches that often remove data from their context; rather, PAR advocates research that is embedded in social relationships, moving away from seeing passive participants as 'subjects' or 'respondents', to involving participants as active researchers.

The methodology for this research is based within the PAR approach. This has in part been successful in enabling key staff to have input into the kinds of questions that are leading the research, as well as advice on who should be involved in these conversations. Participatory workshops, including participatory diagramming and discussion groups, have been used to explore some of the key themes that have emerged in the first half of the research. Another key aspect of the research has been the development of a private, registered users only blog, which has been set up to provide a anonymous safe space for critical discussion of the research as it evolves and of museum practice more broadly. This will also provide opportunities to staff to be collaboratively involved in the further stages of analysis of data.

One particular dimension to the project which is diverse from the majority of PAR project, is working with what an 'elite' group of staff. This is an 'elite' group in terms of its social and educational profile, and more importantly, in terms of various roles as stewards and

² The programme was only open to those 12 original institutions

gatekeepers of culture. However, these staff are all themselves deeply embroiled in wider power relations with communities – that is, visitors, project participants, stakeholders, funders, and work within a strongly hierarchical organisation. This presents an interesting field, in Bourdieu's (1977) sense of the word, to explore the potential of PAR for change in organisational settings. Jenny Cameron's (2007) research on PAR in/for/with organisations shows how participatory research can help to focus on the role organisations play in both enabling and constraining change, and helping participants recognise how they are often themselves embedded in the institutions they seek to transform (see also Street and Meister 2004).

In terms of the relations between museums and communities, there is a growing body of literature that has explored these power relations, in an effort to democratize museums and the stories they tell, and to critically engage with the colonial history of museums. Many have written about the complexities of collaboration, and to some extent, its failures (see Peers and Brown 2003; Crooke 2007; Lynch 2011a; 2011b). Across the UK museum sector, there is a raised awareness of power dynamics in museums and growing recognition that collaborative work is not always the democratic process it sets out to be. Power is often retained by the museums, describing a structure that more frequently reflects the agendas of the museums, and resulting in engagement work which is paternalistic, extractive or tokenistic.

The aim of using PAR with elite staff groups is to develop reflective practice in museums, working principally through case studies and past experiences to explore with staff their own assumptions, as well as anxieties working with communities. In particular PAR provides a tool for group and self-analysis, and for exploring the role of individual staff and how their daily decisions work to resist the constraints of working in a large and complex organisation. This provides a particular insight into how both expert-organisational authority is produced in museums; how specific knowledges around communities are mediated and circulate within a museum organisation; and some of the realities of decision-making as distinct from the rhetoric of participation and choice; against a microanalysis of individual agency, and tracing the differences these value-based decisions make.

A second methodological and epistemological framework used as part of PAR is applying the ideas of organisational complexity and the Theory of Change (ToC) as frameworks for understanding decision making in museums: especially as a way of untangling and bringing to the fore the unarticulated assumptions that influence decision making around change.

The Theory of Change emerged out of attempts for planning and evaluating complex community initiatives. In a key publication, *New Approaches to Evaluating Comprehensive Community Initiatives*, (1995), Carol Weiss posited that a key reason complex programmes are so difficult to evaluate is that the assumptions that inspire them are poorly articulated; in particular, complex community initiatives are particularly unclear about *how* change will unfold, and therefore place less attention on the early and mid-term changes that are necessary for longer term goals to be achieved. The Theory of Change approach is a way to explain and get at these assumptions, and the beliefs and knowledges that have informed them. In the absence of explicitly named assumptions, it is argued that a clear theory of change cannot exist, or people hold multiple and conflicting variations that reflect their deeply held views about what should/could work and why. It is these assumptions that the research seeks to draw out.

Theory of Change and Participatory Action Research are still very novel approaches for researching museums and doing organisational ethnography. The in-depth nature of the research provides a distinctive methodological and theoretical approach to the museum as complex and dynamic organisation, which is critical to collaboratively looking for ways for

mainstreaming and embedding engagement across the museum's different departments and collections.

Emerging findings

Individual interviews with staff, and participatory workshops have demonstrated some of the emerging issues:

Definitions of 'community engagement' are broad and varied: from one-off, short term, to more in-depth and transformative. Examples have included:

- The museum putting on an annual fireworks display for local community
- A curator's blog explaining 'behind the scenes' work
- Someone donating an object to the museum's collection
- Engaging with Friend's groups
- A 10 week reminiscence project with a dementia patient group, culminating in a digital story that is accessioned in the collections
- A year long programme working with young people as youth curators
- The People's Gallery, that is programmed entirely by and for local communities
- ... to a nearly completely 'volunteer-led and managed' site

These examples represent the narrow and wider ways of talking with people, and stark difference in what can be termed 'community engagement'. Such engagement is often considered through a 'ladder of participation' approach – starting with the most basic, moving up to the most engaged:

- Information
- Consultation
- Deciding together
- Acting together
- Supporting independent community interests (after Wilcox, 1994)

Nina Simon in her book *The Participatory Museum* (2010) describes a typology of participatory museum models:

Contributory: visitors are solicited to provide limited and specific objects, actions, or ideas to an institutionally controlled process, for examples from comments cards or story-sharing kiosk

Collaborative: visitors are invited to become active partners in the creation of institutional projects that are originated and ultimately controlled by the organisation.

Co-creative: community members work together within staff from the beginning to define the project's goal and to generate the programme or exhibit based on community interests and, the institution's collections.

Hosted: where the institution turns a portion of its facilities or resources to present programmes developed and implemented by public groups or casual visitors.

Ladders and typologies of participation are commonplace in the literature on engagement, and are often an attempt at representing the different levels of involvement that are

appropriate at different times to meet the expectations of different interests. Although all of these different levels are valid and worthwhile, like many organisations in the UK, in the museum in this study, there is no wider organizational strategy for doing community engagement work, and there are no agreed upon principles as to the different possible levels of community/public involvement, or even systematic consideration of community involvement. Furthermore, in a large and complex organisation the principles of community engagement do not always influence the ways in which every part of the organisation works.

There are many examples of very good practice, which are most strongly reflected in the Outreach work, the Access policies and practice, and the volunteering programmes. It is also interesting to note the strongly embedded principles of social history in the History team, reflected in their commitment to involving people's voices in exhibitions, often through oral history work.

Community engagement as defined by the Outreach Team can be summarised as the process of working collaboratively with and for local groups affiliated by locality, special interest, or similar situations to address issues that affect them. The key component of community engagement is opening up access to the museum collections for groups, so that groups come to see collections as resources for heritage and identity, to be used as the basis of work (workshops, exhibitions, etc) that addresses their own issues or needs. At the core of engagement work is partnership working, involving communities in decision making as equal partners. The museum acts as a facilitator and enabler to support groups in developing their own issue based work.

'Community' is defined as communities of interest, communities of place/locality, communities of gender, and communities of faith. However, 'community' was also seen as a more worrisome and fluid concept. There was a recognition that targets tend to 'pigeon hole' people into certain communities which may not be the groups that they self-identify with. It was also noted that there was a need to be careful when crediting someone as being representative of a whole community (for eg, seeing a Chinese Elder as speaking on behalf of the whole Chinese community). There was a further recognition that communities are transient, unstable, and that people can belong to more than one community at the same time. Interviews revealed that many found it quite a problematic term to work with in practice.

Why do it?

When asked why they chose to work with different communities, staff offered a variety of views,

- 'Prove value for (taxpayer's) money'
- Collections belong to everyone – 'we are just custodians'
- Role of museum in helping people see and decide their place in the world (this relates to the Museum's mission statement)
- Social history approach to exhibitions – 'people's stories matter'.
- Funding and stakeholder requirements.

Drivers for working with communities

Interviews revealed several overlapping and, to a certain extent, inherently contradictory, ways of working with communities:

1. Ideas-driven: ideas for projects typically originate from within the museum management. The ideas-driven model is characterised by high levels of curatorial control on subject, content and design; it is self-serving, often guided by

‘anniversaries’ or other national events. Communities are invited to contribute after the brief has been written.

2. Funding-driven: in this model the agenda is influenced by the funding requirements in terms of content and community involvement. This was particularly the case under the New Labour government in the UK and its wider agenda of social inclusion (see Sandell 2003). As a result, much funding-driven engagement has targeted specific minority groups.
3. Stakeholder-driven: as a local authority run museum service, the Museum’s engagement work is influenced by stakeholder in both formal (Council priorities) and informal ways (‘pressures’ from local councillors)

These models can be distinct, but often elements of all of them can be found to be influencing a project design. Some of the issues with these models are that they only involve communities in the later stages of the work, and therefore they are excluded from early decision-making processes.

Barriers to embedding engagement

Some themes emerging from workshops and interview analysis, around internal barriers and challenges to embedding community engagement across the organisation:

Perception of ‘value’ of outreach work

Certain workers groups, especially Outreach, felt their work with communities was undervalued and not recognised in other parts of the organisation. There was a sense that Outreach work and community involvement was often ‘bolted on’, while the core work was still focussed on collections.

The issue of access to collections was often highlighted as a significant problem, especially the difficulties of taking collections out of museums and into the community. This specific issue seemed compounded by a lack of clear procedures for collections access, as well as issues of insurance, but also high levels of control by curatorial teams perceived as a lack of trust by other teams.

There are particular perceptions of (lower) quality around the work that is produced with or by community members, and this has impacts on the ways it is displayed. In one museum, the community displays are under the stairways.

Habits of mind

Engrained ways of working, especially on the part of the ‘old school curators’ was also revealed as a challenge to embedding communities. Respondents often alluded to old tropes against curators as hiding in their stores with their objects, disconnected from the outside world.

Skills sets

The skills required for community engagement work were not always be understood or given credence. Some interpreted working with communities as the exclusive responsibility of Outreach. Many also seemed anxious and stated they did not have to right training or expertise for working with communities, often referring to concerns over ‘managing people’, or ‘managing expectations’. Interestingly, the Outreach team did not feel that they had the language to articulate their ways of working in a manner that would be understood by other teams.

Deadline-dialogues

One respondent stated how they disliked the word 'engagement' because simply, 'it's about talking to people'. A problem with embedding this openness to having wider conversations is the idea of 'deadline-dialogues' - that this, an engagement with a set deadline, often imposed by funders, by which a process (dialogue) needs to be turned into the end product (eg, exhibition). As such it is difficult to sustain long-term and meaningful relations with communities. There were issues around the museums duty of care towards communities: groups and individuals were often 'dropped' at the end of a project, while over groups were continuously being returned to, often on the basis of their cultural knowledge, in an attempt to diversify the museum.

Departments working in silos

It was felt that the expertise of working with communities was not always called on at the right place or right time, but often as an after-thought. This was related to the size of the organisation, and teams working in silos with poor internal communication.

No community influence in decision making

Respondents stated that groups or communities had little influence in decision making in the museum, especially in the early stage. In recent years a number of youth panels had been set up, but these had ended up being somewhat tokenistic as they were not able to influence change. In term of programming, there are no mechanisms for communities to propose exhibitions or projects.

Many respondents stated a lack of transparency working with communities: often in the enthusiasm to work with groups they could be promised everything, only to have their displays or interpretation later censored by management. Several staff recounted stories of working with groups that were invited to choose their own issue-based display, which after months of work was eventually censored by the museum in the public display because the material was felt to be too contentious.

Different models of working with communities

As described above, apart from Outreach, all other models represented a resource-led way of working. Some felt that there was a lack of respect for communities, and that the existing models used comprised of 'taking from' and 'doing to' communities, based in a deficiency model (see Lynch 2011a).

Despite the difficulties faced, there were also many elements of very good practice across the organisation, and new, creative thinking towards working more openly with communities, leading to the proposal for organizational change.

Towards organisational change

The Museum's proposal can be summarised as:

To create a shift in how the organisation interacts with local communities, moving from a model of largely resource-led planning to needs-led planning. (...)

This will be achieved by understanding more comprehensively what the issues are that communities would like the museum to help them address; and making the best approaches routine and embedded across the whole organisation.

The organisational programme of change is based on a desire to move from funding and (internal) ideas-driven projects, to a model that addresses needs as defined by communities. For example, this could lead to producing exhibitions based on local issues and co-produced with local people, either on site but also situated within community locations.

There are particular assumptions around the idea of change announced in the proposal. On one hand, some staff seem to have interpreted this as being about making improvements in a commodity model of consumer consultation as part of review of museums products and services. In this understanding communities are still largely seen as passive consumers; their input may serve to change the museum offer, through its content and exhibition display, but there is still a limited involvement in decision-making. However, the programme also presents opportunities for developing new relationships towards co-producing a better museum service for all. As co-producers, communities and visitors are active participants – moving from ‘users and choosers to makers and shapers’ (Cornwall and Gaventa 2001). These assumptions relate to the wider role that museums can play in developing a social justice agenda, and supporting community resilience and capability development (Lynch 2011b). However this perhaps more utopian, and certainly more radical democratic reading is not so clearly expressed in the narrative of organisational change. The challenge will be to allow for new forms of engagement that go beyond simply improving current services, to opening new forms of democratic participation and new forms of museum practice. This will require an openness to trust and intuition, and of things that do not ‘fit’ traditional museum practice, a tolerance of complexity, uncertainty and conflict, and a degree of courage. Working with staff to identify these assumptions and their consequences can begin to help foster a more critical reflective practice.

What becomes clear from the initial analysis of the first part of the research is that models are inherently limited as an approach to community engagement; rather it is the process of engaging with individuals and groups, driven by genuine interest and trust, developing relations where institutional staff members and community members are coequal partners, that will ensure the success of this work. It is this thoughtfulness and professionalism, which is always a form of reflective practice, and that needs to be reflected in the alignments of such principles into all functional areas of the museum.

Using PAR for focusing change

The use of PAR as a reflective practice to explore change can help staff explore and collaboratively articulate and consolidate new forms of museum practice. By helping staff explore the power dynamics that condition their own work within the museum institution, staff can apply this critical and reflective perspective to their wider engagement practice outside the museum. The initial findings of this research begin to untangle some of the complexity of engagement work and barriers within large organisation. By its strong focus on action, PAR can help staff identify what can be done to achieve change. The second stage of this research will work with staff through a Theory of Change approach to consider the steps that are required to making changes and addressing the barriers that they have identified.

As Bernadette Lynch (2011b, 456) writes, “simply putting structures of participation in place is not enough to create a viable participatory museum. Much depends on the motivation of those involved, and what ‘participation’ means to them.” Using Participation Action Research with staff is one step towards a more open and self-reflexive exploration of what a participatory museum might look like.

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Transformed play: Sharing resources for live-action role-play and reenactment

Torill Mortensen

Abstract:

With the transformation of communication channels caused by the computer and the Internet, the users of museums, archives and other knowledge repositories have changed. The change leads away from hegemonic one-way structures and to a dialogic structure in networks, which relies heavily on an electronic version of the gift economy.

Looking at live-action role-play and re-enactment communities in Scandinavia, this article describes their use of digital media and their online practice, how information passes through their online networks, and how a very large part of the knowledge sharing in these groups and networks connects to museums. The article highlights how playfulness and enthusiasm can revitalise obscure information and knowledge.

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Transformed play: Sharing resources for live-action role-play and reenactment.

The structures of information gathering are undergoing transformations. In order to be at least aware of the potential in online communication and able to make choices about media strategies, it is vital to maintain a broad and eclectic view on the users. The relationships between online users are to a large extent modeled on the dialogue and depend on reciprocity to build trust.

One of the main questions about networked media is how individuals find and pick their sources to trust. Where we traditionally base trust on contextual knowledge about the source of information, with information organized and rendered by search engines, we find that in online communication reliable sources will be passed by for sources with higher *Google* rank (Walther et al., 2011).

But *Google* still hasn't taken over all links, interest-driven networks aiming towards knowledge sharing rely on connections expressed in several different manners, shaping a complex tapestry of links between participants as well as from one social network site to another.

In this article I want to explore the connection between knowledge sharing online and offline cultural practices. This is done by studying role-play and reenactment groups, and how groups engaged in these practices find, share and re-share information relevant to their practice. The motivation for this study is to uncover how exploiting the online habits of knowledge sharing among users of historical, cultural and fictional information can benefit the cultural institutions in reaching new users and a different demographic than the regular audience.

Digital Practice

If we look at the digital practice of people involved in reenactment and live-action role-play (larp), we find that the participants are highly interconnected. The web page of the group *Aarhus 1477*, a reenactment group that focuses on the year 1477 (1477, 2012), shows that they also have a *Facebook* page under the same name. Looking into the public part of the profiles of several of their members connects them quickly to

other *Facebook* pages dedicated to role-play. The first member of the reenactment group I check follows 1) an international *Facebook* page dedicated to live action role-play (larp), 2) a page dedicated to *Forum 2012*, which is a yearly meeting for discussion about role-play in Copenhagen, open for all who might be interested and 3) *rollespilsbasen*, which is the *Facebook* presence of a webpage for role-play: <http://rollespilsbasen.dk/>. *Rollespilsbasen* turns out to be a discussion site for people who want to discuss games and connect to other gamers, which again means more links: another hub for information.

If we go back to the *Aarhus 1477* webpage and have a look at their links (1477, 2012: links), it clearly illustrates the international aspect of this community. The links on the list connect to a Dutch reenactment group, a designer in Graz, Austria, a Danish blog about crafts, with a lot of examples of different crafts such as building houses, leatherworking, bookbinding, cooking and smithing, where one of the writers work at a Danish *Viking age museum* (Louise, 2012), and a blog specializing on *Medieval Silkwork* at <http://m-silkwork.blogspot.com/>.

This weblog has several posts about visits to museums, and one of these posts contain the following to-the-point passage:

The images above are from [the Bildindex](#). This site has wonderful pictures, but it's quite difficult to browse. For some reason, I can't link back to the images. I know that you can use the RBA code (see caption in the images) to browse, but I don't know how... If you happen to know some tips & tricks for browsing the Bildindex, please let us know! [Italics in original.] (Machteld, 2012)

The weblog also has several links to other, relevant blogs as well as to museums. Besides being a blog dedicated to the study and sharing of their interest, medieval silk embroidery, it's positioned within a network of other sites sharing detailed, sophisticated information as well as experimentation with techniques and skills, it's part of a wider set of conversations.

Online conversations

One of the tools with the lowest threshold for online publication to come into popularity after 2000 is the weblog. Since “blog” was chosen as “word of the year” by Merriam-Webster in 2004 (Merriam-Webster, 2004), blogs have been one of the preferred media both for private individuals as well as for organizations and public

institutions to create a cheap, easy and frequently updated web presence which also invited feedback and easy sharing of particular updates.

After its initial move into academic publishing in 2000, “blog” has been attached to many other online communication forms, from the video blog or “vog” dubbed by Adrian Miles in the “vogma manifesto” from 2000 (Miles, 2002), to the “microblogging” at Twitter, established in 2006 (Carlson, 2011).

In 2012 blogs contain the traditional media formats of writing, pictures, sound through podcasts and video. In addition to that, blogs support several functions that are native to the net, such as the possibility to comment, generated lists of links, and integration of the different media. Your tweet shows up at your facebook-feed, your blogpost is tweeted and your flickr photo updates are embedded in your weblog. On top of that the websites constantly offer opportunities for tracking the popularity of posts, you can see who are following you, and you can do “vanity searches” or, for organizations, media watching searches, which lets you see who else is reading, linking to and talking about your online material.

What this facilitates is a swift and immediate spread and exchange of information. We talk about information “going viral” as in spreading like a virus. This speed with very short delay in feed-back allows for a type of communication which comes closer to the regular conversation. The first time I used conversation or a dialog as an image for internet communication through social media was at Blogtalk 2.0 in Vienna 2004 (Mortensen, 2004). This was picked up and developed by among others Lilia Efimova in her Ph. D. *Passion at work: blogging practices of knowledge workers* (Efimova, 2009). She presents a model of linking between blogs that underlines the network- and conversation aspect of blogging, demonstrating how weblogs are active, dynamic tools, good for creating connections as well as disseminating information (Efimova, 2009:104). In this process she calls this practice the conversational glue:

Linking practices seem to be the "glue" that holds the conversation together: without links and trackbacks posts across weblogs lose their "physical" connection even when they are connected to each other logically. This makes weblog conversations different from those facilitated by other communication tools: in other cases there is a shared space (e.g. a discussion thread in a forum) that holds the conversation together, while in the case of weblogs it is the effort of the participants that connects different contributions. Although the putting of effort into developing and reinforcing shared practices is observed in case of other media (e.g. Erickson, 1999), it doesn't go as far as

creating a shared communication space by connecting different personal spaces. (Efimova, 2009: 108)

Efimova's study of linking practice stops before *Facebook* and *Twitter* became the major actors they have been over the last three years. *Facebook* has been growing on its users steadily since its start in February 2004 (Facebook, 2012), while the traffic on *Twitter* leaps and bounds with each large trending topic¹. Some of the large trending topics to lift *Twitter* into the mainstream attention were related to what is now called the "Arab spring" (demonstrations starting in 2010 and continuing through 2011).

Facebook and *Twitter* and the new system in town, *Pinterest*, have however made away with the most important use of links in a conversation. Rather than making certain blog-posts link to other bloggers who will follow pings and track-backs to the post, bloggers post the permalinks to their blogposts to their friends and followers on *Facebook*, *Twitter*, *Google+* or any other social media they may be using. This speeds up the conversation and activates another aspect the micro-message media all share to some extent, the ability to share an object (link, image, post) easily and quickly. A link that gets picked up and shared will quickly travel outside of the rather limited network of bloggers. Where blogs contribute with more elaborate messages, tweets and status-updates are the carriers, the distribution system carrying the message. This is a distribution system that works as well for all kind of linkable web-artefacts, even in many cases on itself, as tweets are re-tweeted, and across platforms, as the different systems become more or less open to integration.

An example of the speed with which these changes happen is *Pinterest*, a social medium still at the experimental stage of demanding an invite to join. *Pinterest* is a digital pin-wall, where the links are organised by tags and expressed visually, from the pictures accompanying the topics. From its start-up in 2010 (Wikipedia, 2012), it has now supposedly passed *Google* in generating traffic (Fox, 2012). And generating traffic is what the interweb of links did on blogs in Efimova's example: attention begets attention.

¹ A trending topic is a topic referred to by a hash-tag or a # and some short and somewhat descriptive words or collection of letters. The largest trending topics tend to be connected to celebrities, but dramatic or politically controversial events also frequently "trend".

Gift economy and online sharing

Perhaps the first essay to imagine many-to-many media was Berthold Brecht's "Radio as a Means of Communication" first published in 1967 (Brecht, 1979: 25):

Radio could be the most wonderful public communication system imaginable, a gigantic system of channels — could be, that is, if it were capable not only of transmitting but of receiving, of making the listener not only hear but also speak, not of isolating him but of connecting him. This means that radio would have to give up being a purveyor and organise the listener as purveyor.

While his dream of a two-way mass medium in the hands of the people never came into being, radio has been an important tool for nation-building, resistance and subcultures for a very long time. Frieda Werden discusses, in her article "The Gift of Community Radio", how community radio transmissions belong within a different type of economy, the economy of the gift, and connects community radio to a gift economy, and points out the meaning of the audience to the gift of community radio: "The issue of who is the audience, in other words, who is the recipient of the gift of radio, is a crucial one for community stations. To be community stations in the sense of 'giving gifts together,' the audience and the operators of the station should be in interrelated categories (Werden, 2007: 343)."

The theory of gifting states that there are no free gifts. Mark Osteen writes in the introduction to *The question of the gift: Essays across disciplines* that all gifts are somehow reciprocal. When the gift giving process is extended outside of the original gifting community, risking non-reciprocity, it is in the hope of extending the community (Osteen, 2002: 5). This expresses some of the problems described in *Haunting the knowledge economy* by Kenway, Bullen, Fahey and Robb, as they address the gift economy (Jane Kenway, 2006: chap 3).

Online content sharing practices are frequently treated as theft, and the example of *Napster*, the file-sharing system, shows how with copyright legislation in hand, private and public organisations and institutions persecute those who share content without permission. Those who practice file-sharing and image-linking, upload chapters of books or articles and crowd-source translation of pirated movies or television shows are viewed as perpetrators of a crime connected to greed, not generosity. We also see this tendency as writers who are more academically interested in the topic describe online content sharing as parasitic (Giesler & Pohlmann, 2003), in a version of the tragedy of the commons (Hardin, 1968).

Even the understanding of *karma*, one of the core religious understandings of gift-giving, is of reciprocity. However in karma the reciprocity is not immediate. “Karma is the law of moral causation (Sayadaw, 1996-2012),” which means that it is the ultimate law of reciprocity, only with a long term view. To apply the idea of karma to the idea of gift economies invites questions about the parasitic behaviour, such as: is your parasite another’s generous friend?

If we apply the grand view of gift giving which karma implies, giving a gift is both very self-serving and liberated from short-term causality: it’s not a direct exchange, but an investment in creating a better future. Combining the understandings of gift giving as a way to expand the community and gift giving as a long-term investment spanning lifetimes and benefiting the society, we can describe an approach to knowledge sharing which is genuinely applicable for public institutions. Sharing as an investment and maintenance and expansion of the community is directly applicable as a justification of public knowledge institutions.

Role-play and re-enactment as practice and community

In Denmark a central network for larp is developed around www.rollespil.dk, while a Norwegian central organization is www.laiv.org. Both link to games and groups, or offer space for hosting of information around the different larps. In Sweden most larp organizations are organized under *Sverok* at www.sverok.se, a central gamer’s organization. These organizations all contribute to the larp-development and theory conference *Knutepunkt* (different in all Nordic languages), and in 2012 the larp community is gathering in Finland, outside Helsinki, for *Solmukohta*.

The Nordic live action role-play scene has over the last years been held up as a model for live action gamers around the world, known for the long high-immersion events with hundreds of participants as much as for the experimental sessions where for instance one person role-plays with him- or herself for two hours locked in the elevator. The increasing systematization and organization of the larp community mirrors the fact that larping (the act of playing in a larp) is a very hands-on practice, where the core group coordinates preparation for months (sometimes years) before the game happens.

Let’s look at some pages of a planned steampunk larp on Røros, Norway:
Christianus Sextus ~ en steampunklaiv av Dampbakeriet (Larsen, Aakvik,

Odinsdottir, Svanemslí, & Brimi, 2012). The practical information page is packed with information important for regular camping, such as the temperature in the area in September the year before, but it also has an almost “by the way” mention of one of the most important parts of a larp, the roles. At this early stage, the roles are just mentioned as something the participants will receive if they pay by May 1st, which basically means that there is a group of people writing and coordinating them even as I am writing this paper.

Another page of the weblog is dedicated to fashion. The time of the alternate world (steampunk plays take place in an alternate world where steam remains the main energy source, and combustion engines never really take off) is 1877, and so the clothing for the characters need to have both a flair of Europe or the US year 1877, and a technological bent. This means fashion creations such as ladies’ outfits for zeppelin pilots complete with utility belts, or goggles that will match your top-hat and riding-boots. In the “inspiration” page they link to several commercial costume designers to give examples of what they mean.

Since many of the participants for larps are young and unemployed, they will only in rare cases buy their costumes. More likely they will create as much of it themselves as possible, and buy certain accessories. This means that this live will spur in its participants an interest in fashion from the 1870ies, an interest in steam engine design (mainly aesthetic), and an interest in manners, speech-patterns and historical events that the characters they play will be expected to know. This is before we start talking about the plotting and scheming among the groups that end up having overlapping interests.

Another planned Norwegian larp is *De fortapte pikers øy* – Island of the lost girls. This one has an even more obvious connection to history, as it is set within the period immediately after the second world war, in 1945. It focuses on the treatment and humiliation of young women who were associated with the German forces during the war. Here the organizers Langemyr and Edwardsen use the Norwegian resistance museum (*Hjemmefrontmuseet*) and the Norwegian armed forces museum (*Forsvarsmuseet*) for inspiration for their costumes and accessories (Langemyr & Edwardsen, 2011).

Both these examples demonstrate the intricacy of the process of preparation. The Røros steampunk larp demands knowledge of 1870ies culture, of Norwegian mining history, of certain literary genres such as fantasy, cyberpunk and most

importantly steampunk, as well as a working knowledge of both male and female fashion from the period. While the “lost girl” larp does not connect to any particular literary genre, it connects heavily to history, and there are several books recommended as sources and inspiration for the play, both novels and historical works. Both websites link to discussions on *laiv.org*, the Norwegian central larp website.

Role-play, reenactment and the institution.

Reenactment is nothing new in institutional contexts, particularly with an aim towards teaching. Some active contemporary examples are *Jernalderlandsbyen* (the iron age village) close to Odense (Jernalderlandsbyen, 2011) and the combination of role-play and reenactment in *Vikingen Varin*, a game for pupils visiting Midgard historical center in Vestfold, Norway (Gansum, n.d.).

Both live action role-play (larp) and reenactment groups depend on historical and fictional sources for their practice, as a large part of their activity is dedicated to the recreation of costumes, living structures, weapons, tools, food, literature and structures of society from either popular culture or history, depending on their focus. In the business of suspending disbelief, we often find that the more convincing their recreation is, the more successful their events. “Realism” has been an active topic in role-play games, some of the first discussions concerning this were documented by Gary Allan Fine in 1983 (Fine, 1983). Hence we will find that these groups pay careful attention to details, and continuously look out for relevant sources.

These sources are quite often historical. This is obvious for reenactment groups, where the goal is to re-create a certain point in history. It is less immediately obvious that the same is true for role-play groups. If we look at the fictional universes often adopted, we see, however, play in settings from high fantasy medieval, by way of for instance Bedouin-type nomads, Vikings, steam-punk with their Victorian era flair, as well as zombies in WW2 uniforms and cold war fictions from the fifties and sixties. Some examples are *En tråd i veven* (Storemark & Mjelva Saatvedt, 2007) a Norwegian LARP group based on Jordan’s *Wheel of Time* series (Jordan, 1990), and *Krigslive.dk* (Rollespilsfabrikken, 2011), a LARP based on different war stories, previously the games *Warhammer* (Gamesworkshop, 2000-2011), but in 2012 loosely based on this reality, year 1176, with a crusade on Island.

En tråd i veven, www.veven.laiv.org, offers a costume compendium for download from their webpage (Kristine, 2007). This work comprises descriptions and drawing of how the gamers imagine the outfits from Jordan's fantasy universe could look. It also contains detailed information on the meaning of different fashion choices, such as a list of the meaning of the decorations on the "marriage knife" carried by married women among one of the people in this particular universe. This is an example of the type of detailed information larp gamers love to know and to utilize in their gaming. They will go to extremes in order to find the information, reading huge series of books (the *Wheel of Times* series are made up from 14 books) or as with the example of *De fortapte pikers øy* above, do research with any means available to them.

Role-players do not comprise the largest audience for public knowledge institutions, as the most active LARP and reenactment participants are a fringe group among their demographic groups. They are however quite important, as they often develop craft skills and abilities which influence a wide range of fashions, for instance creating businesses from their recreation of fantasy versions of historical outfits. An example of this is *Middelalder Fashion* (Middelalderfashion, n.d.), a company producing costumes for weddings,LARPs and other events.

These cultural practices feed back into the popular culture through literature and the development or nurture of new trends in games and performance, exemplified by the steampunk genre. From a literature and gaming community the steampunk fashions have gone mainstream, appearing for instance in the catalogues of the specialist website Vintage Twists (Rutter, 2012) which sells 60ies clothing in 2012².

Image 1: Picture from Vintage Twists 2012



² 2012 is the year when the television series *Mad Men* created a large 60ies revival.

Understanding the communication strategies of this small, but influential group of creative developers and participants can give new insights to how offline cultural practices and performances are developed, maintained and nourished online.

Knowledge sharing and development

As seen in the example of the steampunk larp, even sharing alternate history means sharing knowledge. An article in Wired on steampunk fashion objects (Branwyn, 2007) connects to a computer modification that put a modern keyboard into a frame that a modern viewer feels could have come from another time. Jake von Slatt gives his readers a step-by-step description with a Creative Commons license of how to build a functioning steampunk-style computer keyboard from modern-day materials and some reuse of older materials (Slatt, 2009).

This is a common sharing strategy, and the communities tend to be very open about the sources for their material. The webpage of the *Wheel of Time* inspired universe (*En tråd i veven*) links to many other sources, among those *Wikipedia*, which again relies on crowdsourcing and the online gift economy. The costume compendium to *En tråd i veven* also links to other online sources, and their web-page is hosted by a community server where everybody who are interested can peruse and re-use their resources. All through the larp community as it is represented online, pooling, sharing and re-cycling resources is a vital aspect.

Old roles in new media

Some museums and archives have grasped the connection between the knowledge stored and the knowledge used, both in display and in teaching. Two examples I have mentioned above are the iron age village in Odense , (Jernalderlandsbyen, 2011) and *Vikingen Varin* (Gansum, n.d.), both examples of overlapping interests between the reenactment and larp communities and the institutions. More recent examples of digital use are the initiatives in Norway, Sweden and Denmark to open the museums up to the digital universe, *Digitalt Museum*³ in Norway and Sweden, and

³ <http://www.digitaltmuseum.no/>, <http://www.digitaltmuseum.se/>

*Formidlingsnettet*⁴ in Denmark. While very interesting, these efforts will not be pursued here.

In museums and archives, the connections between professionals and amateurs have always been close. Many famous museums have started simply as curiosity chambers, where eager amateurs have created interesting collections, which have then been taken over by professional curators. From the *National Museum of Bavaria*:

Chambers of Art and Curiosities were the precursors of today's museums, their contents reflecting the pre-scientific world view prevailing in the 16th century: in that era a plum stone finely carved by an artist was as much of a curiosity as an exotic animal covered with a protective armour. (Munich, 2012)

To this day, much of the valuable material that makes up archives and museums are gifts from enthusiasts. In our part of the world the rest tends to be collected with the assistance of public funding. Both angles underline the importance of an interested, active community of users for the institutions to continue.

As we have seen, a lot of the institutions understand this. Still, there are many collections that opt out of sharing their material online, and so avoid curating their information for use on the World Wide Web. The examples are easy to find, for instance in the beautifully presented *Design Museum of Denmark* (Denmark, 2012). Users can search their archive remotely, to find which examples of Danish design are stored at the museum. Opening an archive such as this has several problems beyond the price of scanning and uploading drawings and pictures. The laws of copyright, for instance, make it complicated. But this doesn't cover designs 70 years after the designer is dead, for instance. Legally, the design museum should be able to publish most designs this old, which currently means everything from designers dead before 1942. Scanning or photographing the designs and drawings to make them available would also minimize wear and tear, a frequent problem when it comes to preserving collections of fragile materials which may be requested for research.

If the designs old enough to not be covered by copyright legislation were scanned and made public, they could be picked up by groups doing role-play and re-enactments, or craftsmen creating copies of originals or period furniture (or other objects), and so be re-inserted in culture through other channels than the hegemonic structures of education and cultural reproduction.

⁴ <http://www.formidlingsnet.dk/>

Online, the historically inclined amateurs live happily on, displaying their interest and enthusiasm, searching everywhere for a little knowledge and some understanding that can fuel their fantasies or their meticulous reproductions. This is the user group that started the museums and archives of our times. Today, their practice can reinvent the institutions as they go online, through such simple tools as the practice of sharing freely: gifting insubstantial, but important artefacts online.

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Interactivity and audience experience in the modern museum; discussing findings from case study on the 'High Arctic' immersive installation, National Maritime Museum, London

Irida Ntalla

ABSTRACT

Museums are shifting from being object and collection centered, towards a focus on space, affect and audience by producing multi-dimensional spatial non-linear experiences.

Interactivity is used emphatically and at times unquestionably to verify this shift. Through the findings of a case study the 'High Arctic', a temporary exhibition at the National Maritime Museum, the paper will discuss how the museum interprets and practices the notion of interactivity. Through examining the multiplicity of museum with the focus being on process, the possibility of opening and creating new models of experience can be evaluated. I suggest that this shift implies 'continuous becoming' rather than 'being', which can occur by means of affect (Deleuze & Guattari, 1987). **Keywords:** interactivity, becoming, audience experience, affect

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Introduction

In this paper, I question uses of interactivity in the context of the museum in relation to the audience experience. This is derived from an empirical on-site research conducted on the National Maritime Museum, the High Arctic exhibition. The High Arctic installation, the first temporary exhibition of a new site of the museum (the Sammy Ofer Wing), was created in collaboration with the United Visual Artists¹ and Cape Farewell². The case study presented in this paper combines technological interactive design elements, fragmented narration of poems and soundscapes³. It attempts to immerse museum visitors in a personal arctic expedition and provide them views on possible futures of the Arctic landscape, encouraging questions and understandings of our relationship with the world.

It is my contention that the knowledge derived through the empirical investigations and the data gleaned from them will be greatly enhanced through the philosophical questioning of experience elaborated by Deleuze and Guattari. In terms of the implementation of interactivity within the museum space, there are issues of power and authority at play in any museum/visitor transaction, and the easy promise of participation, collaboration and interactivity have been all too seductive as concepts and applications in recent years (Kidd, Ntalla & Lyons, 2011). The illusion of alternatives and choices (Strathern, 2005) is still in place, and it raises questions about how freedom of choices can be articulated and formulated. Therefore, interactivity under the umbrella term of 'new media' lacks contextualization: it fails to deal with what it is really happening with/to audiences through the process of interactivity. My intent is to negotiate the installation's elements of interactivity and immersion in relation to visitor's emotions, discovery and personalized 'journey'. I argue the probability of expanding and rethinking these variables through the lenses of multidimensional experience and affect leading towards constant becoming.

¹ Established in 2003, United Visual Artists are an art and design practice based in London. UVA produce work at the intersection of sculpture, architecture, live performance, moving image and digital installation. www.uva.co.uk

² Cape Farewell, a well-established and successful organisation that brings together artists, scientists and communicators to create cultural works in response to climate change. <http://www.capefarewell.com/>

³ Sound designer Max Eastley and poet Nick Drake who were both on the Cape Farewell expedition with Matt Clark (the main artist working in this exhibition from UVA) are contributing to the content, which will be blended in with the general rhythm of the installation.

The sections following introduce the socio-cultural rhizomatic museum, the ideas of interactivity and immersion within the museum space and discussion based on preliminary results of the case study. Initially, the paper elaborates the museum as a transformative medium where knowledge moves away from the one-way didactic mode towards non-fixed narratives and relations. This analysis allows insights on matters of the term interactivity implemented and practiced within the museum. The second section explores this term in a greater extent, in relation to immersion in the same context. The paper proceeds with details of the empirical research including methodological approaches. The discussion on aspects of the preliminary results provides a heterogeneous and inventive platform for an initial analysis of the data revealed. The forces, the relations and the encounters between the bodies (human and non-human), the virtual and the real that are taking place through speeds, rests and movements are introducing forming of affects raising questions on modes of knowledge and experience within a museum space.

The socio-cultural rhizomatic museum

This first section aims to provide a framework on the discussion regarding the shift of the museum as a philosophical entity as well as a practice. The elaboration of this analysis will allow a further insight on the significance and at the same time problematic of the term interactivity implemented and practiced within the museum.

Current understandings of museum are expressed as a shift in focus away from the object towards the space of cultural interactivity (Martin, McKay, Hawkins & Murthy, 2007). This formulation encapsulates alternative forms of the world, physical, symbolic, real or fictional (Hein, 2000). The museum space is according to Michel Foucault, is inherently heterotopian (Foucault, 1987). It is, he argues, “capable of juxtaposing in a single real place several spaces, several sites that are or (seem to be) in themselves incompatible” (p. 25). Furthermore, the museum is heterotopian not simply due to internal heterogeneity, but because it can differentiate itself (this differentiation derives from its need to change, its historical existence and its relationship to the world around it) from other social spaces as well as moving spatial existence towards a more complex state. The museum has the capacity to challenge perceptions and sensations prior arriving at individual consciousness and at the same time contributes to processes of “becoming” (Deleuze & Guattari, 1987). This process corresponds to the possibilities of the museum creating and re-creating concepts, to move away from understanding things and narratives as fixed, but rather as plateaus into which

concepts fall in an unbounded way (Deleuze & Guattari, 1987). Following this thought, the museum must articulate itself in a state of restlessness (Martinon, 2006), the quality of moving freely, a transformation and an “ethopoiein” (Foucault, 2005), - the term used by Foucault to refer to the ability of “making ethos, producing ethos, changing, transforming the way of being, the mode of existence” (p. 237).

In this context, artefacts, objects and information (material and immaterial) that museums showcase and represent can be perceived as nodes of a major nonhierarchical “socio-cultural rhizome” made up of multiple heterogeneous connections (Deleuze & Guattari, 1987), producing new thoughts, new concepts and new affects. The socio-cultural rhizomatic museum lies on sharing power with audiences, moving from didactic, one-way knowledge towards stimulating participation, engagement, experience and social interaction and their relations. Furthermore, it comes to be defined by the relations of artefacts and audience, cultural entanglements and technological possibilities and innovations that affect the display and management of the institutions and their collections (Cameron & Kenderdine, 2007). These increasingly significant intents and their relationships are embraced and associated with the conception of interactivity and ‘interactives’ within museum environments that have increased in the last twenty years (Kidd et al., 2011).

The notion of interactivity has become a guideword and a motto for engaging the participant in the museum space. Interactivity seems to provide us with the promise that the museum visitor will become an active self (Mac Donald, 2002) and it has been acknowledged with the potential to demonstrate processes and enable the user to see from new perspectives (Pearce & Pearce, 2000). In spite that, the troubling and controversial complexity of the term and its implementation cannot be ignored. Interactivity has been adopted by various fields including art and humanities, museology, physiology and sociology, cybernetics and computer science that certainly does not allow a straightforward answer on the definition. Andrew Barry (2006) argues correctly that if interactivity and interactive technologies are expected to enhance the agency of the visitor and to channel it in most productive direction then the specific dynamic of this agency must itself be known. He continues with an analysis of the political anatomy of the museum visitor, which, he argues, goes beyond interactivity as deployed within communication theory, but located in relation to the body as source of experimental knowledge.

Interactivity and immersion

This part explores the uses of the term interactivity and its attachment with immersiveness as currently deployed from the academic community scanning the various angles of analysis. This contributes to furthering the relations of those terms with embodied experience and multisensory space including the value of the body within the process.

The term interactivity in museums is explored as the relationship between audiences and new media, by the usage and inclusion of computer interactives, multi-touch systems, mixed interactive systems such as augmented reality (AR), mixed reality (MR), tangible user interfaces (TUI), or tangible interactives (Kidd et al., 2011), virtual reality (VR) applications in the museum spaces. Eva Hornecker (2008) discusses the field of interactivity specifically the touch interfaces and their allowance of interaction of visitors with some parts of museum discovering new experience. Falk & Dierking (2004) adds an important literature on the relationship of these technologies with engagement and learning. Vom Lehm & Heath (2005) coming from an art marketing discipline analyze extensively interaction and technology in museums with a specific interest on social interaction. Kidd et al. (2011) explore the assumed increased social engagement, observed by participation, co-participation and multi-participation of people, especially when individuals and groups communicate with one another around the content.

Immersive applications can put into practice the heterotopia process, gathering places in a single place and each place is in all places, experienced as if a natural space. It is the place of accumulation, which leads the visitors to feel present in multiple spaces and places as well as times. These are characteristic features of heterotopias as described by Foucault (1967). The co-presence of the networks allows not only travel through space and time, but creates a state of immersion as a multisensory experience, a state of consciousness where a visitor receives inputs from all the senses giving him/her the feeling of heightened sensation (Bitgood, 1990). Bitgood (1991: 2) refers to simulated environment immersion as “the degree to which an exhibit effectively involves, absorbs, engrosses, or creates for visitors the experience of a particular time and place.” According to Barry (2006), the immersive experience may play a big role in enhancing learning, engaging and exciting the visitors in scientific practice. The linkage of immersion and interactivity appear to involve the embodied experience, which is contented by the visitor through body movement within a space or within

spaces. Immersion and interactivity of these types is argued to changing our perception and concept of image towards the direction of multisensory space through temporal diverse experience.

Immersive experience is related to the quality of flow experience when people feel completely involved in something to the point of forgetting time, fatigue, and everything else but the activity itself (Csikszentmihalyi & Hermanson, 1995). Immersion is the body of things and relations and in the midst of an assemblage with relations, flows, and connections amongst heterogeneous elements (Deleuze & Guattari, 1987) that trigger affect as transitive, as emotion and feeling, and as power. "Affect can be understood as a supple incrementalism of ever-modulating force-relations—that rises and falls not only along various rhythms and modalities of encounter but also through the troughs and sieves of sensation and sensibility, an incrementalism that coincides with belonging to compartments of matter virtually any and every sort" (Seigworth & Gregg, 2010, p. 2). Affect is a force outside of consciousness and unconsciousness, an entire, vital, and modulating field of myriad becomings across human and nonhuman (Seigworth & Gregg, 2010).

High Arctic Installation

This section of the paper provides some insights on the case study, its components, the research methods used and preliminary results. The discussion on aspects of the preliminary results from the on-site empirical research at the High arctic installation in the National Maritime Museum provides a heterogeneous and inventive platform for an initial analysis of the data revealed. The National Maritime Museum decided to include this collaboration and introduce the museum's new wing through the eye of a non-traditional exhibition was made purposely. The aspirations of the museum director Fiona Romeo of the exhibition and the project manager Matthew Lawrence, were to bring in the museum space an experience totally un-museum like, where for example, visitors will take off their shoes, run and make a noise.

The futuristic installation of 2100AD where the United Visual Artists' (UVA) view is to provide visitors with a journey, it starts by walking through a long corridor that leads towards the main space. Here they are provided with an ultraviolet light torch, which allows them to reveal details and actions in the installation. Thousands of columns of various heights,

grouped together are islands in the vast exhibition space. The columns hide names of glaciers in the Svalbard region through the abstract landscape and every column is a monument, a sculpture itself aiming to give the sense of scale of the arctic, in addition to its fragility over time. The exhibition subsumed navigational and graphical elements, natural sounds recording from the arctic constituting a soundscape, also sound through speech in the form of poems, and digital floor projections⁴. All these components exist in action through the presence of the visitor. Sounds subtly react to visitors navigations, the undercurrent ice and water also wait for the visitors to move them with their UV torches through speakers that are spread around in the space inside the islands, hidden from sight, where the quotes and fragmented poems are hidden then activated when approached.⁵

On-site research

The purpose of this study is to investigate the interactivity and immersive experience of High Arctic exhibition at National Maritime Museum in relation to emotions, discovery and personalized 'journey' of visitors. I applied a qualitative research in November 2011 following an ethnomethodological approach, that allow the analysis of audiences' behavior in any actual, concrete, and not hypothetical or theoretically depicted setting, with no need of special instruction made by the researcher.

Data Collection

The case study information/data are extracted from the on-site research on the High Arctic installation which included 31 group interviews and 32 group observations – approximately 100 people (including families and school groups). The distribution of female and male participants of the research was nearly equal and the age range was from 35 to 60 years old.

Interviews and observations

The data was collected from open questions style interviews. The questions are focused on the apprehension of audience experience in relation to concepts and key

⁴ Large floor areas will be used for digital inter- active floor projection. There will be a sense of a huge undercurrent of water and ice flowing through the space. The ice fragment will be aware of the architecture and collide and break against the columns. This will only be revealed when using your torch.

The style of the content will be monochromatic and grainy alluding to a nostalgic feeling.

⁵ Elements are taken from the National Maritime Museum's internal pitch and documentation.

dimensions of immersiveness and interactivity. The questions on social interaction and emotions are very exploratory. Learning and discovery are also included as a focus of the interviews, in addition to the exploration of possible connections with the purpose of the museum, the narrative of the exhibition programme or other exhibitions in the museum. Visitors were also asked to recall actions and discussions. These questions aimed to refer to bodily actions, movements involving usability, familiarity with technology and content. The word 'interactivity' and the audiences' opinion of it, were the final questions to avoid affecting their responses on the subject area. Parallel, observations were taking place within the installation environment, which looked at the way audiences responded to and navigated the space. The time that visitors spent in the exhibition varied from 15 minutes to one hour, with the average time spent about 20-25 minutes.

Preliminary Findings and Observations

The observations and interview analysis revealed varied and rich information about interactivity in exhibition "High Arctic". The majority of the people showed interest and excitement when they entered the environment. Most of the visitors went straight to the interactive pools and used them directly when in the space. Others, wandered in the environment before getting involved in any activity, also noting others interacting with the system first. The majority of people discussed and looked at the interfaces and we noted extended verbal and physical interaction between each other and other people in the space. About a third of the observed audience had short or non-verbal interactions.

Personal journeys

The data suggested that the visitors were finding their **personal 'journey'** throughout their visit and that they strongly relating it to personal experiences, understandings, concerns and imagination that accorded with their own understanding of the High Arctic and climate change. The encounters with the space, with the atmosphere of the immersive arctic installation, depended on the standpoint of the entrance of each individual. The self-tales created temporary unities always open to on-going processes of narratives and memories, the open-ended middles that constitute momentary completions, the open-ended relations that affect the audience allow then to identify emotions and to embrace personalized experiences. The process of becoming that seems to occur is not necessarily based on factual and narrative presented knowledge. There are the encounters of movements, rests,

speed and slowness that occur providing the capacity ‘to affect and be affected’ (Deleuze & Guattari, 1987). Affect arises in the midst of the in-between-ness, is an impingement or extraction of a momentary state of relation as well as the passage (and the duration of passage) of forces or intensities (Seigworth & Gregg, 2010). The temporary constellation between individuals as well as groups and unsettled objects of past and presents, spoken words from scientists, explorers, the sea within the exhibition space creates a possibility for seamless affects.



The interactive environment provided opportunities to feel ” **“in the midst of in-between-ness** (Seigworth & Gregg, 2010): between the virtual and the real world, between the self and the world, between the power to affect and the power to be affected. The situation of climate change seems horrifyingly realistic. Affect it is embodied rather than just abstract, the process of it actualization it is rather coming through moments of interactivity, as in the High Arctic installation when the projections, the machinic body is interacting with the body of the visitor. Then is when the forces are met other than conscious knowing, other than standard and conventional interpretations of the world is being told.

The strong intensities and forces of the experience are forming becoming, as visitors are affecting and are being affected, elements of the environment, climate change, polar bears, the meaning behind exhibition. Climate, wind, season, hour are not of another nature than the things, animals or people that populate them, follow them, sleep and awaken with them (Deleuze, 1987:290). These forces are insisting beyond emotion drive us towards motion, thought and extension.

Factual Knowledge

A major part of the research participants associated gaining knowledge with the range of textual and factual information they have available. This was directly connected with the specific expectations from a museum exhibition. The problematic of museum constantly negotiating its identity and role also lies on the audience understanding of it, their prospects and assumptions, which seems that a number of audience still mean a more factual exhibition following a 'historical' and explanatory narrative. The representational thinking, knowledge through factual information towards the correspondence theory of truth is what Deleuze and Guattari confront through exploration of non-linear routes and the uncovering of the direct linear cause and effect understandings of the world.

However, elements of discovery can be distracted from the interviews allowing the audience to a strong reminder of the subject matter and the ability to think further its content.

Discussion

My research interest in this exhibition derived initially from its immersive, responsive environment, which lacks touch screens, photographs or information panels. In the High Arctic installation the visitors are encouraged to walk through the landscape feeling a range of change by their bodily movements. The light, the sound, the rhythm, the 'feeling' of the immersion alternates by their own bodies and its proximity to the installation parts. The body is itself a source of emotion and knowledge. The technologies used in this installation moves away from the desktop on touch-screens towards the environment relating directly with our bodies through personal understanding and sensational experience.

The phenomenologist Merleau-Ponty (1962) emphasizes the importance of the body, at the centre of our relation to the world and the body being an instrument to truly experience space (Smyth, 2007). Continuing, Michael Smyth in his discussion on designing embodied experience emphasizes the body having a central role in how we engage with and learn about the environment we inhabit. Affect is found in those intensities that pass body to body (human, nonhuman, part-body, and otherwise) in those resonances that circulate about, between and sometimes stick to bodies and worlds and in the very passages or variations between these intensities and resonances themselves (Seigworth & Gregg, 2010).

The visitor's body is encountering a dark space where using their tools which they have in their hands they reveal names, dates through a dark corridor. Arriving in the space, the ground is a grid, which has been laid out showing longitude and latitude lines in phosphorescent paint. These are made visible only through the UV torches, through the bodies moving in the space. The majority of audiences when entering the environment were moving their torches as an extension of their hands investigating the space, in different speeds. Their experience surely alternated according to the movements, to other invisible faces in the space, the sounds, the floor, their personal knowledge, experience and one cannot stop here. A constant becoming, the arctic space was placing its characters in becoming-lights, becoming-snow, becoming-wind, becoming-god, becoming-distractors of the world, becoming-glaziers. The becoming as expressed by Deleuze is not discussing becoming the snow, becoming the wind for example but it the subject in process, with the process mattering.

'Line of becoming is not defined by points that it connects, or by points that compose it; on the contrary, it passes *between* points, it comes up through the middle. ... A line of becoming has only middle. The middle is not an average; it is fast motion, it is the absolute speed of movement (Deleuze & Guattari, 1987: 293).

The preliminary findings introduce us to the application of apprehending the non-linear experiential mode of the visitor within the exhibition. It allows to discuss and to deepen the process of interactivity through the lenses of affect and becoming. High Arctic installation placed within the traditional National Maritime museum provides the museum of heterotopia to expand beyond spaces and topos towards rhizomatic thinking. In the immersion

environment visitors experience involves multiple places and human temporalities where bodies, lived and imagined stories are created. The position of the body with its kinetic sense, which constitutes relations between movement and rest within the interactive pools and soundscape of the immersive installation, does not create representation, symbols or emplacements. It encounters conversations on the space of thought through being affected and through affecting the elements of the installation, the overall space and other visitors within this environment.

People connect themselves with the environment and its temporary history which allows them to experience rhizomatic thinking where the story told is changing according to their personal lives, their momentary feeling, the spatial movements, the people they are sharing the experience with, and their own preparation on the subject before coming in the exhibition.

Becoming is a rhizome, not a classificatory or genealogical tree' (Deleuze, 1987: 297)

Conclusion

Concluding, this paper is as an initial analysis to explore further the uses of interactivity through the High Arctic exhibition relating it directly to the responses of the audience. The investigation of the visitor and the experience enhanced through the installation along with the dynamic of his/her agency shows a multidimensional route to be created. The technological interactive design elements, fragmented narration of poems and soundscapes of the exhibition provide the capacity to redefine the connections of the audience, the body, the space and internal relations. The connections made hold a rather heterogeneous and rhizomatic approach with the encounters and the forces producing something further than a linear historical understanding of the subject of the exhibition. The 'uncompleted' interactivity seeks the audience to produce affect through various rhythms and modalities of encounter and channels of sensation and sensibility leading to becoming.

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The profitable museum - accounts as communication

Vinnie Nørskov

Over the last 20 years the economic situation of Danish museums has gradually changed from being very much dependent on public funding to relying on a more diverse income structure. This paper discusses how changes in museum economy are visible in the accounts and how accounts can be read and interpreted by stakeholders.

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THE PROFITABLE MUSEUM

Accounts as communication

Over the last 20 years the economic situation of Danish museums has gradually changed from being very much dependent on public funding to relying on a more diverse income structure. This paper discusses how changes in museum economy are communicated in accounts and whether they reflect changes in the museum as an institution.

According to the *Editor-in-Chief of Museum Management and Curatorship*, Robert Janes, museums “have allowed themselves to be held increasingly captive by the economic imperatives of the marketplace and their own internally-driven agendas” (Janes 2011: 54). This means that “Museum performance is now judged primarily by consumption – attendance figures, shop sales, earned revenues and so on, and money is now the primary measure of worth for most museums and their governing authorities” (Janes 2009). Janes is speaking from a Canadian/American perspective but it is a global trend and therefore it is relevant to ascertain to which degree this is also the case in Denmark.

My paper originates in a research project investigating if and how private business sponsorships influence museums in Denmark, a project my colleague, Ane Hejlskov Larsen, and I are currently conducting at the Centre for Museology at Arts, Aarhus University. Our project is part of a larger interdisciplinary research project, *The Strategic Museum*, which is financed by the Danish Research Council and carried out in cooperation with professors Finn Frandsen and Winni Johansen at the Centre for Corporate Communication at Business and Social Sciences, Aarhus University.

In this paper I will focus on the general developments of the economic situation of museums as well as on the relationship between the changes in their economic situation on the one hand and their activities on the other. I will focus on economy as expressed in accounts – an issue seldom discussed in the framework of changes in the museum field. However, accounts can be viewed as an important part of museum communication, which I will illustrate through a media story on Danish art museums. This story illustrates how museums’ accounts are being read by important stakeholders in Danish society.

I have chosen two main questions to investigate regarding how museum economy has changed over the last 30 years:

- Where does the money come from and can we see an increased focus on earned revenues in the accounts?
- How is the money spent? Can we see a change in the museums’ priority of activities?

I will begin with a short introduction to the changes in society that have had a direct impact on the economic situation of the museum. I will focus on the structural changes in the relationship between museum and society.

Then I will present a case study of two museums located in the same city in Denmark. I will describe their economic situation over the past 30 years and then discuss its impact on the activities of the museums.

In the third part I will discuss how economy and accounts play a role in communicating and thus establishing museum legitimacy. To illustrate this, I will use a media story, which was broadcasted in Danish radio and television in 2011.

In conclusion I will discuss the validity of Robert Janes' statement in a Danish context.

Changes in society that have affected museum economy

Danish Museums have been closely related to the state since the emergence of the museum landscape in Denmark in the late 18th century. The first law concerning museums was adopted in 1887 and dealt with financial support for the provincial museums. The legal framework applied only to cultural heritage museums, whereas the first law concerning art museums was not adopted until 1964. In 1976 all Danish museums were written into the first common Museum Act. The law defines the criteria for receiving financial support in §15. The principles of state subsidies found here are the same as those used today. The state subsidies are fixed on the basis of the non-state subsidies and calculated on the most recent audited accounts.¹ In the annual Finance Act, a minimum is fixed for the non-state subsidy – at present DKR 1.2m – as well as a maximum, presently DKR 2.2m. In 2009 the maximum state subsidy was 37.9 %, corresponding to a maximum amount of 833,856.00 DKR.² The law was overseen by a committee of elected museum workers (Strandgaard 2010: 434). In 2001 the Museum Act was revised and this committee was substituted by a government agency – The Cultural Heritage Agency.

This change to the administration of public servants can be seen as a consequence of the introduction and implementation of New Public Management in the public sector, which has taken place worldwide since the late 1980s/early 1990s. This has resulted in an increase in the demand for the justification for public funding and for evidence of effectiveness in the sector. Furthermore, this has led to demands for clearer statements by public institutions concerning

¹ Consolidated Act on Museums 2006, Part 6, §15

² <http://www.kulturarv.dk/museer/museumsdrift/oekonomi/statstilskud/> (25.3.2012). A smaller number of museums received an extraordinary grant because they have responsibilities beyond their local authorities.

intents, goals and performance as well as the means to realize them (Gray 2007). The sustained focus on measurable criteria as the basis for goals is apparent in contracts between museums and their main financial subsidizers. In fact, The Danish National Museum was one of the first state institutions to introduce contract management. Only a few municipalities have introduced contract management in the cultural field. But the Cultural Heritage Agency began a procedure of quality assessment in 2004, which all museums receiving state subsidies should go through this every five years.³

The internal changes in the management structures of the public sector have been followed by political focus on enhanced cooperation between business and culture, firstly to increase growth in creative business, secondly to make cultural institutions more effective and market-oriented. This can also be seen as part of a general tendency to mix public and private engagement. In 2000, the Ministry of Culture and the Ministry of Business published a joint report about Denmark's creative potential and initiated projects supporting collaborations between the cultural sector and business.⁴ This was part of a global tendency, which is often discussed under the auspices of experience economy, and which provides museums with tools to develop new, more market-oriented activities.

These general changes are in accordance with Janes' statement and lead to the hypothesis that the economic situation of Danish museums should also reflect these changes in the allocation patterns. A recent investigation of the Danish museum landscape by the Cultural Heritage Agency showed that Danish Museums are able to realize about the same amount of money as the public subsidies: in 2011, 39 % of the turnover of the state-subsidized museums was earned revenues.⁵ The economy of Danish museums is thereby more integrated in the general market economy than purely publicly funded institutions, making such a proposition worth investigating.

A town with two museums: a case study

The question is how these changes are manifested in the economy of the museums. The case study will take us to two museums in a small Danish market town in Jutland called Herning.⁶ Herning is a relatively young town, whose development into a prosperous industrial centre

³ The quality assessment is a tool to evaluate the performance of museums by the Cultural Heritage Agency: <http://www.kulturarv.dk/museer/museumsdrift/kvalitetsvurdering/>. The quality assignments are supposed to be increasingly important in the planned revision of the Museum Act, see *Udredning om fremtidens museumslandskab* 2011.

⁴ *Danmarks kreative potentiale* 2000.

⁵ *Udredning om fremtidens museumslandskab* 2011, 12. 35 % was funding from the state, 26.5 % from the communities.

⁶ I am very grateful to the directors and the staff at the two museums for supporting our research and providing us with the necessary information to make the analysis.

based on textiles was due to the opening of the railway in 1877 and to the production of wool in that region. As in a number of other Danish towns, this development was followed by the foundation of a local cultural heritage museum. The founding father was J. A. Trøstrup (1830-1915), a teacher, a collector and a keen supporter of public education (Hansen 1949, 81). He succeeded in establishing support for the founding of a museum in Herning in 1892. It was a museum dedicated to the preservation and exhibition of the cultural heritage of Central Jutland. A new museum building was inaugurated in 1910. The museum has received subsidies from the municipality and the state since its foundation.

After WW2, a new generation of textile industries evolved in the city. One of the leading figures was Aage Damgaard (1917-1991), who started manufacturing Angli shirts in 1939. He was not only interested in shirts but also in art. He began collecting art in the 1950s and he employed artists to decorate his factory. In 1963 he sold the building and constructed a new one; the new building was planned and built to house both the production line and his art collection (Hesselund 1992, 77ff). Ten years later, competition from eastern textile manufacturers led to the decision to close down the factory. However, Damgaard succeeded in transforming the factory complex into a museum for his collection. A foundation was established to take over both the building and the collection with the intention of constructing an art museum (Hesselund 1992, 87ff). The art museum was recognized in 1980 by the state as eligible for state subsidies according to the Museum Act, and also received subsidies from the municipality. The fact that the museum was now officially recognized as an art museum was very important for Damgaard. These two museums were chosen for this case because they are representative of how many museums came into being in Denmark, and because the history of the art museum points towards a close connection between the cultural and business sectors of the town.

Over the last 30 years, the two museums have been competing for local support. Both museums are subsidized by the municipality being the main subsidizer and until 2006 also by the region. The region's subsidy was transferred to the Ministry of Culture during the structural reform in 2007.⁷ The statistics in Figure 1+2 show the income of the two museums from 1980-2009. Based on the accounts from the museums, the income can be divided into public subsidies from state, region and municipality (blue), donations and sponsorships (green) and revenues from entrance fees, shop, rentals etc. (orange).

⁷ *Midtvejsrapport – i udredningsarbejdet om fremtidens museumslandskab 2010*, 34.

Fig. 1: Income of the Cultural historical museum

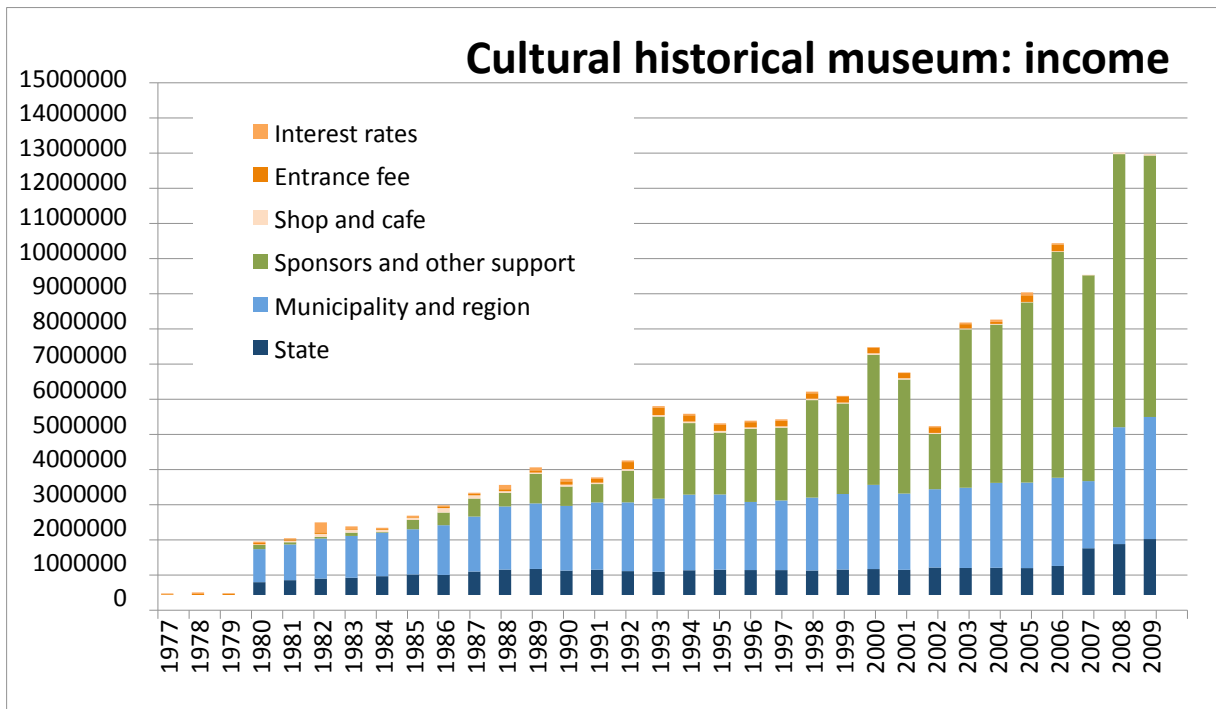
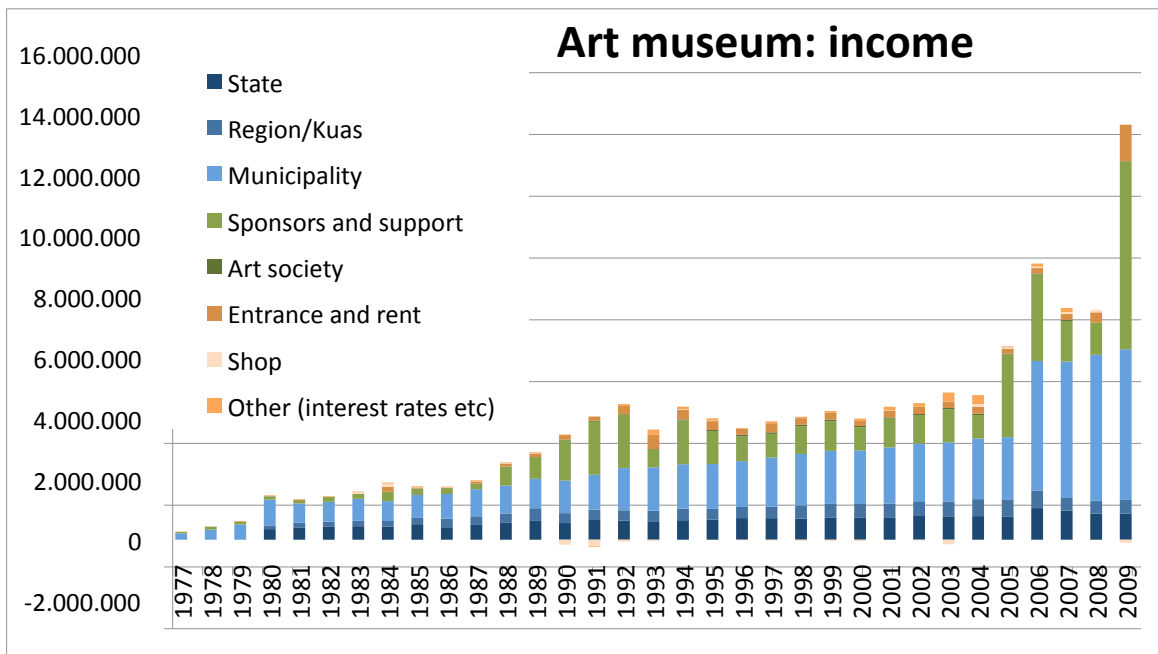


Fig. 2: Income of the Art museum



Both museums have experienced an increase in their income in the years in question. The art museum experienced a marked increase in subsidies from the municipality in 2006 as well as a marked increase in sponsorships and donations in the last few years. The museum moved to a new museum building in 2009, which is reflected in the increase of subsidies from the municipality in 2006 in anticipation of the increase in expenses due to the new premises.

The cultural history museum also increased its income. While public subsidies have been stable, showing only a very small increase in 2008, donations and sponsorships have increased much more. In fact this can be explained as income to cover expenses for archaeological investigations carried out under the regulations of the Museum Act, Part 8. The expenses for this work were covered by the state until 2002, after which it became the building owner who had to cover the expenses, whether private or public.⁸ Thus the economy of this museum is dependent on the general growth of the area because most excavations are related to building and construction work. During the first years of the new regulations, there was a marked growth in construction work, and archaeological fieldwork boomed, but since the global financial crises in 2008/9, museums with archaeological responsibility have been struggling financially. This is not visible in these accounts, as they only cover the period until 2009. The following year the accounts show a large deficit.⁹

In her study of the impact of the financial crisis on museums worldwide, Lindquist has analyzed the circumstances underlying the sensibility of museums to fluctuations in the economic cycle (Lindquist 2012). She argues that museum economy is only marginally affected, mainly because museums rely on several different revenue sources. This means that the more complex income sources an institution has, the less vulnerable it is to external fluctuations. In the case of the cultural history museum, this is in fact confirmed: when the museum's income from archaeological excavations grew to be more than half of the museum budget, the museum became very vulnerable to the sudden decrease in building activities in the area during 2009-2010.

A rather interesting fact from the income statistics is that revenues from entrance fees, the museum shop etc. only make up a very small part of the museum's entire economy. In an analysis of the relationships between various funding sources in US museums, Hughes & Luksetich's saw an interesting connection between donations and sponsorships and earned revenues from entrance, etc. The greater the number of donations and sponsorships, the more earned revenue there was through entrance fees etc. This can be explained as being due to the fact that both categories are rooted in the local community and reflect local support (Hughes & Luksetich 1999). However, if we compare the situation of the two museums in Herning, the

⁸ Consolidated Act of Museums 2006, part 8.

⁹ Interview with the director of the museum

picture is in fact more complicated than the general museum accounts illustrate. The economic scope of the art museum has two other arenas. The first is a non-profit private limited company (ApS), Socle du Monde, which was created in 2003. The purpose of Socle du Monde is to organise and host the biannual festival Socle du Monde, which supports the cooperation between arts and private business through a laboratory for artists and industry.¹⁰ The director of the art museum is also the director of Socle du Monde, and the museum is paid by the company for the services provided at the festival. The other arena is the construction of a new museum building. It is not unusual that new museum buildings are financially realised through the establishment of a foundation and thus these activities are not part of the general accounts.¹¹ The project was realised by the HEART Foundation and the cost of 150 mio. DKR was donated by the foundation Realdania (1/3), the Region and Municipality (1/3), other foundations (2/6) and private, local companies (1/6).¹²

Since the foundation of the art museum, a number of local companies have supported the activities of the museum through sponsorships.¹³ However, most of the income in the category of donations and sponsorships are grants from state or municipal agencies or from private foundations financing major acquisitions. Private sponsors constitute 18 percent of the income derived from donations and sponsorships during the entire period, and 4.5 percent of the entire income during the period analyzed.

Conclusion regarding the 1st question:

In both museums there has been a change in the income pattern but the changes are rather different for the two: the cultural history museum has become much more dependent on the general economic situation in the area, which is related to the public services the museum has to deliver in the shape of archaeological work. The art museum has increased its income due to internal changes in the form of a new building, but the allocation pattern of this museum has not changed significantly.

Thus it can be concluded that it is not possible register an increase in earned revenues from actual market activities (entrance fees, shop etc.) unless you consider archaeological service as part of the revenues. It is possible to register a high increase in funding based on grants from public and private organizations.

¹⁰ <http://www.socledumonde.dk>

¹¹ This has been the case in a number of Danish museum building projects during the last years, for instance Moesgård Museum in Aarhus and The Maritime Museum in Helsingør.

¹² Information provided by the museum

¹³ This will be explored in more detail in a forthcoming paper by A.H. Larsen and V. Nørskov.

Activities and the priorities of the resources in the museums

An American investigation of whether non-profit organizations in the US used more resources on administration and fundraising and less on public service compared income and expense patterns of 101 museums between 1987 and 1996 (Hughes and Luksetich 2004). Hughes and Luksetich concluded that generally there were no significant changes in the percentage of allocation of expenses even if the income allocation changed. The only area where there was a marked change was in expenses concerning memberships (friends associations), where the expenses increased on management and decreased on public service. However, friends associations are considered part of a long-time strategy and the benefits cannot be measured in this kind of analysis. In the case of the two museums in Herning, such an analysis is not possible because it is necessary to measure the time the staff spends on different activities. However, in the case of the art museum, it is possible to see a change in the accounts from 2008 related to the building and opening of the new museum – an item has been included in the account to cover expenses on Public Relations and Marketing since 2008 (Fig. 3).

Fig. 3: Expenses of the Art museum

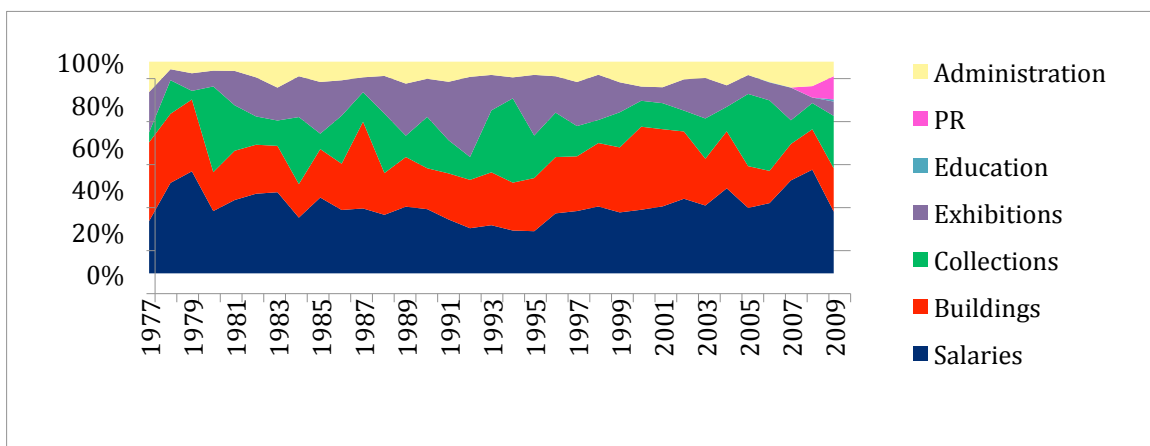
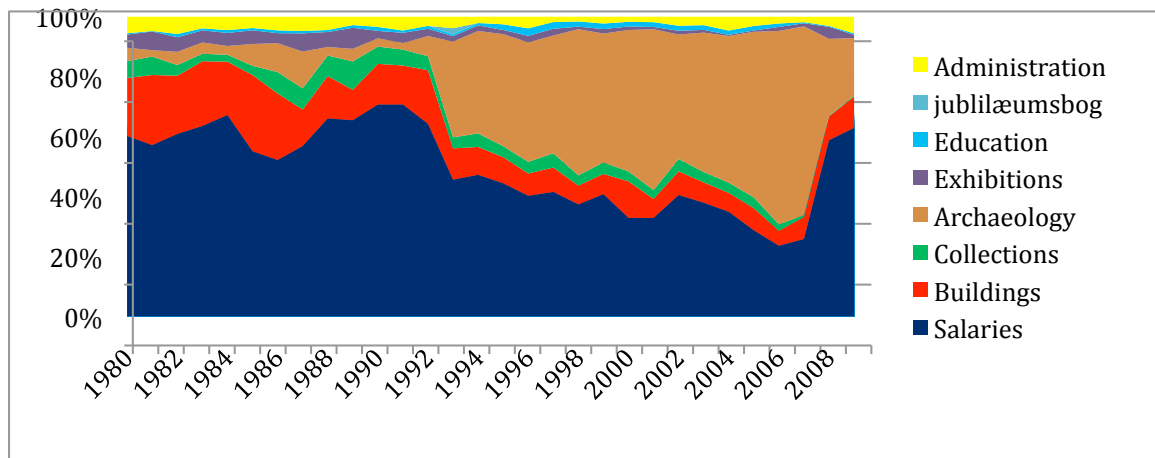


Fig. 4: Expenses of the Cultural historical museum



Looking at the spending pattern of the cultural history museum, the increase in expenses used for archaeological excavations from the early 1990s is very significant and counterbalances the increase in funding for this area of activities in the income statistics (Fig. 4). The fall in 2008-2009 corresponds to an increase in salaries and this can be explained as being due to a change in employment rules – archaeologists could no longer be employed on a temporary basis, so the museum had to offer a number of archaeologists permanent employment, which is, however, financed through projects.

As a conclusion to question 2, it is only possible to see a significant change in the expense patterns of the art museum through the introduction of expenses in the area of PR and marketing. This is the only element qualifying a positive response to whether Danish Museums have become more market-oriented and it is connected to the investment in a new museum building.

Accounts as communication and museum performance measurements

Why is this relevant? In a time when public institutions have to justify their activities and how they spend the taxpayer's money, a transparent economy might be a useful tool in the dialogue with the public. Traditionally, Danish museums have not published information about their economy on their homepages, but in recent years, more and more museums include the balance sheet of the year in their annual reports, which then are made available on the web. This also applies to the two museums analyzed here, that have both made their reports available since 2009, which is the last year I have analyzed. The art museum publishes a balance sheet, but the cultural history museum only mentions those who support the museum financially as well as the financial shortcomings which make it difficult for them to live up to their responsibilities. This means that museum visitors are not able to find detailed information on the museum in their neighbourhood that they finance with their taxes.

In 2011, Danish television launched a series called *Kulturkøbing* (Culturetown), questioning how public money was spent on culture in Denmark.¹⁴ The first episode of the series was entitled: *Everyone has the right to have a cool art museum*. Two journalists had looked into the economy of Danish art museums to find out how the money was spent, and their conclusion was that only 21 percent of the total budget of the museums was spent on art and exhibitions. The remaining 79 percent was spent on salaries, administration and building maintenance. As discussed earlier, the accounts do not provide information that makes such an evaluation of the activities of the museum possible, but this was what the journalists did.

¹⁴ <http://www.dr.dk/Nyheder/Kultur/2011/02/16/122443.htm>. The numbers were based on an analysis made by two journalists at the radio programme Detektor analyzing the accounts of Danish art museums of the year 2008: <http://www.dr.dk/P1/Detektor/Udsendelser/2011/02/16142319.htm>

The television programme used a case in a city very like the one analyzed here, where the art museum had worked toward establishing funding for a new museum building. The journalist introduced the museum director to an alternative model, suggesting that an empty industrial hall could be used and renovated instead of building a new museum. The journalist claimed that this solution would be cheaper than building a new museum and in theory save some money that could then be spent on art. In fact, the programme put the museum director and the art museum in a rather bad light, which is noticeable in the comments on the homepage of Danish television following the show. These comments reveal a remarkably hostile tone: no more money should be spent on art but instead on the welfare of ordinary people. Here is one example:

"Vi har så rigelige kunstmuseer her i dette lille land. Tænk, hvad man kunne få af sosu-og pædagogtimer bare det de allerede eksisterende koster i drift!! Meget af den "såkaldte" kunst er ikke andet end kejserens nye klæder."¹⁵

(We have more than enough art museums in this small country. Imagine how many social workers and healthcare personnel and educators you could get for the money spent on the already existing museums! Much of the 'so-called' art is nothing but the Emperor's New Clothes)

Many of the contributors think museums should be sustainable and if they are not able to survive on the basis of entrance fees and other revenues, they should close. There is no legitimacy besides consumer demands in these voices: if the museums do their job properly and attract enough customers, they can survive on market terms.

The question of legitimacy is a rather complex issue, which I am not going to discuss in detail in this paper.¹⁶ However, what is at stake here is again the question of taxpayer's money and the right to be able to decide what it is spent on and why it is spent in this way. And there seems to be a need for communicating the value of museums to at least a part of the public engaged here.

Conclusions

Janes' criticism of the changes in museum performance measurements can be seen as part of a global discussion of the aims and values of museums. Obviously, aims and values are not directly visible in the financial accounts of non-profit organizations like museums. However, eco-

¹⁵ <http://www.dr.dk/Nyheder/Kultur/Baggrund/2011/02/17/144444.htm>: post nr. 17 – Sonja Bjerre.

¹⁶ The question of legitimacy is currently being explored by ph.d.-student Gertrud Latif Knudsen in her project on strategic stakeholder communication in a dynamic perspective – roles and expectations of the local museum.

conomic information and considerations could be included in the annual reports in a way that illustrate the priorities of the museum.

In order to prevent media stories like the art museum controversy above, it is important to communicate the value of museums to the public effectively. The comments from the public in the story above show a very limited understanding or sense of ownership of the museums.

The case of the two museums cannot be used to say anything general about museums in Denmark. It is possible to find museums that incorporate their economic situation into their communication strategy, for instance the Viking Ship Museum in Roskilde. The annual report of this museum from 2009 includes a long chapter on the economy of the museum, analyzing the income pattern of different activities and the role of the museum in the local area, even calculating how much money the museum is returning to society by attracting tourists to the area, paying taxes, and supporting local or national businesses.¹⁷ Interestingly, the museum does not go into detail about the priorities of the allocations of expenses. Thus it does not connect the economy so much to traditional museum activities as for instance collection management, but instead focuses entirely on the business. This is a museum clearly working the Janes' market-oriented way and, as opposed to the two museums in Herning, its earned revenues constitute 56 % of the annual budget.

Remarkably, the two museums analyzed here, do not seem to be affected by the demands of a more market-oriented approach to a very high degree. However, the art museum's new museum building has led to changes in that direction. This gives rise to interesting questions about why that did not happen before, and why it did not become more apparent.

Thus it would be interesting to explore why certain museums do apply a more market-oriented communication and others do not. It would also be interesting to explore whether this in fact has any influence on the aims, values and performance of the museums – thus addressing the issue of the legitimacy of museums in their local context.

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¹⁷ Vikingskibsmuseets Årsberetning 2009, 64-77.

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A study on transforming the museums through interactive exhibiting

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Abstract

With the advancements in networking and displaying technologies, museums started to make use of the rich sources of interaction obtained by the transforming modes of communication. Few of the latest interactive exhibitions make use of these physical spaces as a mediator to connect user, technology and data. We believe that interactive exhibiting has the potential to alter museums to mediums through the architectural qualities of space. This research examines conceptual interactive exhibition designs developed for different architectural spaces in Spatial Interaction Design Course in Interactive Media Design Department, Yıldız Technical University within 2009-2011 to find clues to transform museums into communicating environments.

Introduction

The traditional forms of art has started to be replaced by process based, participatory and interactive installations In parallel with the current networking and dynamic technologies, which caused a change in the relationship between the art work, the physical space and the audience (Buskirk, 2005). Driving from these developments, museums started to make use of the rich sources of interaction through multiple, participative and interconnected applications in order to maintain the permanence of art, knowledge and cultural heritage, considering the fact that the artwork is defined as the whole process that involves the participant to interact with the art object nowadays (Bullivant, 2006). These changes also questioned the ways and methods for displaying and exhibiting these process-based site-specific interactive works and looked for proposals on contemporary art exhibitions point out the relationship between the work and the place (Greenberg, 1996). With the beginning of 2000s, the use of virtual technologies within the installations also created another dimension in the relationship of the artwork and the physical space. These installations not only communicated with the audience, but also with the physical spaces and enhanced

their potential in many ways (Bullivant, 2007). These improvements in the changing modes of communication brought alternative possibilities for the transformation for museums and galleries that give the opportunity for the audience to participate with the artworks in various ways.

In parallel with the recent discussions, although it is agreed that the architectural qualities of the physical space plays an important role for the formation and shaping of these works, the analysis of the latest interactive exhibitions and works showed that few of them made use of the physical space as a mediator to connect user, technology and the emotional qualities of the data and rather focus on the design of hands-on exhibitions (Caulton, 1998; Smithsonian, 2002). This study searches for keys to guide us for the transformation of museums into intelligent spaces through interactive exhibiting and looks for clues that will yield outcomes for the methods and ways to make use of architectural space for interactive exhibiting in an efficient way.

Integration of Interactive Media to Architectural Space Through Spatial Interaction

From the perspective of architecture, the architectural quality of the physical space is vital to stage interactive designs in a physical medium (Ozcan, 2002), whereas the concept of interaction sets constraints that create and shape the user-oriented qualities of design for moving within the content through participation (Kolko, 2007). In the frame of the context of exhibiting, both architectural space and interactive media focuses on displaying and preserving and the concept of interactivity in physical space will help designing the human behavior with the use of spatial data. So, "designing the activity" would provide us a guidance to combine both the design of media and architectural space.

We believe that interactive exhibiting has the potential to transform museums into communicating environments on the basis of activity, use of media and spatial organization, respectively (Kaptelinin, Nardi, 2006). The theme guides the exhibition, which also serves to define the constraints and the active intent of the product (McCulloughm, 2004). As the theme of the exhibition is identified, the activity that rules the set of actions and operations are defined. Mediation of the tools placed in the physical space will realize the actions in the space. The interactions that support the theme are developed by creating the best possible combination of images, texts and sounds that form the graphic user interface in terms of IMD (Manovich 2001), and through the proper design of the access

elements such as windows, doors, knobs, buttons, zips, handles... etc that act as the solid user interface elements of 3D forms (Ozcan 2002). So the works have to employ multiple narratives including a number of mediums such as text, graphics or technology, in order to drive the theme forward. Lastly, the theme gains a structure with the design of the sequences of experiences and behavior (Hughes, 2010). So, the users primary form of interaction becomes moving within the content, which is composed of the organization of the spaces or the information (Saffer, D., 2007). With all of the actions and tools arranged on a navigational path on the basis of a theme, the architectural space is expected to transform into a communicating agent.

With the steps given above, we tried to define interactive exhibiting through spatial interaction and to make clear on what is intended for an architectural space to be a medium of its own. On the basis of these issues, within this research, we attempted to define an interactive exhibiting space as a dynamic environment with a theme that involve user experiences in real time (Lorenc et al., 2007) With the use of space supported by movement and memory, this environment is expected to provide multilayered communication through a balanced construction of interconnected components (Kosmann, 2009).

Using these definitions, we tried to develop conceptual interactive exhibition designs for varying forms of architectural spaces in order to see the effects and benefits of the qualities of different architectural space.

Different Methods For The Spatial Interaction Design Course:

In parallel with our aim, we tried to develop conceptual interactive exhibition designs for different physical spaces with the anticipation to obtain varying outcomes for the use of the space to act as an agent for the **transforming modes of communication** in Spatial Interaction Design Course in Interactive Media Design Department in Yildiz Technical University. This course was carried out for 4 semesters in the Interactive Media Design Department of Yildiz Technical University with an average of 15 students each semester. These students had no prior experience of architecture but are well educated for creating interaction designs for different mediums. Between 2009 fall and 2011 spring, in parallel with the works of the students, this course had been implemented in 2 different versions:

1. Design brief based on a linear space

The students tried to develop projects for a linear space that has two entrances and has a length of 35 meters, a width of 2.80 meters and a height of 6.50 meters (Figure 1). The students were encouraged to make use of the height of the space within their projects as the space was high enough to create two floors and most of them used this factor to enhance the quality of the space as a medium. The choice of the audience profile was left to the students to be decided in relation with the theme.

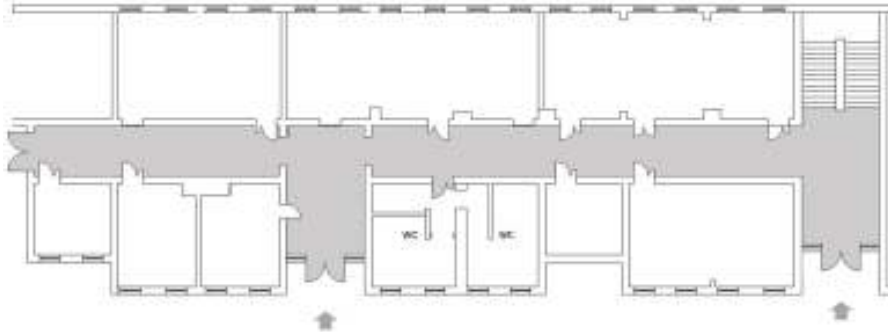


Figure 1. Plan of the linear space

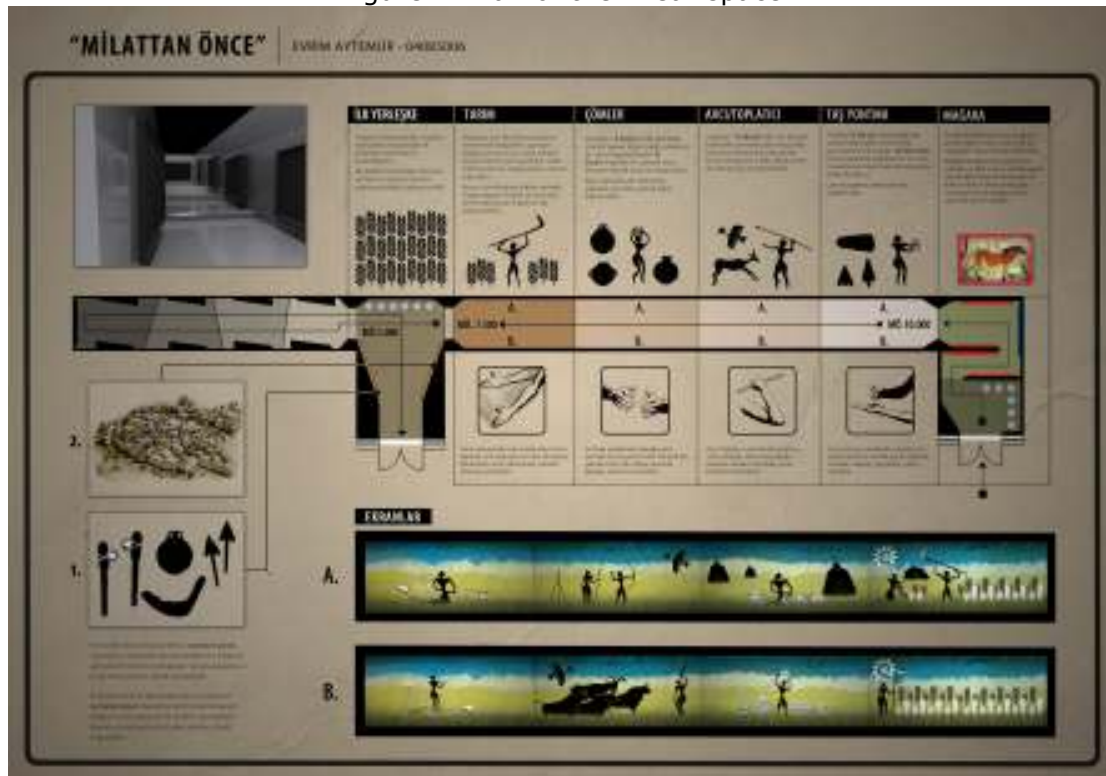


Figure 2. Project named "Prehistoric Times", by Evrim Aytemur, aimed the user to experience the activities of early times and organized the space in sequence with the developments of manhood by using different displaying modes.

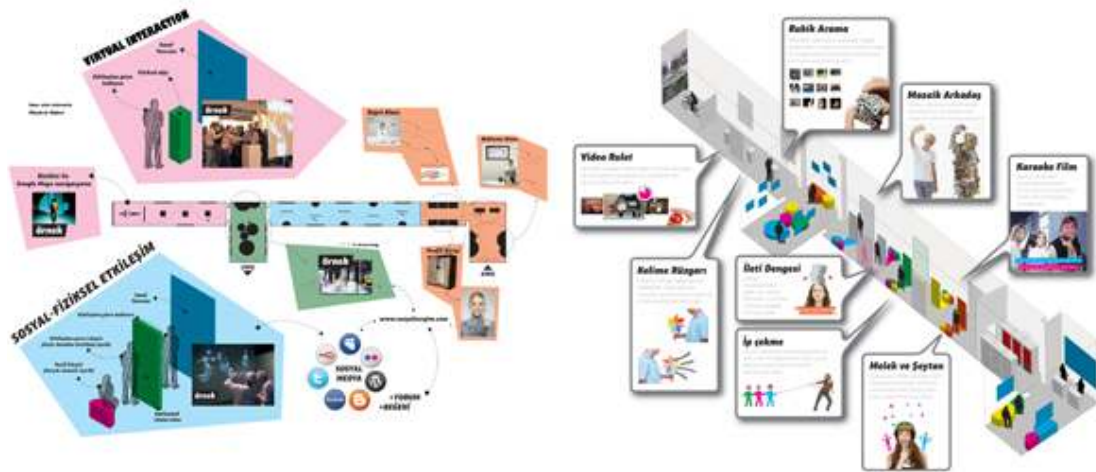


Figure 3. Project named “My Social Exhibition”, by Ozge Caldiran, aimed the users to build the content of the exhibition by themselves with the support from social media. Different displaying techniques were used, where the user can become the audience of another at the same time.

With the analysis of the works, we recognized that the linear plan of the space limited the choice of technological tools and the navigational interactivity maintained within the space. As the linear condition of the space was very strong, the works did not yield many alternative solutions in terms of the use of spatial organizational techniques. Most of the assignments were based on a linear story and most of the students made use of screens and displays for their projects, rather than searching for alternative modes of interactions. The projects that were not based on a linear story were less successful in maintaining the unity of the exhibition area. Still we obtained different alternatives for displaying techniques, in connection with networking technologies and social media (Figures 2,3).

2. Design brief based on a multi story square shaped building

After experiencing the advantages and the disadvantages of the linear condition, for 2010 Fall and 2011 spring, we decided to work on a different physical space. So we chose a 3-story building with an area of 16 meters by 16 meters per floor with a floor height of 2.50 meters for each floor, having 2 entrances from different levels (Figure 4). The students were advised to make use of the total floor height, including the possibility of adding or deleting a floor.

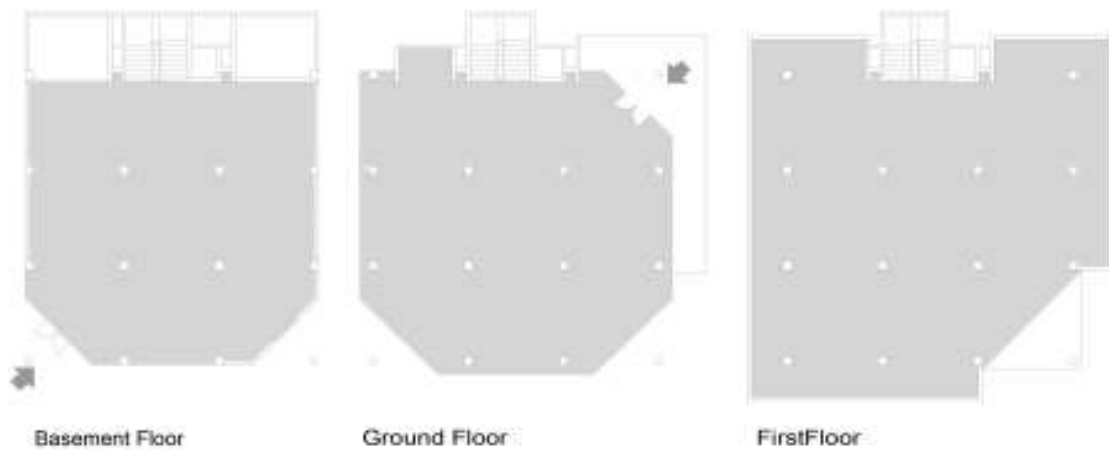


Figure 4. Plan of the 3 floors for the building

Within the works, we have seen that the students struggled with the shape and the configuration of the building, which required for different needs other than the linear space. The lack of architectural knowledge caused difficulty among the students in both maintaining the theme, selecting and adapting the interactive tools and developing the navigation within the physical space. Although we discussed about the architectural concepts and spatial organizational solutions, few were successful in transforming the space suitable for an interactive exhibition.

We recognized that the projects that could be considered successful among the rest have added a user profile or a disability and developed the design and the choice of technological tools accordingly. These cases showed us that when the physical space was not inspirational enough, the students needed an additional limiting element within the brief, as seen in Figure 5.

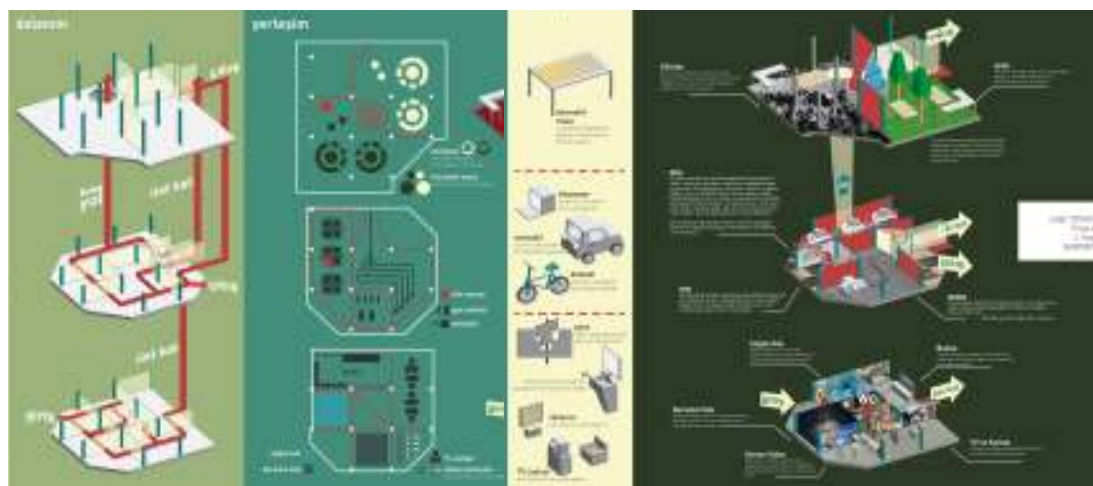


Figure 5. Project by Çağrı Yenen named "Labyrinth", that focuses on the life stages of working class, from bottom to top. The labyrinth gives choices for the audience to make his life decisions and guides for his achievements.

With the works, we have recognized that, limiting the user profile guided the students to draw upon some facts about the choice of interactions and the selection of the interactive tools. This leded them to create encouraging solutions both for the organization of the space and the spatial interactions proposed through their projects. With this assignment, we can say that the students were better in interpreting the space as a medium of its own.

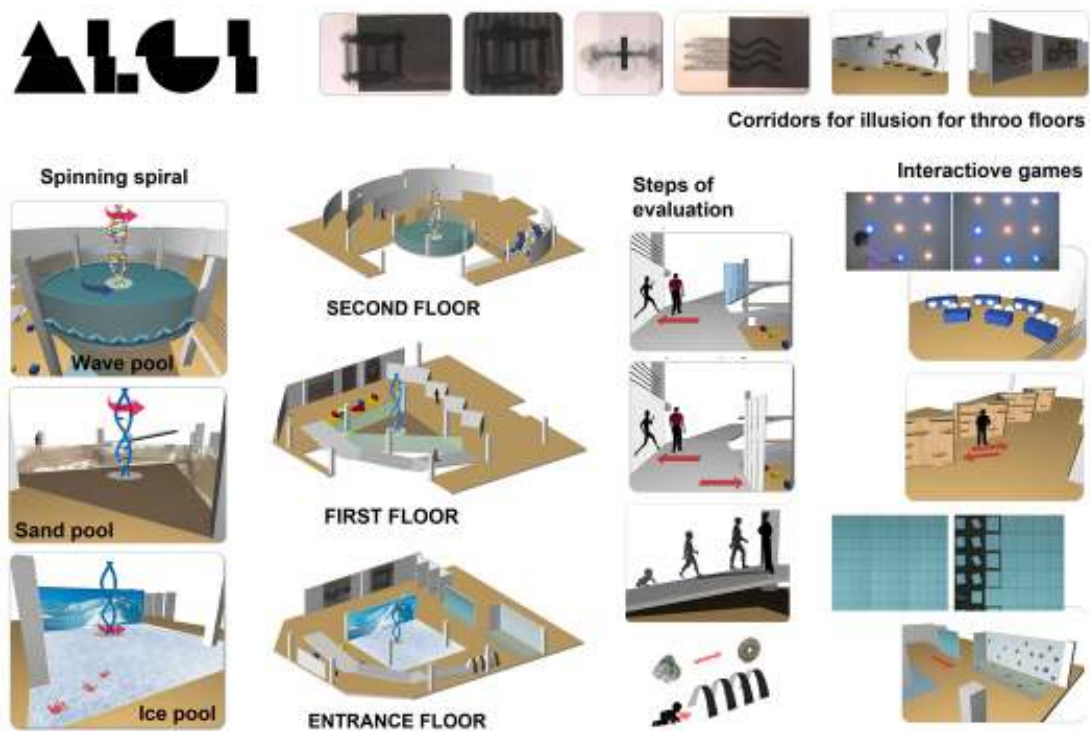


Figure 6. A project by Berkin Nalbantli named "Perceive" that focuses on the Gestalt principles of visual understanding and communication for the audience group of autistics. Basic forms are used to explain how human buildings develop perception from childhood to adulthood, with matching interactions for autistic people.

Evaluation of the Works:

As we examined the project briefs and the student works in the previous section, we reached conclusions in terms of the use of spatial solution methods and understanding spatial data for interactive exhibiting. First of all, we can say that

the configuration of the working site for design was recognized to be an important issue in dealing with the design of the exhibition. In the first year, the spatial interaction design projects were %80 based on displaying technologies and the multiple ways of using the displays and surfaces, which brought a variety of applicable designs. Also a theme to adapt the linear space in terms of exhibiting space was recognized to be difficult to transform the physical space into a media space. The design projects of the second year were able to reflect spatial interaction on a much better level as they introduced the component of limiting the user profile and this fact provided solutions closer to the idea of interpreting the space as a medium of its own. When the audience profile was not limited, the projects designed were less successful than the previous year. Overall, we can say that, the theme of exhibiting was achieved with the 90% of the projects.

In order to achieve the above-mentioned objectives, we believe that the following issues needs attention in order to create interactive exhibitions:

- i. It is understood that spatial interaction is beyond placing interactive tools or technologies in the spaces. The transformation of an architectural space to a medium involves the spatial arrangement of the interactive tools on the basis of a theme.
- ii. In terms of the choice of architectural space, an interactive exhibition would benefit more from a nonlinear condition, as the linear spaces may not go beyond storytelling and may not yield philosophical interactive spatial solutions.
- iii. Defining a user profile helps to limit the theme and the possible interactions, which brings more control to the exhibition design and yield compact spatial solutions.

Conclusion

Interactive exhibitions give the opportunity for the audience to connect with the physical space, and they provide environments for different readings of the meanings of the artworks. However, making use of the architectural quality of these physical spaces to create the multi dimensional layers of varying modes of communications will provide an efficient way for developing these exhibitions. This paper looked for clues that will guide the design of interactive exhibitions that will transform the architectural space into a dynamic medium. Spatial interaction offers the integration of physical space with interactive media on the basis of activity, interactive tools and the spatial organization of the place. Within Spatial Interaction Design Course in Interactive Media Design Department in

Yildiz Technical University, we studied interactive exhibiting for a linear space and a multi story square planned space within 2009-2011. While the organization of the square planned spaces seemed vague, it yielded successful works when a user profile is added to the design brief. With the analysis of 42 projects, we recognized that successful designs approached the design problem strategically by, (i) making use of the architectural space as guidance for the selection of the theme, (ii) defining a user profile to select and limit the interactions. We observed that squared planned spaces designed for a specific user profile served best for the transformation of these spaces into communicating mediums. As digital technologies gain more power, the architectural spaces will be converted into media spaces, which will increase and enhance the function of museums in society.

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Enhancing Educational Activities in the Museums through Technology and Pedagogy: The Natural Europe experience

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Abstract: Museums of natural history possess a wealth of digitized cultural heritage objects as a result of hard work from the museum staff. This content is usually exploited for scientific purposes and maybe exposed through online cultural portals. The present paper argues that this content is appropriate for learning as well and it presents an approach that aims at exploiting the wealth of the content in various European NHMs to use in educational activities. These activities take place within the museums themselves, they are be connected to the school curriculum in the case of pupils but also customized for individual visitors.

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1. Introduction

Natural history museums are the living repositories of human knowledge on nature, possessing millions of specimens, ranging from microorganisms to large mammals, plants or minerals. The wealth of information in natural history museum is depicted in museum collections that are measured in millions of specimens, most of which have never been exposed to anyone outside the museum staff and researchers. In many cases, such acquisitions also include printed books, periodical titles, original drawings, paintings, prints and manuscripts that are culturally important as well. Nevertheless, most, if not all, of these materials are prone to damage and decay through use or just time. It is the responsibility of the staff working for those institutions to preserve, protect and provide responsible stewardship for the materials, and to the best of their ability, provide continued long-term access (Russell, 2000). As defined by the UK Museum Organization in 1998, "Museums enable people to explore collections for inspiration, learning and enjoyment (Hong et al., 2005).

To this end, technological developments in the field of ICT have always been thought of as one of the solutions to the preservation efforts for all these non-digital or digital entities as well as their wider use from a community of users. One such solution is digitization of such artifacts which includes taking a physical object or analog item, from a collection that is rare or unique, often extremely fragile, and taking photographs of the item, and transferring the photographs to a digital medium. Digital files may be read, compressed, transferred and retrieved over computer networks then made accessible and viewed (McKay, 2005). The end product is determined by how well these functions are performed (Beamsley, 1999). Natural history museums are embarking on digital projects for several reasons that include: Enhanced access to their content, reduce of handling for sensitive items and promotion of their collections. By creating digital surrogates of their collections, institutions continue to support the notion that there is value in the materials they house (Kenney & Rieger, 2000).

Today, through the various digitization initiatives, thousands of specimens coming from museums of natural history are being digitized and documented summing up to millions of digital objects. These objects are made publicly available through:

- Pan-European infrastructures and initiatives such as Europeana (www.europeana.eu), STERNA (www.sterna-net.eu/) and BHL-Europe (www.bhl-europe.eu/),
- National initiatives such as Natuurcollectie (www.natuurcollectie.nl) or
- The websites of the museums themselves (<http://www.nhm.ac.uk/research-curation/collections/search/index.jsp?mode=collections>)

This paper presents a comprehensive approach for taking advantage of existing museum collections to create meaningful educational experiences for the visitors of natural history museums. More specifically, it will present an approach that takes advantage of already digitized material from the museum collections and uses it to create learning pathways within museums of natural history based on instructional templates. The paper is structured as follows: Section 1 supports the argument that digital collections of museums are an intricate part of their everyday practices and offer added value to the museum visitors. Section 2 provides the background of this paper, presenting the context in which the approach described was created. Section 3 presents the theory and tools that support the

overall approach of transforming educational practices within the museum whereas section 4 discusses some initial results of the application of the approach in actual museums of natural history. Section 5 presents the main conclusions of the study and identifies future research directions and section 6 contains the references and sources of the paper.

2. Background

Natural Europe is an ICT PSP project that started in 2010 and was funded under the 2009 call for proposals for Digital Libraries. It aims at harvesting the potential of the abundance of high quality digital content that is available in Natural History Museums (NHMs) around Europe. Natural Europe suggests a coordinated solution at European level to connect the digital collections of a number of European NHMs with Europeana, study the educational methods and deploy the necessary software tools that will allow museum educators to design innovative online pathways through the digital collections of NHMs.

Natural Europe is one of the projects that are contributing content to Europeana by connecting European museums of natural history. It is important to note that with the addition of 15.000 resources that Natural Europe will contribute to Europeana, the total amount of resources on natural history exceeds 400.000 objects illustrating the importance of such material for Europeana as a whole. Although contributing content and connecting museums to a vast European cultural infrastructure is one of the goals of the project, the main contribution comes from the fact that in Natural Europe, cultural content is being put into use in the context of educational experiences taking place within cultural institutions.

Classroom teachers prefer taking students to museums as a way to teach subject matter that cannot be covered effectively in the classroom for complementing and supplementing classroom instruction, for variety, and for introducing students to resources in their community (Anderson & Zhang, 2003; Kisiel, 2003; Storksdieck, 2006; Tran, 2007). Museum educators have a significant role in shaping the nature of the educational experiences afforded by their museums (Tran, 2007) and their lessons as well as the learning environment are part of the elements that are novel to the students and, therefore, have the power to attract attention and curiosity (Carson, Shih, & Langer, 2001; Phaf & Wolters, 1993).

3. Pedagogy & Technology within Natural Europe

Taking into account the power and role of educators within museums, Natural Europe aims at providing them with the tools that will affect their educational practices within their working environment, empowering them to create meaningful experiences for museum visitors. The development of the tools in the educators' disposal is based in this case on a set of different and rigorous pedagogical and theoretical approaches, including the Contextualized Model of Learning, Inquiry-Based learning, and Game-Based learning. This approach that concerns both formal and non-formal learning is closely linked to the science curriculum as well as to the NHMs exhibits, topics and areas. Visiting a museum collection physically or virtually (Willson, 2006) a natural history museum, each visitor will come across specially designed activities that correspond to his/her needs. The designed activities are organized as educational pathways, inviting the visitor to obtain knowledge through

carefully structured and specially designed educational activities. According to the audiences identified in the context of Natural Europe two main pathway templates were created. The first one is addressed to schools and is based on the context set by Inquiry learning theory while the second one that regards families and general public, uses the steps set by Inquiry learning theory to build a game-based learning pathway.

The Natural Europe project adopted the inquiry-based learning model (Rocard, 2007) that is recognized by the European Union as the most effective for school students. Inquiry-based learning engages students in the investigative nature of science (Sandoval & Bell, 2004), through active search for knowledge or understanding to satisfy a curiosity. For the Natural Europe project, the 5-stage inquiry-based learning model was matched to a three-phase pattern that regards activities in the classroom, prior to and following the museum visit, which basically enrich the middle, main, phase.

The theoretical approach briefly described above is supported in Natural Europe through the Educational Pathway Authoring & Annotation Tool (PAAT). PAAT is developed over a customized OMEKA (<http://omeka.org/>) installation. Omeka is a free, flexible, and open source web-publishing platform for the display of library, museum, archives, and scholarly collections and exhibitions. Omeka falls at a crossroads of Web Content Management, Collections Management and Archival Digital Collections Systems (Figure 1). Omeka is designed with non-IT specialists in mind, allowing users to focus on content and interpretation rather than programming. It brings Web 2.0 technologies and approaches to academic and cultural websites to foster user interaction and participation. It makes top-shelf design easy with a simple and flexible templating system. Its robust open-source developer and user communities underwrite Omeka’s stability and sustainability.

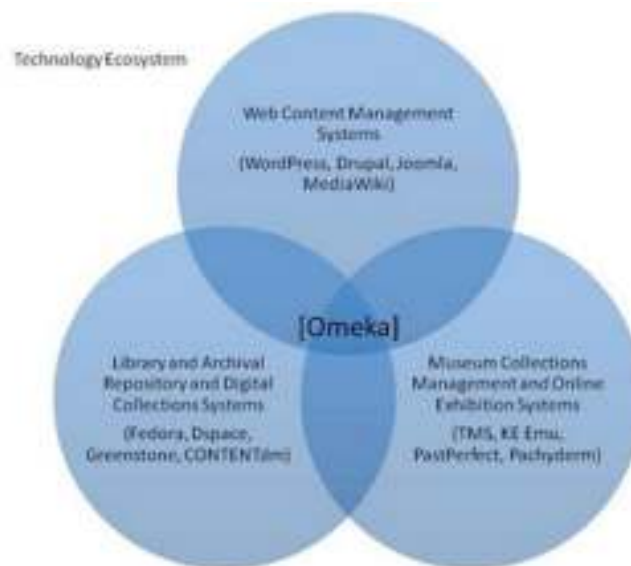


Figure 1: OMEKA platform position in the technology ecosystem

To meet the requirements of Natural Europe project new modules for OMEKA are being developed. These modules are:

- **IEEE LOM support:** PAAT OMEKA currently supports objects description with Dublin Core metadata. In order to meet the educational requirements a module that supports description with IEEE LOM metadata was developed for PAAT,
- **Ingest cultural objects:** PAAT supports the ability to ingest cultural objects from the Natural Europe cultural federation that is from the repositories of the project that host content coming from natural history museums. Additionally, the user can import the metadata for the cultural objects to the PAAT tool and enrich them by adding educational metadata to them, thus enhancing their reusability in educational contexts,
- **Add supporting material to pathway from learning federations:** The user has the ability to add learning objects from learning federations to each section of the educational pathway developed. For the time being, the user can add objects from his/her personal collection hosted in the PAAT as well as from the ARIADNE federation (<http://ariadne.cs.kuleuven.be/finder/ariadne/>). This module provides a basic search functionality and preview of learning objects that are added and it will be complemented to include more learning federations,
- **Connection with Europeana:** The user has the ability to import an object from Europeana and describe it with metadata in a specific educational context. These objects are used as supporting material in a section of educational pathway. This module allows for searching metadata using the search API of Europeana, mapping them to the Natural Europe IEEE LOM metadata AP and adding educational metadata using the PAAT interface,
- **Import template for educational pathway:** Once this module is deployed, it will allow educational pathway templates developed using pathway template authoring tools. Natural Europe will develop its own Pathway Template Editor will be deployed in the near future,
- **Discussions module:** This module will provide the ability to create blog like discussions on a specific pathway,
- **Multilanguage module:** This module will enable the translation of the educational pathway authoring and annotation tool interface to various languages,
- **SCORM export module:** This module will be developed to enable the consumption of educational pathways in interactive installations and also in other pathway players that have the ability to import SCORM packages,
- **Educational Pathway player interface customization:** This module is deployed already as a testing prototype in websites of the museums of the project and it allows for browsing through the pathways created in the PAAT from each museum. Examples of existing pathway players can be found in the following URLs:
 - <http://education.natural-europe.eu/mnhn/>
 - <http://education.natural-europe.eu/tnhm/>

4. Impact on Museum Education

In the following paragraphs, a typical scenario of usage for the PAAT tool is presented, emphasizing on the process of adding material on an existing pathway created by a museum educator in collaboration with a primary school teacher.

In our story, Dimitris, a primary school teacher from Irakleion, Greece is seeking to complement his science teaching class with a module in environmental education that would allow his pupils to be educated in the effects of water pollution and the impact of modern lifestyles to the environment. In his endeavor to support his idea, he consults Katerina, an educator of the Natural History Museum of Crete in Irakleion. Dimitris works with Katerina, on the PAAT, transforming his ideas to a pathway called “River of Life”. The interface which Dimitris and Katerina have at their disposal to create and edit the pathway is depicted in Figures 2 & 3.

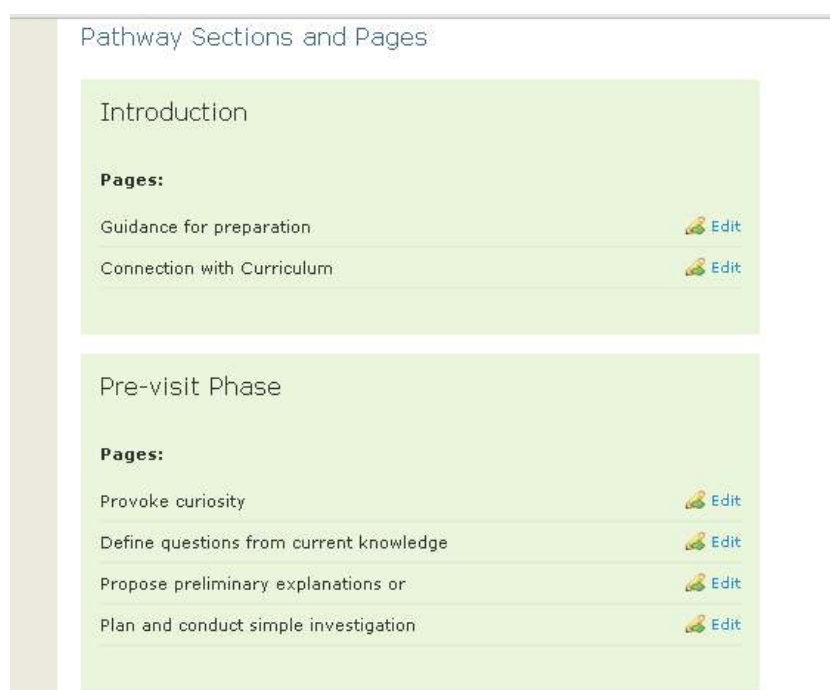


Figure 2: Overview of different pathway sections

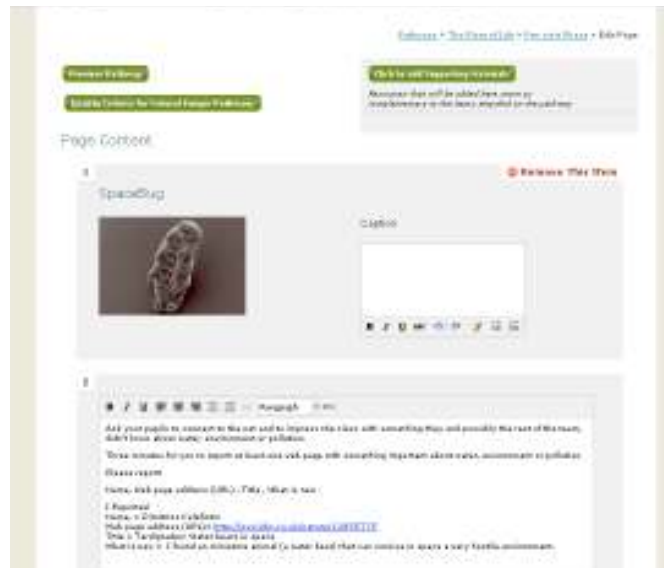


Figure 3: Edit page of a specific pathway phase

In Figure 2, the overview of the pathway phases that Dimitris has at his disposal are displayed. These phases are based on the inquiry-based model that was described in the previous section and they are editable in such a way so that only the ones that have content in them are displayed in the final version of the pathway. Figure 3 shows one section of the “Provoke Curiosity” phase, in which the user has added one picture from his/her personal portfolio of resources, along with supporting text, containing instructions for the activities described in the pathway. Additionally, Dimitris can add more supporting materials on the pathway, such as word documents, other images, pdf files, etc. that will not be depicted as the image that is already inserted but instead they will be displayed in a list next to the description of the specific section of the pathway. The list of supporting materials as well as the view of the respective part in the pathway player is depicted in Figure 4.



Figure 4: View mode for the Pre-visit phase of the “River of Life” pathway

During the visit phase of the specific pathway, pupils are visiting the “Fodele” river in Irakleion and are using traditional tools (nets, magnifying glasses, etc) as well as laptops and handheld devices to identify signs of pollution in the river that can be attributed to the modern lifestyle. Dimitris seeks to find a photo of some local flower that may be affected from polluting the river but is not able to locate such a resource. With the help of Katerina, he identifies one species that is endemic to Irakleion and decides to include it in the pathway so that his pupils can search for it in the area around the river. This flower is called “Campanula Pelviformis”. Using the connected museum collections of the Natural History Museum of Crete but also using Europeana, Dimitris can search for resources related to “Campanula Pelviformis” online. The respective search interfaces are depicted in Figures 5 & 6, along with the results yielded.



Figure 5: Search results for “Campanula Pelviformis” within the Natural Europe resources



Figure 6: Option for filtering the search results to get specific results coming from Europeana

After retrieving the results, Dimitris is able to use the “Add it to my Repository” option to add the resource he finds in his personal portfolio of resources from where he can later use the resource within the pathway. In this way, users of the PAAT can have their favorite resources in hand to use within future pathways. When a resource is added to the user portfolio, the user has the option of providing extra metadata for the resource, in relation to the use of the resource in the pathway under creation. Additionally, the user can choose to visit the resource in its original context, meaning the website/repository of the primary publisher.

Once the pathway is completed, Dimitris will be able to share his pathway through the pathway player of Natural Europe with other teachers that seek to perform the same activities with their classes visiting the same location. Depending on the rights that Dimitris will decide upon, teachers in the future will also be able to reuse and remix his pathway to fit their needs, thus maximizing the usability of Dimitris idea in different contexts.

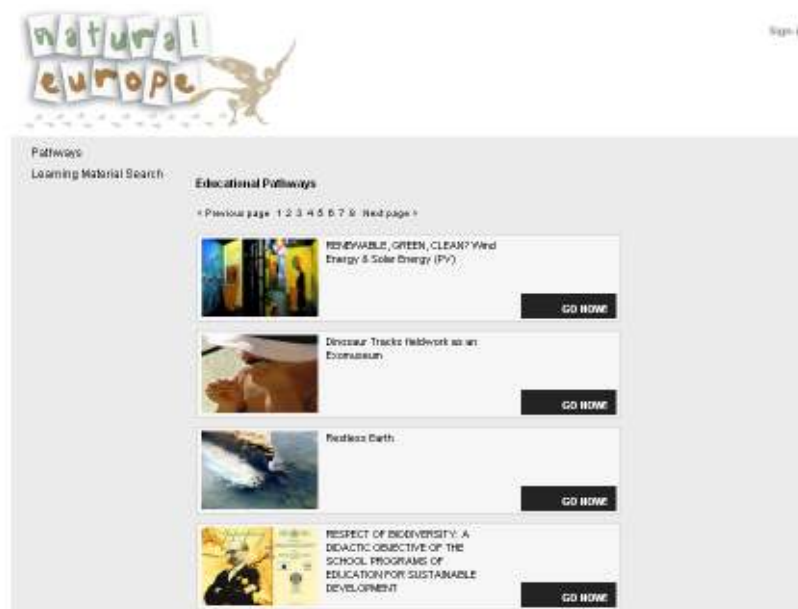


Figure 7: Pathway Player for all pathways created in Natural Europe (http://education.natural-europe.eu/natural_europe/index)

All the content and pathways that are created or ingested in the PAAT have respective metadata that their creators/uploaders define (Figure 8). In this way, PAAT supports easier retrieval of the pathways that someone searches through a comprehensive set of metadata that allows for searching using many different facets. Mainly, PAAT allows for the enrichment of metadata from cultural material that is inserted in the tool with the process that was depicted in Figures 5 & 6. In this way, existing cultural material is repurposed to fit into educational activities giving a new meaning to existing museum collections.

Given Metadata:
 Creator : Kelefiotis Dimitrios
 Title : The River of Life , Language : en , Description : Innovative educational activity Problem, game and location based learning. Collection and identification of bioindicators. Assessment of Environmental quality , Learning Resource Type : Assessment , Learning Resource Type : Educational game , Learning Resource Type : Exploration , Intended End User Profile : Teacher , Learning context : School Connected , Learning context : School Connected , Typical Age Range : 15-18 , Difficulty : Medium , Educational level : Secondary school , Copyright and other Restrictions : yes , Cost : no , Cognitive Domain : To think critically and creatively , Measure, Asses, Estimate, , Cognitive Domain (Knowledge) : Procedural knowledge , how to , Affective Domain : To recognize values , Accept, Defend , Psychomotor Domain : To adapt and perform creatively , Perform(skillfully), Write , Description : game-based, location-based, mobile learning




Figure 8: Sample of metadata provided for Dimitris’ pathway

Up to today, around thirty-seven (37) educational pathways have been created in the context of the Natural Europe project, mainly from museum educators but also from teachers like Dimitris that are actively pursuing new approaches to change their classroom practices. Additionally, Natural Europe supports the museums of the project by creating specialized and adapted pathway players that can be “installed” in the museum websites to increase the museum visibility and enhance their collection visibility a goal that appeals to museums as it was explained in the introduction of this study. An example of such a pathway player is displayed in Figure 9.

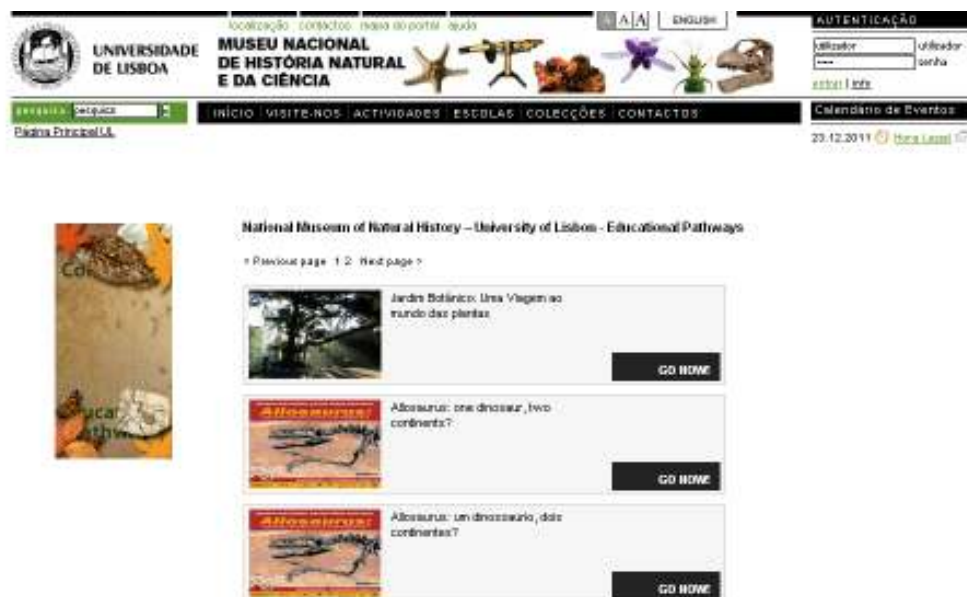


Figure 9: Pathway Player for Natural History Museum of Lisbon

5. Conclusions & directions for Future Research

This paper presented the ongoing work that is being carried out in the context of Natural Europe. Museum educators and teachers are supported with tools that allow them to take full advantage of their museum collections to create educational pathways within and outside their museums, connecting school curriculum to science, environmental and natural

history topics. In doing so, they also take advantage of existing educational material that is being exposed through learning federations on the World Wide Web. This paper presented a real case of a teacher from a primary school that sought to create a learning experience for his pupils, using the digital resource of the Natural History Museum of Crete in Irakleion. The process presented here is only a subset of the full process of creating a pathway that involves practical research on the topic covered as well as a sophisticated pedagogical process. Nevertheless, the authors feel that even this limited presentation of the whole approach, depicts nicely the changes that similar tools will bring to the way that museum education is carried out, changing the way that museums reach their audiences and providing meaningful educational approaches to present existing exhibits of each museum.

The main outcomes that can be summarized from this approach are the following:

- Teachers and museum educators can work collaboratively on creating learning pathways for visitors of natural history museums connecting the museum experience with the school curriculum in novel ways,
- Existing museum collections that usually involve major investments in digitization efforts can be reinvented to serve educational needs of the museums,
- Visibility of museums of natural history can increase through the promotion of the pathways created on the museum websites, thus allowing the museums to reach a wider audience,
- Material existing already in the World Wide Web through learning federations is also discovered in the context of environmental and science education,
- Every day practices and work of museum educators is greatly influenced with the introduction of tools that can help them easily develop new pathways for museum visitors to access in a variety of ways, both online but also on the museum floor

Future directions of this study may include the presentation of the whole approach that Natural Europe is aiming to deploy, also describing the Pathway Template Authoring Tool that will allow for the support of more educational approaches to the activities that take place within museums. Additionally, a newer version of this paper may also include the presentation of novel ways of displaying these pathways on the museum floor through the use of interactive installations that will allow the visitors to browse the pathways while they are visiting the museum, looking at the actual exhibits displayed. Lastly, a next version of this paper may also seek to examine the impact that this approach has on the museums themselves. Measuring the visibility of the museum websites (through website analytics) after the installation of pathway players such as the one presented in Figure 9, will help us to validate and confirm the benefits of the approach presented in this paper.

Acknowledgements

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Methodological approaches to understanding audience participation in museums

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As museum experiences become increasingly multi-modal, crossing the boundaries of the museum site as the only medium for communicating with the audience, then understanding museum audiences has proposed new methodological challenges. As shifts in museum theory and practice and transformations in society at large bring to focus the issues of interactivity and participation, this paper focuses on the aspects of participatory communication in museums. Based on a series of interventions conducted at the Estonian National Museum we analyse different online and on-site activities initiated in order to support and foster audience participation in the museum context.

Introduction

On many occasions, museums are considered mediums for public messages. Although the history of the museum dates back to as early as 530 BCE (MacDonald 2006), the contemporary understanding of the museum comes from the period of the Enlightenment, during which museums became public institutions and acquired several different roles, including aspects relating to socialisation and education as well as collecting, preserving and displaying collections. This changed again in the second half of the 20th century when contemporary museums developed an increased coherence in relation to their various functionalities, represented by everyday cooperation at the organisational level and by the overlapping and co-occurring of various processes.

This was not the only change, for museums have been investigating the notions of ‘ecomuseum’, community museum (de Varine, 1998) and ‘dialogic museum’ (Tchen 1992), and have paid attention to the changing relations between museums and communities (Karp 1992) for over forty years (Pollock 2007). The increasingly social understanding of museums has shifted attention to the audiences and their relationship with the museum. To summarize, increasing attention is paid to the communicative and social aspects of museums. As the novelty of new museums (Message 2006) and new museology (Marstine 2005) has been challenged and debated, we think that instead of novelty it is more relevant to stress aspects of the social.

Public knowledge institutions, such as museums, increasingly strive to become what van Mensch (2005) calls laboratories and meeting points for discussions and new initiatives. In

other words the ‘sanctum-museum’ needs to become a ‘laboratory-museum’ (Mairesse 2003), respectful of the expertise of the museum staff and its experts, while at the same time open to a continuous dialogue with the outside worlds that sometimes come to visit it. However, in order to work within such changing context, we need to understand the audiences and the visitors of the museums.

Understanding museum audiences in these new, dialogical contexts proposes new methodological challenges, we need to approach the audiences in a holistic and ethnographic way while being aware of their social context. The holistic approach also demands an understanding of the museum as a communicator in a participatory situation. Museum studies need to understand their audiences beyond the classical site-visit situation and understand that museum experience starts well before the visitor steps through the museum door.

Early audience research in museums aimed at perfecting exhibition techniques to ensure the best possible message transfer to audiences. However, this has eventually led to the acknowledgement that ensuring the ultimate effect of the medium and an automatic transfer to a mass population is insufficient for understanding audiences and needs to be supported by knowledge of visitors and their reasons for visiting. Gradually, the social context, prior experiences, group characteristics, perceptions, emotions, and visitor personal entry points have become important in researching the museum as a medium of communication (Hooper-Greenhill 1995: 4-7).

Stylianou-Lambert sums up the developments in the field since the 1990s, showing how this knowledge and these approaches have been taken into account in museums and museum studies and have led to a paradigm that presents the museum as an ‘open work that is completed by the visitor’. However, there is also a tendency to ‘underestimate power issues, while romanticizing the power of audience activity, thereby ignoring issues of responsibility’ (2010: 141).

The aim of the paper is to discuss methodological issues of initiating and studying audience participation. The paper is inspired by a four-year research project investigating museum participation. We will discuss some of the founding principles of the project – namely the ideas borrowed from action research and the introduction of real-life experiments or interventions to investigate and change museum participation. The next section will look at the ideas of triangulation and data within the framework of these intervention projects, and at the notions of ethnographic research and team-based reflection.

Conceptualizing participation in three fields: cultural, economic and political

The recent discussions on maximising democracy and the attempts to understand participatory activities in the museum context have added another layer to the discussions on responsible, empowering and inclusive institutions (Pruulmann-Vengerfeldt and Runnel

2011). The concept of participation in this paper is supported by another paper presented in this conference (Runnel and Pruulmann-Vengerfeldt 2012), where we open up the idea of participation through cultural, political and economic dimensions. In this article, we will give only short overview of the fields discussed at length in another paper. We are looking at museum participation through the lens of museum functions and skills. Although, in media studies, the challenge is not about participation, rather the discussion is about the roles of media in the different fields (e.g. political, economic and cultural) and has been the focus for many decades.

First and foremost we tend to perceive museums as cultural institutions. In this case the museum's relationship with its audiences can potentially be manifold, starting from the most basic the museum visit, i.e. attending the museum in order to receive some kind of cultural content. However, audience participation in the museum as a cultural institution should not be approached blindly and one-sidedly. In the context of the museum as a cultural institution, Morrone in UNESCO's *Guidelines for Cultural Participation* (2006: 6-7) claims that the attempt to reduce cultural participation to an active/passive scale is both difficult and unwise. In the cultural field, Morrone takes the stance that everyone is an active participant and interaction is thus a process 'defined by continuous feedback of flow communication between an external source and a receiving subject' (2006: 7).

Nevertheless, when looking at interaction between the audience and the museum institution it is not always a cultural participation *per se*. Museums are facing the continuous demand to be more interactive in several ways. In many cases, the interactivity is achieved through extended technological solutions, seemingly supporting cultural participation and relating to the cultural content: adding elements such as buttons, screens and multimedia to the exhibitions.

Here the interaction, which in principle involves shared control between two parties, is continuously contested – adding technical facilities can easily lead to deceptive interactivity, in which a person is given the sense that he or she has control over the process, whereas the control in fact is pre-determined by others (by technological tools and the intentions behind them). This kind of interaction and audience participation often represents the economic discourse, in which rather than participation, the term 'involvement' is used. Participation here is more about attracting the public to be involved in the activities offered by the institution. Interactivity here is an economic decision. There are a number of potential economic relations between audiences and the institution, although all of them are based on the understanding that the (museum) institution does not care for the market other than for its purchasing power.

Museum participation can also be analytically positioned in the democratising democracy framework, located in the field of *political-democratically motivated participation*, as part of which the museum is seen as a public sphere institution.

A rather subtle role of democratising democracy here would mean that museums as public institutions also have a responsibility to not only communicate museum contents, but also facilitate participation as such. Although informing audiences is not necessarily a participatory action, museums can and often do see civic education as part of their public role and informing can become a prerequisite to mutually beneficial participation. On the other hand, the museum's relationship with its audiences can manifest itself in mobilising visitors or users to some course of action. Here museums can become sites of public campaigns. The shift to social and communicative museology demands new approaches from the museum. Our interventions were designed in order to understand and cope with the contradictions and synergies vested in the interests of the three aforementioned fields. The invitation to participate in museum activities engaged old and new museum audiences and provided dialogue opportunities. In the next section we will discuss the underlying principles of designing the interventions and the methodological challenges.

Interventions as methods to investigate participation

In many instances, researchers are confronted with a situation in which they are looking for ways to study an organisation that is in dire need of change. In many instances, theoretical literature or outside experience indicates a particular direction as a potentially good way to proceed with the required changes. As previously discussed, museums in recent times have increasingly been faced with these challenges. Our research group has been particularly interested in considering an interventionist research project in which some of the proposed or considered changes are at the same time investigated through research project and enacted as interventions in real-life situations. This can be considered an action research project, although the research team engaged in running these interventions was only a small group as compared to the whole organisation. All action research should be collaborative – it should involve working with the people whom you study and be aimed at improving the system within which your participants work. Action research means that the researcher works *with* practitioners rather than for them, with the aim of effecting change rather than just studying it (Bradbury-Huang 2010). In our case, the actions were carried out at the Estonian National Museum with some outside assistance and analysis from Tartu University. The research team and people responsible for the actions were a largely overlapping and relatively small group of people. At the same time, true to action research ideas, a series of seminars was run to introduce the ideas to other museum workers.

As an additional layer, concepts found within ethnographic study share common ground with those found within insider action research. Our research team saw the interventions as one way of creating situations that would increase the museum's reflexivity about participatory

communicative situations. As any good ethnography means triangulation of data, the principals reflected in this project are multiple data collection and, first and foremost, reflexivity over the issues. Moreover, members of the research team have participated in these action-led processes in double roles: as museum professionals and, from a certain point onwards, as ethnographers conducting participatory observation 'at home', taking advantage of being immersed in the culture. From the processes of the interventions, the data was pooled through participatory observation at the intervention design meetings. In addition, meetings were held at which the project was introduced and discussed within a broader group of ENM professionals (open board meeting, research department internal seminar) and at the actual implementations, related exhibitions and web-based interactions in order to foster knowledge dissemination within the organisation. In addition, roundtable debriefings were held among the involved and interested museum staff after the first data collection pilot for the Give the Museum A Day project or when the exhibition production of interventions had finished.

These interventions could also be considered a one-shot case study (Campbell and Stanley 1973) or natural experiments (Babbie 2010). This means that the experiments were run in real-life situations where no control group or laboratory environment to control the conditions of the experiment were not possible (Babbie 2010). The key concept of the experiment – providing a stimulus and exploring the consequences – remains the same, however the effects are more difficult to evaluate in the natural experiment conditions as it is harder to understand the causality of the event. The only comparison possibility provided in this kind of study situations are related to similar repeated cases. In the context of our study, a total of six case studies were conducted with additional spin-offs that also provide to some extent comparable data.

The concepts of action research as such are more focused on the organisation in which these actions are carried out. Our research interventions do carry a multitude of aims, and indeed, the audience research is just a significant section of it. On the one hand, the interventions are designed to challenge the museum, to inspire museum professionals to notice the social and communicative aspects of the museum. On the other hand, these activities have given us a multitude of opportunities to study audiences, their understanding of the role of museums in society and their willingness and conceptualisation of museum participation.

As such, the insider approach, where the research team is at the same time running the experiments and investigating the results and implications for the museum, provides both advantages and disadvantages. In terms of participation, the researcher is relatively free and can shift from the position of participant to observer and vice versa. This shift of position can also prove to be an obstacle to role-balance when staff are caught in 'loyalty tugs, behavioural claims and identification dilemmas' (Coghlan 2003; ref Dover online).

Researchers might also run into an organisation's 'undiscussables' as well as become the

target of accusations of spying and self-promotion (Coghlan 2003; ref Dover online). Coghlan argues that these difficulties are more likely to arise in the more 'organistic' action research process, which values a process of inquiry that also addresses 'underlying assumptions and defensive routines' (Coghlan 2003; ref Dover online). As one possible solution, we decided to bring the academic output back to the museum by discussing the research, which allowed the museum professionals to challenge and also to learn from it. This is also where the series of research interventions run by our research group differs from simpler, more pragmatic, more 'mechanistic' participatory action research projects. Our project not only focused on the pragmatic outcomes of clear benefit to the organisation, but also on "enacting a transformation of being" (Coghlan 2003; ref Dover online), which is related to the agenda suggested by the field-specific academic theories of social and communicative museology and promotes civic participation at large.

While on many occasions, the challenge, and especially the ethnographic focus, was on the inside – towards understanding the museum worker's identities and changing their perception of participatory and communicative museum - the audiences was never forgotten. While to a certain extent the insider challenges overwhelmed the team, about a thousand people were "touched" by the different participatory initiatives directly by providing their input, joining the activities, voting for exhibitions or crafting their own version of heritage items. Many more have been in contact with the results of these experiments by viewing, reading, interpreting what they saw and participating in museum activities (Morrone 2006).

Multi-method approach in data collection

Participation interactions conducted in museums were different in nature – in process, participation type and influence. Since the beginning, the research team has (1) mapped the interaction development processes, (2) estimated the impact of the action to the museum and (3) estimated the impact on participants, and (4) described the process and outcomes of the interaction and (5) analysed how participation influenced the participants and the museum. Multiple data collection methods were used to collect feedback from participants, depending on the nature of the participatory action. In the case of online participation actions we used online questionnaires, email interviews and public polling. The researchers also investigated public fora in order to understand specific target groups' opinions about the museum and its activities. For onsite participation actions paper questionnaires, storytelling, paper-based polling, interviews with participants and observation were used.

On the one hand the aim was to collect data on the overall experience with museums and expectations relating to museums, and on the other hand impressions about participation process and motivations to participate. At the same time participants' social data and background was collected in order to map the different types of participant.

Nina Simon has stated that a lack of good evaluation of participatory projects is probably the greatest contributing factor to their slow acceptance and use in the museum field (Simon 2010: 301). Constant evaluation of the participation interventions at the ENM was set as one important goal of the research project activity. To analyse different participation projects, a similar analytical framework was implemented in the form of a case study composed of 4 different sections: (1) description of the intervention, (2) statistical information, (3) impressions of the project and (4) impact analysis.

Description of the intervention includes the different goals of the intervention project, separating research goals, participation goals and museum goals; description of the audience group and promotion plan; finally access to the intervention and different possibilities to participate in online or onsite and their impact on participation was also described, as well as a description of the intervention process. Description provides important background information for later analysis in order to determine possible success or failure factors.

Statistical information included information on project duration, cost, participation numbers, preparation time and staff, proposed incentives and stimulations to participate, as well as the results and outcomes of the participatory intervention. Statistical information provides factorial data that enable cost-benefit analysis and estimation possibilities for other interested parties.

Impressions of the project includes analysis of the usability, participant behaviour, participation process and evaluation of how participants cooperated. In addition, how participation management succeeded, as well the benefits for the museum and for participants were evaluated. Constraints, focuses and obstacles imposed on participants, as well as practical failures, were presented. The impression section supports team reflexivity and internal communication.

The analytical part of the intervention includes analysis of several questions: Who was empowered in the fields of access, interaction, participation and limitation; who was affected - participants, museum professionals or intervention facilitators; and what was affected (participant interactions, objects, processes, the museum institution)? The analytical section is strongly framed by the participation-theoretical context used.

The case studies are based on multiple data collection and aim to summarize the relevant information gathered during each particular intervention. As summaries, they enable us to compare case studies that are fairly different. We have also suggested that the same case study form be used by other organisations in analysing their participatory activities. This has given us comparison opportunities beyond our own project.

Methodological summary of the interventions

In the following table (Table 1), we will give an overview of all six intervention cases. The table will show a small sample of the case-study analysis framework employed to investigate

the different interventions. Instead of giving full analytical details on each of the projects, for the purposes of this paper we will only look briefly at the project descriptions, some of the statistics; very briefly of the challenges aspect of the impressions and on the sample of two analytical dimensions of access and participation. The table provides only fraction of the actual mappings for each interventions, but at the same time gives an overview of the work done.

	Give Museum a Day from Your Life (April 2009)	Exhibition commenting with pen and paper (Fall/ winter 2010)	Museum night exhibition tagging (May 2010)	Open Curatorship exhibition (2010-2011)	My favourite item in ENM's collections (Winter 2011)	Time capsule for 2010 (2011)
Description	Overall aim Collect stories of everyday life of Estonians on 14 th of April	Receive comments and clarifications on photo collection displayed on exhibition	Receive stories and comments on permanent exhibition	Hosted exhibitions invitation to general public to display their own collections or cooperation with museum collections	Invite handicraft community to remake museum items either as authentic copies or inspiration items	Collect stories of 2010 for future preservation
Participant activity	Museum Collecting	Displaying/ (collecting)	Displaying	Displaying/ partnership / collecting	Remix/ collecting/ displaying	Collecting
Participant activity	Telling stories	Commenting, giving opinion	Commenting, telling stories	Exhibition proposals, voting, holding exhibitions, giving collections to museum	Remake museum items, telling stories	Telling stories
Access point: Online	Advertisement online, e-mail address and online form as submission sites	Advertisement of exhibition, no participation possible	None	Online submission of exhibition proposals Online evaluation of exhibition proposals by public vote	Advertisement in different forums. Online submission of interest in participation and online submission of finished works Use of online collections for inspiration	Online submission of items to the time capsule.
Access point: On site	Postal and hand-delivered stories	Post-it notes stuck to favourite pictures worth commenting	A5 papers on washing line and pegs for commenting specific aspects of the exhibition	Offline submission of exhibition proposals. Offline display and evaluation of proposals. Two winning exhibitions displayed at the main museum building	On site submission of finished works.	On site proposals of the time capsule s will be sent by regular mail and inventory will be made by end of September
Statistics (only comments: No of	23 online submissions	NA	NA	28 online proposals 509 online votes	47 people registered 37 people completed work Viewers of online exhibition	8

some!	Online						
	No of comments: Online	402 on site or postal submissions	80	17	5 on site proposals 55 on site votes	~10 people brought in their work and only registered later online Viewers of selected items in museum	Commenting option not available
Impressions	Challenges	How to give feedback to participants that creates sense of relevance? Do these kind of collection activities have to have concrete output – exhibition, publication?	How to sustain the comments and foster interaction? How to invite people to revisit their comments and create dialogue?	How to sustain the comments beyond the actual event?	Balancing different interests, “populist” voting, how to realise potential of engaging new types of audiences	What impact would have parallel public voting had to the process? The access to the actual collections and items within the collections can be a bottle neck, as they need guidance and only limited number of people can actually access the collections at time.	How to communicate to and reach wider audiences in story-telling events if they are not with any specific output or celebratory function?
	Access	Increased sense of relevance – your story matters, you should be “preserved” at the museum	Visitor has potential access to the captions of the photos in the collections, can edit and suggest changes. However, it was not made explicit whether and how the collections would use that data.	Provides only temporary access – the one-off chance to comment and tell stories. Access to other comments was there, but no promise was made	Access to museum space is affected	Collections are open-access and increasingly available online. The access to the “prestigious” expert of national culture and Access to discussions	Increased sense of relevance, your opinion matters.
Analytical	Interaction	Interaction with new groups, new communities who saw the museum’s relevance	Visitors could interact with the curated content as well as with each other’s capitations.	Visitors could interact with the curated content as well as with each other’s capitations. Prior the opening a few seed-inputs were generated to foster dialogue	Interaction between audiences, participants, research team and museum workers	People participate gladly in interpretations of national heritage and are prepared to work for the museum in copying. Innovative engagement in openness of the interpretation process.	Shared decision making on heritage.

Lessons learned for methodological development

Overall, although museum audiences are hard to capture, experiments that engage audiences in participatory activities within the museum space, help to provide an important way in which to understand audiences. Following participants online (by investigating their forum posts) or in the museum (by charting their progress through exhibitions) using these experiments increases the number of direct contacts that the museum has with its audience. The experiment situation, initiated in the museum through theoretical analysis and focused on the interaction between the organisation and its audiences, has provided grounds for participatory communication. The intervention provided us with the possibility to study simultaneously the museum as communicator and the audience as participant.

With the rise of social media, the public expectation of the possibilities of dialogue is articulated in the cultural, political and economic domains. The online media supposedly brings audiences and institutions closer to each other by providing direct-contact opportunities to learning how to interact, and by providing some more-or-less controlled opportunities and spaces for interaction. However, as our project demonstrates, these expectations can also be transferred to onsite communicative situations.

The interdisciplinary background of the researchers has enabled the merger of different methodological approaches and conceptualisations of the audience. The strength of this project is that it brings together participants with different interests located in the different fields discussed above. Thus, a participatory intervention can enable the targeting of specific audience groups who are willing to become engaged and support the museum in its activities. The interventions have provided the museum with feedback opportunities and possibilities to engage in dialogue. The different angles from which the museum and its audiences were interrogated provided a multitude of insights. Methodologically, the newness of this approach is mainly down to the combinations of initiating and investigating transformations of both audience and institution.

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Adding to the Experience: Use of Smartphone Applications by Museum Visitors

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Abstract

Applications for smartphones and tablets are among the new types of information resources offered by museums (Proctor 2010). Yet how are these media used in relation to museum visits, and how can applications enhance the museum experience? In this paper, we report on an empirical analysis of visitor attitudes to and use of a smartphone application at a temporary art exhibition. The application is downloadable to the visitors' own phones or can be used on the museum's iPods. We first consider how many use or not use the app, and who they are. We then study visitor motivations, e.g. why they choose or choose not to use the app. Finally, we investigate visitors' actual use of the app at the exhibition in relation to overall reception, navigation, and other interpretative material. By investigating visitor attitudes towards and use of the application, we build on and add to existing literature on the benefits of mobile technologies and challenges to visitor adoption (Tallon and Walker 2008). We base our analysis on 25 hours of photo and video recording, field observations, 12 semi-structured interviews, and a quantitative survey of 167 respondents.

Keywords: visitor studies, evaluation, attention, apps, multimedia guides, mobile technology

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Introduction

Like many other museums, the National Gallery of Denmark (Statens Museum for Kunst) has over recent years intensified its use of digital media in its collections and temporary exhibitions. A large digital art history has been launched on the internet, a mobile website is on the way and an iPad project is about to be launched. Two digital tables also serve as entrances to the collections and media such as Web TV are under ongoing development.

Digital media is being explored in order to strengthen the interpretative material in the museum and to continuously develop new methods for visitor interaction with the artworks. In general, this resembles the fundamental shift from museums being “expert-centric” to being “visitor-centric” (Stogner 2009) or, as Stephen Weil (1999) puts it, “from being about something to being for someone”. The goal has been to “develop a richer, deeper and more immersive visitor experience” (Billings 2007). In this study, the significance of these issues is explored empirically. We investigate visitor attitudes to and use of a smartphone application at a temporary art exhibition. Applications for smartphones and tablets are among the new types of information resources offered by museums (Proctor 2010). Due to the novelty of these resources, little is known about visitor attitudes to and use of such applications in relation to museum visits. Our research thus seeks to highlight the basic use of phones in the museum, to get a sense of how visitors use them inside the exhibition, and to gain an understanding of the reasons for their use. Furthermore, we are interested in how people navigate with the app and how phones are employed in relation to other interpretative material.

In this paper, we report our findings. We begin our empirical sections by considering how many use or not use the app, and who they are. We then study visitors’ motivations, e.g. why they chose or not chose to use the app. Finally, we investigate visitors’ actual use of the app in the exhibition, in relation to overall reception, to navigation, and to other interpretative material.

The Toulouse-Lautrec app

The app was developed for a large autumn exhibition on the French artist Henri de Toulouse-Lautrec. The exhibition aimed to thematically exhibit Toulouse-Lautrec’s lithographs and drawings. Focusing on the urban environment of Paris, the exhibition considered Toulouse-Lautrec’s interpretations of the entertainment scene and the different characters who occupy it. The exhibition’s interpretative material consisted of a small written guide, wall texts, a film, and the application for both Android and iPhones. The app was also accessible on 30 iPod Touches, which were distributed by staff at the ticket counter.

The app was developed by art interpreter and the co-author of this paper Mette Houlberg Rung in collaboration with a communication company. It was divided into four main sections and is simple and easy to navigate. It presents different types of content such as speak, images, film, and music:

- **Audio Guide:** Offers two-minute audio tracks on 12 specific artworks. This mixes art historical interpretations of the works with quotes from the period and relevant extracts from literature and music. In addition, three pieces of music that are not connected with specific artworks can be heard as a means of enhancing contemplation and create atmosphere.
- **Portrait:** Contains a biographical film (approximately four-minutes long) on Toulouse-Lautrec.

- Gallery: Displays 30 artworks from the exhibition.
- About SMK: Practical information on the National Gallery of Denmark.

There were several reasons for developing an app, the most important of which was the concept of an app as a portable tool for information and experience that can be used before, during, and after the visit to the exhibition. An app, moreover, “offers a commentary on art while preserving the visual integrity of the display” (Billings 2007). It combines marketing elements with interpretative material, and it supplements other sources of information in the exhibition. The app had the following functions for the app:

- Arouse curiosity and inspire people to visit the exhibition
- Function as an experience in itself away from the exhibition
- Function as an audio guide that introduces a ‘slowness’ of pace to the way people walk through the exhibition, thereby inspiring people to look at the artworks in more detail
- Present different perspectives on the artworks
- Provide a contemplative dimension (the music, which is not connected to specific artworks)
- Function as a memory of a good and meaningful visit to the National Gallery of Art— A memory that be shared with others and that is stored on the phone.

The app’s main target group was identified as individuals around 30 years of age. In this study, however, we will look more broadly into use of the app by considering all of its users.

Data and methods

There exists no prior research on use of mobile phones at the National Gallery, no prior knowledge of how many visitors have smartphones, and no prior understanding of how people wish to use their telephones in the museum. Since we seek to map an underexplored area, we decided on a mixed-methodology approach that would focus on collecting and interpreting empirical data. Mixed-methodology research combining qualitative and quantitative techniques acknowledges the different limitations of and benefits to each data collection method (Creswell 2003). The data collection was divided into different phases so that findings from the first phase would feed into the second, *etc.*

This led us to begin with observation since we required a basic understanding of the field and of how visitors use the exhibition, the interpretative material, and the app: For two days, we observed visitors in different places at the museum as well as inside the exhibition. We took notes and photos, and at the end of the second day, we also performed small interviews with visitors.

We analysed the observational data, and the results led us to develop a larger questionnaire, which could shed quantitative light on who uses the app, why people choose or choose not to use the app, and what this means for the visit in general. We invited all visitors to participate, regardless of whether or not they used the app. 167 people answered the questionnaire.

Following up on the questionnaires, we conducted 12 recorded semi-structured interviews in which we discussed in depth with the visitors the reasons for using the app and further developed an understanding of the findings from the observations and questionnaires.

In both the questionnaires and interviews, we asked visitors if we could contact them later to find out how they had used the app after the museum visit. We e-mailed them one month after their visit. Eleven people responded. Although this is insufficient to give us a complete understanding of how people use an app after their visit, we can use it as an indication of what to explore further.

Finally, we included video data from a study by one of the authors on the operation of iPod loans at the ticket desk. This data was included specifically in order to substantiate why visitors might decline to use the app.

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User profiles

Before we look into how the app is used and perceived, it is perhaps worthwhile to consider how many people used or did not use the app and what we know about them. The questionnaire provides a number of results, some of which are highlighted here:

- 26.6% used the app
 - 54.8% used their own phone
 - 45.2% borrowed an iPod touch.

- 65.1% women (50% smartphones, 50% iPod loans)
- 34.9% men (64.3% smartphones, 35.7% iPod loans).

- 7% were 15-18 years old
- 27.9% were 18-29 years old
- 23.3% were 30-45 years old
- 34.9% were 46-65 years old
- 7% were over 65 years old.

While 26.6% of the questionnaire respondents reported that they had used the app at the exhibition, studies show usage up to 85% at some exhibitions (Proctor 2011: 15). However, take-up rates are highly contingent on branding, exposure, guidance, and other contextual issues. A major reason for not using the app was that, despite several signs, visitors did not know it was there. 23.2% of the visitors who did not use the app said they did not know it was available. In order to measure potential users, the respondents were then asked if they would have used the app had they known it existed or had they been advised on how to use it. Around 14% (14.04%) of the non-users said they would have used it under these circumstances, which would have raised the number of users to 36.58%. This means that marketing the app and providing guidance to visitors is very important.

54.8% of the users used their own smartphone, and 45.2% borrowed an iPod touch. In the Danish population as a whole, over one-third of the 15-70 age group owns a smartphone (Gallup Index June 2011). This indicates that visitors are more likely to use the app if they have a smartphone. However, the questionnaire also shows that more app users have a smartphone (69.8%) than app users who used the app on their smartphone (54.8%). This suggests that while visitors are more likely to use an app if they own a smartphone, some nevertheless prefer to borrow an iPod touch rather than using their own smartphone.

The questionnaire also revealed some interesting gender differences:

Generally, more women than men used the app (65.1% women, 34.9% men). In addition, while an equal number of women used their own smartphone and borrowed iPods respectively (50%, 50%), more men used their own smartphone (64.3%).

The age range is rather wide: Most users were between 18 and 65 years old. Unsurprisingly, the largest user group was the 46-65 year olds. In this age group there is a high representation in the museum of visitors who have time on their hand and are taking in anything available in regard to dissemination.

The questionnaire also considered first-time users:

- 52.6% of the iPod touch users had never before used an iPod touch
- 89.5% of the iPod touch users had never used an iPod touch at an exhibition.

- 13.6% of the smartphone users had never before used an app
- 86.4% of the smartphone users had never used an app at an exhibition.

Approximately half of the iPod borrowers had never before used an iPod. Even if a greater percentage of the smartphone users had used an app before, there were still 13.6% who had never done so previously. Moreover, a large number of both iPod borrowers and smartphone users had never before tried an app at an exhibition (89.5%, 86.4%). This means that the museum is faced with a great challenge in helping visitors use the iPod and/or download the app as well as possibly advising them on how to use the app at the exhibition.

Visitor motivations

As noted above, 26.6% of visitors used the app at their visit to the temporary exhibition. In order to get a broad sense of why visitors choose or choose not to use the app, we asked about their motivations in the questionnaire. Although the visitors only stated their motivation very briefly in the questionnaire, describing it in just a few words, we were nevertheless able to identify some recurring themes. We mapped these alongside findings from the interviews and, from the video recordings, with visitors' accounts at the ticket counter of why they declined the offer of an iPod loan:

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Reasons for use	Reasons for non-use
To receive (new kinds of) information	Technical issues
To try it out	Practical issues
To be in control	Contextual issues
To have a nicer experience.	Emotional issues
	Competence issues
	Language issues
	Information overload issues
	Social issues.

Excluding students who used the app because they were told to do so, the users chose the app both to receive information and to be informed in an alternative way. Several users compared the app with more traditional ways of acquiring information, saying that the app was “easier”, “more interactive”, and “better than reading”. In addition, many tried the app out of curiosity concerning the new media. They wanted to “try it for the first time” and “see how it worked”, and they thought it could be “fun to try”. Others mentioned the app’s self-guiding advantages

and the ability to “control what to hear and where”. A few wanted to have “a better experience” and mentioned the iPod’s “niceness”.

Excluding visitors who did not use the app because they had not realised it was available, many visitors chose not to use the app for technical reasons. Only one had a simple technical problem in that the app took too long to download, yet many mentioned that they did not have a smartphone. Several mentioned more practical phone-related concerns: They had left their phone in the museum’s locker room, or they had no earphones. Others justified their choice of not using the app on account of their participation in guided tours. Some related their opting out to emotional issues: They “didn’t feel like using it”, and they preferred to just “walk around”. When declining the offer of an iPod loan, some visitors would account for this by referring to competence issues (“I don’t know how to use it”) or language issues (“It has to be in Swedish”). Others feared information overload: They felt it was “unnecessary”, just “wanted to look at the paintings”, and said that the wall texts alone provided them with “enough information”. Finally, some did not want to use the guide because they came with companions and would “rather talk”.

While some of these concerns could be addressed and overcome by the museum (for instance technical, practical, and competence issues), it would be neither feasible nor desirable to attend to other concerns.

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Using the app

But what did visitors think of the app? How did they use it? How did they integrate it into their exhibition experience?

Overall, visitors who used the app found it to be informative and inspiring and appreciated having the extra source of information.¹ In the interviews, visitors expanded on this by explaining that the app gave them the context they needed for understanding the artworks. One said, “I’m really enthusiastic, and I hope this will be available at museums around the world”. As noted above, most visitors had never before used an app at an exhibition and were therefore positively surprised and saw the app as an extra thing they received when they visited the museum.

This also makes the marketing of the app described above essential inasmuch as the app is not something that visitors assume is present and thus do not ask for the app themselves. One visitor explained, “I wasn’t at all prepared for something like this”.

To sum up, we can say that the app functioned as a pleasant surprise, meaning that many visitors were very appreciative of the app and did not have high expectations. In effect, we see that the visitor studies undertaken in relation to this app are very positive since visitors felt the app was something extra they received. There are, however, a number of other interesting findings regarding how the app was used, and these need to be explored.

Navigation

One thing that comes across clearly is that combining the app with the physical space proved to be a challenge. Nearly everyone had difficulty combining the artworks in the audio guide with the artworks at the exhibition. One visitor said, “It wasn’t so easy to find out how to combine the space with this one [*the iPod*]. It took a long time before I found out how to find

¹ In the questionnaires, 68% found the app informative, and 30% found it inspiring. 50% found it ‘very good’, 38% ‘good’, 10% were ‘neutral’, and 2% found it ‘bad’.

the pictures". The system was that a thumbnail of the artwork as well as a number would correspond to the physical artwork and a number placed alongside it at the exhibition.

The navigation difficulties were perhaps due to there being so much visual information at the exhibition that the adding of an additional layer via the app had to be done very rhetorically and clearly, otherwise the visitors would not see it. Clearly, this had not been achieved.

In addition it would have been good to include an audio track on 'how to use this app', which would have been helpful to many visitors. Here, it could have been explained how the audio tracks related to the physical artworks as well as how to use the other sections of the app. This navigation problem is not specific to the app but also relates to traditional audio guides. However, it becomes increasingly difficult as information levels at the exhibition rise.

User types

We can establish a portfolio of visitor types on the basis of how visitors navigate and use the app. As Woodruff suggests, the source of information is a stimulus that attracts the visitor's attention. In our case, the visitor needs to balance her attention between the app, possible companions, the artworks, and the location (including the other information available) (Woodruff et al. 2001). Different visitors do this in different ways.

There is an overall pattern of visitors who use the app decreasing their use of the other sources of information. For instance, of the visitors who read the written guide book, only 27.5% were app users compared to 72.5% of the non app users. The same is true for the wall texts. Asked about this in the interviews, visitors confirmed that they had received the written guide but that they had not yet looked at it. Instead, they would take the guide book home. One reason for this could be that a large percentage of app users were trying an app at an exhibition for the first time and therefore could not concentrate on multiple sources of information. Another explanation could be that visitors assume that the app includes all of the relevant information about the exhibition and the artworks (Goldstein 2011).

Some visitors, however, balanced their attention differently than others. This has led us to identify three user types: The guide-orientated, the spontaneous, and the all-consuming users. These types cut across age and gender.

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The Guide-Orientated User

This type is very loyal to the app and follows it from beginning to end. She wears the headphones all the time and does not put her phone in her pocket. She looks primarily at the artworks included in the guide and looks for the next artwork on the audio track list. It was especially this type who was very frustrated with the navigation system.

This user would explore the exhibition by herself. If he arrived with others, her group would split up for the majority of the time spent at the exhibition.

The Spontaneous User

This user-type is very different than the guide-oriented user. Instead of letting the app dictate where she should go, she is led by her instinct and interest and is drawn spontaneously to those artworks that attract her. She often takes off her headphones and has conversations with her companions. She uses the guide if she happens to see the artworks that have an audio track, and she browses the other available sources of information.

In the interviews, it was clear that many in this group were not afraid of missing information. It was also this type of user who really appreciated the music included in the app.

The All-Consuming User

A large proportion of the museum's core audience belongs to this group. Although many are around 50 to 60 years old, this user type is not restricted to any single age group. This is an app user who has also read the written exhibition guide and all of the wall text. She spends a long time at the exhibition, and in the interviews, the major concern regarding the app was that it would have been nice if it had contained more information and more audio tracks. This type of user especially likes the art historical content.

Slowing Down

Another issue regarding the use of the app at the exhibition is that 81% of users state that the app caused them to spend more time inside the exhibition. One of the aims of the app described by the exhibition team was to introduce a 'slowness' to the exhibition. The exhibition team wanted to help visitor to a thorough visual inspection of Lautrec's art to understand the details and qualities in the artwork. Moreover Lautrec's art is familiar to many people and the app should encourage visitors to take an extra look and to see something new.

The app proved to be an effective tool in this regard. Most importantly, it seems that the audio guide kept people in front of the artworks longer. In addition, the interviews showed that the three pieces of music also introduced a more reflective and relaxed way of enjoying the exhibition.

In control – in the exhibition and after

Finally, several people expressed after using the app that it was an excellent way for them to be in control when visiting the exhibition. This corresponds to their motivations discussed above. Compared with a tour by a personal guide, the visitor can start and stop the app according to their desire. This gives visitors the freedom to choose to the information they would like to hear. Such a benefit is similar to that provided by traditional audio guides. However, an app also allows information to be accessed later at home, in the café, etc. Whether visitors did use the app after their visit to the exhibition is interesting. Following up on the questionnaire, we asked by e-mail if people had used the app after their visit in the exhibition. Only 11 responded, which means that these answers can only be seen as indicative. 6 people said they still had the app on their phone, and 4 of these stated they had used the app at home, and three planned to keep the app on their phone. This means that 36% of this very small sample had use the app after their visit making it a area worthwhile to study further in future research.

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Technical issues

Since the app is a new media, the museum had expected that many visitors would need technical assistance. The design was developed to be simple and straightforward, but it was nevertheless surprising to find that even the many people who had never used an app before managed fine.

There are indications, however, that the visitors need to get used to the app medium. 74% state that the app was easy to use while 20% said that they had to get used to it. In the interviews, it was also clear that several visitors had to get used to the app, with one saying that "Using it did take a little time – now when it's the first time". It is important to take into account that even though many people are accustomed to apps, many visitors are using it for

the first time in a museum environment, meaning that the technique itself demands a fair amount of attention from visitors.

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Heads down versus heads up experience

One of the major concerns raised by the exhibition team regarding introducing the app at the exhibition was that visitors would spend their time looking at the phone instead of at the art. Similar considerations have been discussed at other institutions. Exhibition designer Joe Cutting says, "PDAs are pulling attention away from the objects themselves. At Tate they started off thinking they could have games, social networking and all this kind of stuff, but then realised that people will spend all their time looking at a poky little screen instead of the art" (Billings 2007). This is of course something that must be considered when introducing an app. However, as Ed Rodley (2010) argues, a 'heads down' experience can provide a scaffold for deeper engagement with the object rather than being a distraction from it as long as this experience is closely connected to the one you have when you look at the object itself.

Intrinsic in the Toulouse-Lautrec app's design is a division between 'heads down' and 'heads up' experiences. The audio guide and music are 'heads up', with focus on the artwork while listening. In contrast, the gallery and the film are 'heads down' experiences that demand the visitor's attention on the screen. This was done so that the audio guide could be used at the exhibition and the gallery while the film could be used before and after the visit to the exhibition.

This is also largely how the app was used. When asked what information from the app visitors had used at the exhibition, 80% answered the audio guide, 54% used the gallery, and 46% used the music, while most visitors who used the app after their visit mainly listened to the music and explored the gallery, which is primarily a 'heads down' activity.

It is also clear, however, that visitors use the information according their own preferences and that certain circumstances force visitors to change the ways in which they use the app. For example, one visitor decided not to listen to the audio because a tour guide inside the exhibition was very loud. Instead, he made extensive use of the gallery.

Conclusion

The knowledge about visitors' attitudes toward and use of smartphone applications in museums is sparse. In this study, we have used a variety of data in order to explore these aspects empirically and thoroughly. More specifically, we have investigated visitors' attitudes to the application, in relation to overall reception, to other interpretative material, and concerning their motivations for choosing to use or not to use the guide. Moreover, we have examined visitors' use of the application, in relation to the scope of the use, user profiles and visitor types. The different sets of data have supported each other by exposing similar findings, and they have complemented each other. We will highlight and discuss some of the findings here.

The study of the use of the app in the Lautrec exhibition shows that there is a growing potential for using apps as interpretative material in museums. A wide range of age groups used the app, and visitors were very excited by the app and highly appreciated of the extra layer of information, which it resembles.

However, it is also clear that it is comprehended as a new media for most visitors, must be developed as user-friendly as possible, and make a strong connection with the physical space.

It was revealed that the museum making iPod Touches available was vital for visitors

who did not have a smart phone or did not want to use their own. Almost half of the app users borrowed an iPod from the museum. Because of the many first-time app users, the result of the study also raised a debate of whether the app should be marketed as an app or rather as an audio guide or digital guide. By focussing on the content instead of the media, more visitors might be able to relate to it.

The data also showed that visitors are using the app in different ways. The three user types we have presented 'The Guide Orientated', 'The Spontaneous' and 'The All-Consuming' combines the use of the app with the attention to additional interpretative material, other visitors and the space itself. These types can be explored further and for example qualify the discussions when developing apps to specific target groups.

With this study, we broaden existing research on museum audio and multimedia guides by analysing smartphone apps. With our results, we also point to the need for further research in this area. More research is needed on apps used at different museums, at different exhibitions and by different visitors. Also, research into how visitors use exhibition apps before and after their trip to the museum would be valuable, because the app is being used not only inside the museum space but also before and after the visit, as indicated by our study.

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Theorising Museum Participation

Pille Runnel, Pille Pruulmann-Vengerfeldt

The paper aims to analyse the notion of participation in the museum context. Museums are increasingly competing for the attention of the public in the arenas of leisure and education. In addition, a turn towards interactivity is taking place in museums, and while that might serve well to revitalise the museum and bring it closer to its audiences, it does not sufficiently support realisation of the change of the museum institution into a laboratory-type museum. Two core processes in museums, digitisation and democratisation, lead museums to focus on the dialogue with its audiences – providing more information is no longer considered sufficient. In order to better fulfil their role as a public institutions within the democratic framework, the museums seek for increasing participatory activities within the museum.

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The paper aims to analyse the notion of participation in the museum context using an audience studies perspective. Museums are increasingly competing for the attention of the public in the arenas of leisure and education. In addition, a turn towards interactivity is taking place in museums, and while that might serve well to revitalise the museum and bring it closer to its audiences, it does not sufficiently support realisation of the change of the museum institution into a laboratory-type museum (de Varine, 1988, van Mensch, 2005) – a concept defined through the communicative and democratic aspects of the museum.

As is the case with many public institutions, the democratisation of society is increasing the need for transparency and accountability, which in turn has brought public engagement to the attention of the museum. Two core processes in museums, digitisation and democratisation, lead museums to focus on the dialogue with its audiences – providing more information is no longer considered sufficient. The increase of communication and dialogue in museums has several consequences. On the one hand, the vast resources of cultural heritage can and are being made available through digital technologies. On the other hand, the dialogue at the museum level is much broader and has to be seen as part of the general democratisation of society. Museums, which have traditionally been institutions of knowledge and truth (albeit to varying degrees), are experiencing the need to open their collections, exhibitions and educational work in order to better fulfil their role as a public institutions within the democratic framework. One way of doing this is by increasing participatory activities within the museum environment.

In this presentation, participation is understood as mutually beneficial, respectful and to a certain extent, aiming for balanced power relations, or at least acknowledging the worth of discussion partners. Through this emphasis on respect and partnership, social interaction and participation become located at another, more fundamental, level of democratic support. This is a more maximalist approach to democracy, looking at the democratisation of society at large, acknowledging the importance of a well functioning civil society and thus extending the notion of citizenship beyond institutionalised politics.

The concept of ‘participation’ originally signified the cooperation of institutions and either the community or individuals. Peter Dahlgren (2006: 24) sees participation as “connecting with practical, do-able situations, where citizens can feel empowered [...] it involves in some sense ‘activity’”. For Dahlgren (2006), participation has important collective dimension it implies being connected to others via civic bonds.

Our ambition here is to extend this notion of participation to museums. In her book, *The Participatory Museum*, Simon (2010) argues that with museum participation, the key is finding out what function participation supports. In contrast to many ladder-based approaches towards participation (Arnstein, 1969; OECD, 2001; IAP2, 2007), Simon indicates that in the context of museums, different approaches to participation are better understood as a matrix in which in some of these instances the role of the museum is greater, while in some other cases the role of the museum decreases and leaves more control with audiences.

Table 1: Different museum participation possibilities, adapted from Simon (2010)

	Contributory	Collaborative	Co-creative	Hosted
Control over the agenda and over the outcome	Museum	Museum more than participants	Equal/participants more than museum	Participants (with rules and some limitations from the institution)
Number of participants and their commitment	Potentially very many, but limited or no commitment	Smaller numbers, some casual joiners, but most with intention to participate, thus relatively small numbers	Relatively small groups, committed through the whole process	Relatively small groups, who need additional support for their own project.
Participants interaction	Individual interacts with the content of the museum and possibly with other participants contributions	Individual interacts with content and institution and possibly with other participants contributions	Success presumes interaction with institution and other participants and co-operation	Success relies on good interaction with other participants forming a community or network
Goals for how non-participating visitors will perceive the project	Visitors see themselves as potential participants and see the institution as interested in their active involvement.	Visitors see the institution as a place dedicated to supporting and connecting with community.	Visitors see the institution as a community-driven place. It will also bring in new audiences connected to the participants.	The project will attract new audiences who might not see the institution as a comfortable or appealing place for them.

In the following, we will introduce different positions the museum can have towards its audiences, grounding the discussion of the participation in the overall development of the museums as public institutions. Different perspectives towards audiences will be mirrored in the discussion of three intersecting fields (social, cultural and economic) that museums operate in. We will look at the roles museums can take in audience communication, why museums need to make people more aware of participation and what position is assigned to the participants and audiences in these participatory processes.

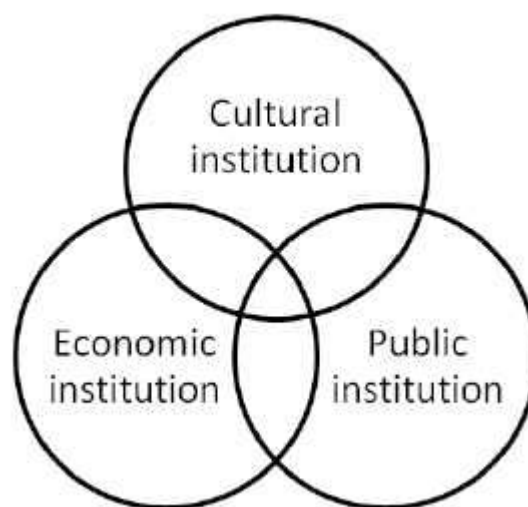
Museums in their contesting and intersecting fields

The notion of fields is borrowed from Bourdieu's idea (1998) that different fields carry different operational logics. The framework of fields helps to explain some of the contradictory and overlapping social processes museums seem to undergo. Museums operate on three key fields - cultural, economic and political, fulfilling three key institutional roles: being simultaneously a cultural, public and economic institution (See Figure 1). The related roles, responsibilities and needs are often conflicting. When looking into museum history, the roles have emerged step by step, but none of the previous ones have entirely disappeared. Our concerns are then how these different

aspects relate to public participation and how they provide reasoning, motivation and support for participation.

As a cultural institution, museum roles include preserving, collecting, interpreting and mediating heritage to publics. As a public institution, museums are socialising and democratising agents and thus share the role of educational institutions. The third role comes from the museum as an institution operating within the economic field, where museums need to compete in the open market for clients' leisure and free time. Here museums need to collect revenues and attract visitors. At the same time museums today are increasingly seen as vital parts of the creative economy and their roles are being acknowledged as actively negotiated and fluid. Lord (2007: 8) makes a similar argument saying that in order to benefit from the creative economy, museums need to be dialogic and open to diversity and interdisciplinary approaches and they could become cultural forums and sites for debates. Otherwise, they might benefit in the cultural economy only through cultural tourism.

Figure 1: Key domains of the contemporary museum



The roles stemming from different fields also have commonalities and overlaps with each other; often the goals and means are shared. At the same time, there are still plenty of other cases where the roles can be conflicting, causing tensions within the museum and between the museum and its communities. In many cases, the interpretations of these institutional roles depend on professional museum workers as well as on their publics.

Museum through the lens of the classical communication model

We look at the museum as a site of participation for different audiences through the lens of the classical communication model of Who? Says What? To Whom? (Lasswell, 1948; McQuail and Windahl, 1993). Using this basic model helps to structure the elements of participation in the museum context. The focus of the analysis is framed by the fact that museums operate in three key fields: cultural, economic and political. In the following, we will combine the three fields, with the three topical questions and discuss how museums can deal with increased societal expectations to organise more participation. The logic of the three fields – cultural, economic and political – has been inspired by Bell (1976) and Bourdieu (1998). However, the idea behind using these three fields (and leaving thus out many of the activities of a contemporary museum) is to distinguish between the different operational logics of the different areas.

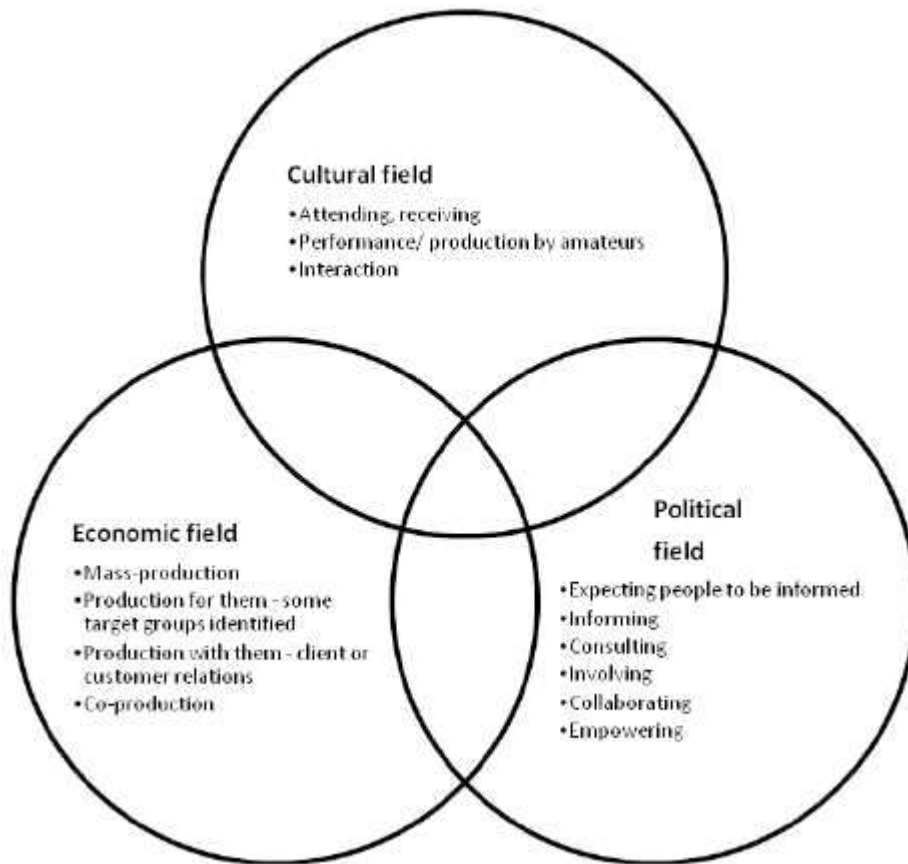
If the museum looks at audience participation from the position of the cultural institution, then the role of the museum in inviting people to participate may very much depend on the types and of the museum – given that sometimes instances distinguishing between an ethnographic museum, a

history museum, an art museum, a children's museum, science museums, etc. may be justified. The museum as a cultural institution may have different reasons to invite people to participate. Potential reasons for this perspective are the possibility to have visitors add artifacts or stories to the collections, the opportunity to make more engaging exhibitions that are enriched by visitor input, and to involve the visitor in a process of joint cultural content production. As an economic institution, the driving force for the museum would be making money/profit, and that would also be the key motivation for inviting people to participate, if museums decided to do so. There might be different mechanisms by which participation would support the aim of money-making. It can be that participation helps to engage and attract visitors and make it more appealing to come to the museum and thus support marketing messages. It may be that with participatory activities, museums keep people longer on their premises and can profit from selling them refreshments. If carefully planned, participation and community involvement may also become important monetary resource through raising money for a common cause or by helping the museum to save money by outsourcing some of the activities to the community. Museums as public institutions see their participatory role primarily through the need to empower people through participation. Here, civic engagement with the institution might mean that people leave the institution more knowledgeable, with a successful experience, with a sense of value and self esteem (coming from the fact that a knowledge institution finds individual contributions valuable). The added meanings of participation might come from the interaction with experts, whereas in other instances it is the message from the museum saying that people outside museums carry some kind of valuable expertise the museum needs.

Participating in what?

The overarching aim of a contemporary museum is to invite its visitors and users to participate within a changing societal context. The different roles of the museum also mean that different aspects of participation are relevant to each of these roles. The definition of participation as it is manifested in different fields is outlined at the next schema (Figure 2). Each domain in which the museum operates is described by its distinctive understanding of participation and user engagement. For each field the meaning and aim of participation differs. Thus in order to understand museum participation, we need to analyse the field-based logic and motivations behind the participation.

Figure 2: Participation in the different fields of museum operations



We should be careful not to blindly copy the active/passive approach, as it is not without its problems. In the context of the cultural institution, Morrone in UNESCO's "Guidelines for cultural participation" (2006:6-7) proposes instead a distinction of attending/receiving; performing/producing by amateurs; and interaction. For him, interaction is a process "defined by continuous feedback of flow communication between external source and a receiving subject." With this kind of definition of interaction he attempts to quantify and explain the experiences enabled by new digital media, distinguishing interaction from attending, and defining receiving as a third and distinctly different way of cultural participation. Similarly to Simon (2010), Morrone does not see these activities as in any way hierarchical, but rather as a way to distinguish three different media through which participation can happen. When moving to the next field, we can see that in the economic discourse, the term involvement is used, rather than participation. Participation here is more about attracting the public to be involved in the activities offered by the institution. Those who become involved are sometimes termed 'prosumers'. This kind of relationship between the institution and its publics corresponds to the museum's increasing demand to be interactive. In many cases, interactivity is seen as adding technological solutions or elements such as buttons, screens and multi-media to the exhibitions. The problem is that this can lead to deceptive interactivity, where a person is given the sense that he or she has control over the process, whereas the control in fact is predetermined by others (by technological tools and the intentions behind them). The understanding of participation in the economic role of the museum remains rather vague. While we can definitely see discussions of audience participation in the debates on marketing and

organisational communication, there is little evidence of the systematic classification of participation in the whole economic field. The discussion in marketing has for the past 20 years moved from product placement towards customer relations and dialogue (e.g. Christopher, Payne and Ballantyne, 1991). In Figure 2, we list a number of potential economic relations. In the first instance, the institution does not care for the market other than for its purchasing power. In the second, some target groups are specified and production is carried out for them, ie the institution is paying careful attention to customer or client needs and almost co-producing with them as a result. Lastly, economic relationships can evolve into the co-production through mutual cooperation and partnership in the production process. These stages are also distinguished by different levels of control and in a way this hierarchy mimics the IAP2 (2007) participation model in the economic field. However, while in the public field relinquishing control can be seen as part of the motivation, the economic field has different operational logics. Here giving up control is not an option at all. In the economic field, the ultimate key seems to be in understanding the customer and proposing mutually beneficial partnerships in order to maintain economic dominance and gain profits. At the same time, creative economy discussions envision the people in the active role of being engaged and interested, while museums become passive sites for their creative forces. Here, dialogue and participation happens within the community and the museum's role in these processes is yet to be understood.

When looking at political-democratically motivated participation in the museum, or the museum as a public sphere institution, it makes sense to talk about stakeholder engagement or mobilisation where the aim is often to rally the visitor or users to some course of action. Here museums can become sites of public campaigns. The more subtle role of democratising democracy means that museums as public institutions also have a responsibility to educate people not only about museum contents, but also about participation as such. Hence, it might be relevant to discuss the distinctions of different ladder of participation approaches (e.g. OECD, 2001) and stress that although informing is not necessarily participatory, museums can and often do see civic education as part of their public role; and informing can become a prerequisite to mutually beneficial participation. Political participation has probably been analysed and described the most thoroughly. In Figure 2, we have summarised the propositions of the International Association of Public Participation (IAP2, 2007) in order to approach political participation as providing information, consultation, involvement, collaboration and empowerment. These levels have a clear hierarchical structure. While each level is perceived as valuable, fulfilling specific goals, with its own specific instruments, the level of public impact is seen to be increasing with each subsequent stage.

To whom does the message go?

In the museum context, audiences have a variety of names. As naming has its power, the naming of the people who come to the institutions can also empower or marginalise people. While 'audience' comes from the field of communication studies, museums have also conceptualised the people on their premises. For instance, Peacock and Brownbill (2007) bring together concepts of 'audiences', 'users', 'visitors' and 'customers' (originating from four different paradigms) in an attempt to understand the users of online and offline museum environments.

The museums have been looking at their 'people' from the perspective of friends, visitors, clients, users, participants, while new technologies and new economic relations also expand on the notion of prosumers (Toffler, 1980) and produsers (Burns, 2006). In the shift towards a more participatory museum, it should be acknowledged that participation will never be all-inclusive and equally empowering. As discussed above, the variety of approaches enables different levels of audience participation. Nielsen (2006) has proposed a 1:9:90 rule, claiming that on average, in large scale multi-user communities, most participants do not participate at all. Participants can be divided into regular and active participants on the one hand, and into those who engage themselves from time to time on the other. In the museum context, this means that only some visitors can be potential participants in museum activities. When the modern laboratory-museum is looking for partners, they need to take into account the fact that, according to Simon (2010), participation has to be

valuable for the institution, the participants, and also the 'lurkers'. Here, again, the different fields raise different expectations regarding participants. As discussed above, cultural participation as defined by Morrone (2006) expects reception, participation through amateur production and interaction through new technologies. Moreover, the roles of the participants can also include those of informant, expert, contributor or creator of other kinds of content.

Operating in the economic field means that museum institutions have had to start better understanding their audiences. Through learning more about its target groups and customers for marketing purposes, museums also foster their participation in the other (cultural and political) fields. The economic field in most the cases defines customers or consumers in a fairly passive way. Here the customers are seen as a source of knowledge in terms of 'what they want'. When we look at the concept of creative industries, the understanding of museums in the economic field changes - here museums are seen as the site for active, engaged and critical individuals who are inspired by the museum for their cultural work.

The role of the museum as public institution offers more possibilities and also raises more expectations. This role implies that active engagement can be situated on many different levels. For museums, people who see the museum as a resource, people who act as quality contributors, or people who are partners in collaborative projects are all important. Although contributing, and possibly also collaborating, can be individual, participation can also have a more social dimension when a group of individuals works together with an institution. Arguably, only a group of people or a community with mutual awareness and an existing network can be a partner to the institution with the potential capacity to share power. Museums can look at the participation as a possibility to foster the birth of such community or network. Simon (2010) proposes five stages of participation,¹ which range from 'me' (where an individual consumes content) to 'we' (where individuals engage with each other and the institution becomes a social place full of enriching and challenging encounters). The stages in between help to link the visitor to the content, and through the content also to other visitors.

Conclusion

In the previous discussion, we have used the classic model of communication of Who says What to Whom in combination with three societal fields to map audience participation in the world of museums.

It is important to see that the different fields of operation generate different demands for museums and the praxis of participation depends very much on the situatedness in these particular fields. The museum has always been a medium for many different messages and through the logics of participation the wider circles of people are included as communicators. Traditionally, museums narrate the stories of their owners although through the organisation of these participatory practices, museums can take a step towards diversifying these voices. It is important to understand that participation in museums needs to be understood through the diversity of approaches – often there are manifold choices to be made, and the increased number of active participants or contributors can mean that the contributions become more superficial, whereas collaboration or partnership can only occur with limited numbers of individuals. Again, this is a reason to place more emphasis on the organised or networked audience. Whatever participatory structure is preferred, as long as the repertoires of the participation are diverse, the participatory aims of the museum can be seen to be fulfilled. This study has focused on museums as institutions in public ownership. We have not paid attention to privately owned museums and their particularities. However, it is clear that privately owned institutions face the same struggles and often their need for participation. It is vital that museums understand that unless they open many of their functions to the public, they are not able to fulfil the obligations/expectations placed on them.

The experiences of participation improve when we look at the participants not as isolated

¹ Simon terms this social participation, a term which does not receive too much prominence here in order to avoid confusion.

individuals but as a collective, interrelated entity, and when we foster their interactions. Museums need to be sites for community building and networking. In many ways, museums - as reflexive knowledge institutions - can play a leading role by introducing and socialising audiences to the ideas of participation. This also means that the traditional understanding of museums as sanctums of truthful memories needs to be abandoned, as the more post-modern society needs reflexive citizens. Instead of providing visitors with ready-made and perfect answers, museums can use participation as a way to entice and support critical thinking. In this fashion museums have increasingly played a role in introducing literacy skills to the citizens of today.

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Mixed reality, ubiquitous computing and augmented spaces as format for communicating culture

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Abstract:

The paper demonstrates how the interplay between mobile media technology and physical places is a potent tool when it comes to meeting the challenges and potentials put forward by digital, mobile media to museums when it comes to creating experiences which are based on collaboration, participation and co-creation. Digital augmentation of physical places makes us see things in new ways. Buildings are not just buildings, streets are not just streets – they carry stories, they carry cultural meaning which audiences through the interplay between physical locations and the mobile media may acquire, discuss, investigate and relate to in playful and creative ways.

Kjetil Sandvik

Mixed media, ubiquitous computing and augmented spaces as format for communicating culture

Communicating the history of Kolding (DK) through an augmented reality game using mobile phones, a web 2.0 mesh-up, a playable conspiracy plot, and the city as game universe

This paper presents and discusses methods for meeting the challenges which digital media (with their mobile and ubiquitous characteristics) as well as a constructivist approach towards learning and the paradigm of experience economy with their common focus on user participation and co-creation present to museums and other institutions communicating cultural history/heritage to an audience which increasingly is accustomed to being an (inter)active part of any cultural experience.

Digital media constitute challenges not only to institutions communicating art, history, cultural heritage, but to all types of institutions, organizations and businesses. And especially with the emergence and vast (and fast) spread of so-called social or participatory media and Web 2.0 technologies these challenges are but increasingly inviting us to rethink communication all together. The open-endedness of these media and media technologies, the radical possibilities for dialogic processes, for collaboration and co-creation when it comes to user-generated experiences and content vouch for methodologically (re)thinking communication as dynamic processes which – instead of processes transporting information/media content – is regarded as something which is continuously developing and constantly changing as a result of a communication format characterized by collaboration, participation and co-creation.

In the opening sequence of the game *The 23 Skulls* – a conspiracy tale about the history of Vejle¹ the players are put in the role as journalists investigating the disappearance of a museum inspector. He has left behind a lot of notes and disturbing video clips on YouTube about a conspiracy engineered by powerful men throughout the history of Vejle city. And he has left maps of the city on Google Maps containing trails through the city and layers of information about various places, various buildings, and various persons – everything accessible on a variety of interconnected web

¹ This project which was developed for Vejle Museum is still in an early stage of development has only been tested on an alpha-level by a few players from our target group. There is still a lot of work to be done before the game can be played for real. However, the project has been used for developing methods and gaining experiences for developing new projects (such as the present Kolding-project) using mobile phones and augmented reality as tools for communicating culture.

2.0-services. It all relates to the 23 human skulls (actually) embedded in the walls of Sct. Nicolaj Church, and signs and clues are scattered all over town: on facades, monuments, inside buildings. And as such – to the players the city has been altered; it has been augmented by the interplay between and interweaving of the mediated city and the actual physical city. As such this new, mixed reality version of Vejle, which the players now are to investigate, may be understood as an augmented place.

The project, which I am currently working on and will be presenting at this conference, builds upon the formats developed with the 23 Skulls project. “Stol ikke på nogen. Et rænkespil om Kongens Kolding” [Trust No-one! A conspiracy play about the King’s Kolding] is being developed for Kolding Library and City Archive in order to communicate the history of renaissance Kolding – a time when the city functioned as part-time Danish capitol and Koldinghus Castle as the royal residence – through an augmented reality game using mobile phones, a pervasive playable conspiracy plot about power and politics, and the city as a ubiquitous game universe. The basic idea is to make the participants get a sense of the historical city through a number of tableaux telling short tails of actual yet colorful events while suggesting the evil forces are at play and suggesting that each tail is part of a larger conspiracy scheme. Using the mobile phone and augmented reality technology, the locations included in the game are over-layered with various types of audio-visual information making the mobile phone function as a window back in time producing a specific sense of place which is a blend between – or a double vision of – the city today and the city of the past.

New senses of place: augmented reality

Today’s new media are not just shaping our sense of place, but they are also actually producing new types of places and new types of spatial experiences. Scannell (1996, p.172) has claimed that mass media create a “doubling of place” between the space represented in media and the space in which the media content is perceived, and Meyrowitz (2005) has pointed out, that we experience locally through our bodies, but what we experience may derive from a variety of different spaces brought to us through media. Thus our perception of places is increasingly connected to our use of media and especially new media (the internet and mobile phones). We both draw upon online information and communicate our own experience through internet-applications such as Facebook, Twitter, Flickr, Google Earth together with mobile phone embedded technologies like text messaging, GPS, mp3-players and so on. New media enable us to communicate our experiences encountering actual places

and exchange them online and in real-time with friends, family and the rest of the online world (Molz 2004).

Following this line of argument, the experience of places will always be connected to various forms of mediatization which define and frame the way we experience and how we define ourselves and the roles we play in connection to this experience. We use media as an important element in shaping the our experience places through individual storytelling and staging of self (e.g. the use of mobile phones to upload pictures and personal comments on a personal blog, on Google Earth, Twitter, and so on).

These and other forms of media-based representation and production of places which are both connected to mediation of the actual place on the one hand and to the mediatization of our experience of this place on the other can be seen as a process of augmentation; an informational, aesthetical and/or emotional enhancement of our sense and experience of place by means of mediatization. We understand places through media (e.g. Lonely Planet, Google Earth, travel literature and so on), we use media to construct places (using cameras, mobile phones, GPS, maneuvering through 3D-structures by means of an interface and some kind of avatar in a computer game, and so on), and media shapes our experience of places (guided tours, theme parks, computer simulated worlds like the ones found in computer games, and so on).

Perception of augmented places implies a specific type of spatial practice including a strong element of performativity which resembles the mode of reception of (computer) games: The place comes into being through our performance (actions, movement, navigation...). This performative element implying the active use of the recipient's body and navigations through physical space as a central part of the reception (and thus construction) of place is present in most of the augmentation strategies presented in this article. If you go to London and buy one of Soundmap's Audio Walks you get to download a tour on your mp3-player in which "narrators will give you the ultimate guide of the area they love" and you get to "hear the stories and secrets of the streets and be immersed into a world of music, interviews and sound effects" (www.soundmap.co.uk). The same type of spatial augmentation by means of staging can be found in Copenhagen Audio Walks enhancing your experience of a walk through the city by applying various stories and facts to various places you encounter as you move your body through the urban space (see www.audiowalks.dk). The system tells you where to go, which route to take, but it is for you to perform the walk itself and

operate the system according to the instruction to get the various tales and historical facts delivered in the right places.

It can be argued that the actual perception and experience of touristic practices such as ‘murder walks’ in connection to either real or fictional crime events may be seen as simulation of places and spatial experience: the participating tourists are performing navigational operations which simulates those of the murderer (e.g. Jack the Ripper when embarking on a Jack the Ripper-tour in west-end London) or the investigating detective (e.g. Kurt Wallander when going on a sight-seeing tour visiting the various scenes of crime in the Swedish town Ystad (and its surroundings) as they are played out in the TV series about Henning Mankell’s famous detective). As a result of their performative actions the tourists are connecting themselves to the various plots of the augmented places they encounter, often in complex ways where historical facts are blended with fiction, folklore and with tales told by other participants in these types of staged events. Thus the place is reconstructed in a way which bares references not just to their historical factuality, but to a variety of other sources.

The performative aspect of perception of augmented places through simulation may be radically advanced in cases where we do not just encounter the place as spectators but also are given a specific role in the narrative experience. Here we find cultural phenomena like different kinds of role-playing games in which a physical space is being used as a setting for the game itself. But unlike the stage-set in the theatre or the film-set in movie-productions, the place itself has not been constructed, altered or manipulated. When we are looking at these types of augmented places we find that the actual places (the specific town quarter, the specific street, the specific café) as well as not-participating people just happening to be present at the time of the game are included as a setting without being staged. But to the participating players the chosen quarter, street or café are more than just locations in the physical world, they are embedded with a certain meaning (narrative, emotion etc.) and thus part of the game fiction being played out. This performative practice through which the embedded narrative of a place is simulated may be further augmented by the use of costumes and props and also by the use of various media technologies such as mobile phones containing instant messaging, camera, GPS and mobile internet creating what Manovich has called a cellspace constituted by:

cellspace technologies (also referred to as mobile media, wireless media, or location-based media) delivering data to the mobile physical space dwellers. Cellspace is physical space that is ‘filled’ with data, which can be retrieved by a user via a personal communication device. Some

data may come from global networks such as the internet; some may be embedded in objects located in the space around the user. Moreover, while some data may be available regardless of where the user is in the space, it can also be location specific. (Manovich 2006, p. 221)

This is exactly what the “Trust No-one!” project is aiming at. Here physical reality and computer mediated reality become mixed and may be described as “game spaces that seek to integrate the virtual and physical elements within a comprehensibly experienced perceptual game world” (Walther 2005, p.489). In these types of games, the mediated space is collapsed into the physical place (and vice versa). Because the game is pervasive, that is penetrating the physical world, and ubiquitous, that is potentially present everywhere, the fictional game world becomes a part of the player’s physical environment, and at the same time the physical environment is becoming part of different mediated spaces ranging from the GPS’ graphical representation of the physical environment and the player’s position in this environment and SMS and e-mails as communication channels for navigational information to websites containing online-dimensions of the game universe. As such the mix between physical locations and their media-induced layers of information constitute a playable storyspace for the participants to interact with.

The potential of the game format

Why choose the game format when communicating culture? The answer is quite simple: games are engaging, they are activating and they put the users in the role as participants rather than recipients. When analyzing the communicational potential of computer games we can start off with examining the role of games in e.g. socialization processes. Here e.g. Piaget’s findings have had great impact on modern theory of pedagogy and different learning theories which proposes that we should regard learning as a) complex processes, based on b) construction of knowledge, which are c) taking place across different contexts, d) placing the child in the centre, and which e) primary modes are a combination between ‘learning by doing’ and ‘learning by reflection’ (see Sørensen, 2005). As a system of communication this educational model with its complex communicational processes resembles the participatory, user-centered communicational logic and the interactive, play-centric communicational mode of computer games. Current learning theories (see Gee 2004, 2005) focus on knowledge more as a constructive activity, as process, rather than content, which may be transported from teacher to student. If we were to erase the boundaries between these two different types of learning, it is our belief that the concept of education may be expanded and the learning situation will probably become more engaging, activating and thus more effective.

The overall goal of the “Trust No-one” project is to create an augmented reality game about the cultural history of Kolding with the use of mobile phones and web 2.0-services². The game has a touristic purpose and is aiming at the people visiting Kolding for e.g. shopping or sight-seeing purposes. This target group represent a great challenge because their behavior do not necessarily allow long and time-consuming game-session: there should be room for shopping, grapping a bite and so on, so instead of creating a guided tour with the use of augmented reality technology and a continuous crime story, the project is based on small tableaus where the history of the city is coming to life when the participants put up their smart phones and experience the over-layering of historical (and fictional) actions and events on the streets and alleys, squares, bridges, buildings and monuments which functions as narrative canvases thus reassembling and constructing the history of renaissance Kolding conducted by the participants operating the city infrastructure as a game universe and the media technology as navigational and informational tools. So the participants are to play an active role in the storytelling process in the same way as with the 23 Sculls project in Vejle. In this particular project the participants were put in the role of journalists investigating the disappearance of a museum inspector and a possible conspiracy running all the way through the history of the city. There are a lot of clues, hints, story fragments to be found both in the physical city and in its mediated online counterpart – pictures, videos, trails or routes may be found on Flickr, YouTube and Google Maps. But the participants are to connect the dots themselves, they need to ‘write’ the story about the conspiracy using their phones as cameras and uploading pictures as well as small pieces of text to their journalistic stories when the game is over.

Even though the potential participants in the “Trust no-one!” augmented reality game in Kolding will not be cast in a clear-cut protagonist role in the same way as with the Vejle-project, they will be put in the role of the exploring observer who can open layers of information (images, videos, audio, text) at specific locations in the centre of the city of Kolding and thus engage in small narrative tableaus containing characters and events from the specific time period at stake (the renaissance).

² The use of web 2.0 open standards and freeware is an important part of this project. Museums and other types of educational institutions do not have a lot of money to put into prototypical systems acquiring unique hard- and software. The way we see ubiquitous computing is not just a question of putting computational power into everything but also making this technology widely accessible to users in an easy-to-use and within-economically-reach kind of way.

The use of the augmented reality game-format is – in a broader perspective – an attempt to develop a new way of communicating and teaching cultural knowledge based on the use of mobile and ubiquitous interactive and social media technology which engages and activates the user. The educational model is not that of one-way-communication implying that the teacher possesses knowledge and the student receives it. It is based on a participation- and experience-based model in which knowledge is not just a question about sending and receiving but about collaboration and co-creation and collective learning-processes. In this processes the interactive and collaborative media technology used in the game system becomes creative tools in a learning constructing and knowledge producing way.

Digital media challenging our ways of communicating culture

The use of mobile technologies in museum exhibits is by no means of recent date or even necessarily tied to digital technology (see below). Nor is the idea of augmentation of museum experiences through digital technology something that has surfaced with the introduction of mobile devices such as tablet computers and mobile phones. At e.g. MIT and its Media Laboratory researchers have been experimenting with and theorizing augmented reality and interactive spaces in the context of e.g. museum exhibits since the early 1990ies, introducing

software architecture used in conjunction with real-time computer-vision-based body tracking and gesture recognition techniques to choreograph digital media together with human performers or museums visitors [...] with coordinated perceptual intelligence, behaviors, personality, and intentionality [...] able to engage the public in an encounter with virtual characters that express themselves through one or more of these agents [...] which augment the traditional performance stage with images, video, music, and text, and are able to respond to movement and gesture in believable, aesthetical, and expressive manners. (Davenport et.al. 2000)

But in the last 10 years the amount of projects and systems being developed and research being made within the field of museum communication has increased considerably; projects which have focused on augmentation strategies such as the History Unwired project developed by MIT in collaboration with University of Venice in which the tails of historic Venice were told in the shape of “a walking tour through one of Venice’s more hidden neighborhoods, delivered over location-

aware multimedia phones and PDAs” (Epstein & Vergani 2006, p.302) or projects which have explored the potentials and challenges of digital and especially mobile media in museum and how the new media technology both enhances, enriches and expands the museum experience in ways which may be said to realize the concept of museums without walls put forward by André Malraux in 1967 (see e.g. Arvanitis 2005, Wessel & Mayr 2007, Brugnoli et.al. 2007, Wessel et.al. 2008). The present paper is lending itself to this field of practice and research. However, the “Trust No-one” project presented here radicalizes this concept in the way that the focus is both on information and audience dealing with the relationship between audience and media/mediated information and the relationship between members of the audience. The media facilitates interactive dialogues with the physical “exhibition” (the locations in Kolding functioning as history-communicating devices) and at the same time it organizes the audience participation and experience in a narrative structure which is augmenting the “exhibition” and urges the audience to perform, to participate and collaborate. As such this project is symptomatic of the new way of communicating knowledge and cultural heritage which is brought forward by new media technologies, the digitization of cultural heritage and the focus on experience culture (or economy) and the shift from users to producers (Brun 2008), from audiences to participants (Jenkins 2003) and co-creators (Boswijk et.al. 2005)³:

In collaborative communities the creation of shared content takes place in a networked, participatory environment which breaks down the boundaries between producers and consumers and instead enables all participants to be users as well as producers of information and knowledge - frequently in a hybrid role of producer where usage is necessarily also productive. Producers engage not in a traditional form of content production, but are instead involved in produsage - the collaborative and continuous building and extending of existing content in pursuit of further improvement. Participants in such activities are not producers in a conventional, industrial sense, as that term implies a distinction between producers and consumers which no longer exists; the artifacts of their work are not products existing as discrete, complete packages; and their activities are not a form of production because they proceed based

³ This new paradigm for museums has over the last couple of years been dealt with in a series of academic publication such as Loïs Tallon and Kevin Walker (eds.): *Digital Technologies and The Museum Experience* (2008), Ross Parry (ed.) *Museums in a Digital Age* (2010), Fiona Cameron and Sarah Kenderdine (eds.): *Theorizing Digital Cultural Heritage* (2007/2010), Beryl Graham and Sarah Cook: *Rethinking Curating. Art after New Media* (2010) and Nina Simon: *The Participatory Museum* (2010).

on a set of preconditions and principles that are markedly at odds with the conventional industrial model. (Brun 2008, p.21)

As is the case with museum exhibitions which make use of augmented (alternate) reality games as communication format, the exhibition is not confined to a specific museum space at all, but can make use of a variety of locations. An augmented reality game such as *Hikuin's Vendetta* (2008) make use of 12 locations in the central part of downtown Aarhus (Denmark) to let the visitors participate in a crime mystery taking place in the Viking Age: "Explore the Aarhus of the Viking Age via your mobile telephone. The Viking crime HIKUIN's vendetta takes you to Viking locations in the centre of Aarhus, and takes you on a search for the missing Hikuin" (see: <http://www.visitaarhus.com/-/international/en-gb/menu/turist/hvad-sker-der/hikuins-blod/hikuin.htm>).

The use of maps and integration of audio and video displayed on mobile phones in this project resembles the project case-studied in this paper, although the degree of participation and possibility for co-creation is quite limited in *Hikuin's Vendetta*. The design is only partly focusing on important principles of participation such as "dialogue or creative expression, shared learning or co-creative work" (Simon 2010, p.1). The design – although making use of the mobile phone as a creative multimedia tool – settles on a traditional museum way of communicating in which the institution (here Visit Aarhus) "provides content for visitors to consume" (op.cit. p.2). In contrast, the project presented in this paper, makes use of media technology which may be described as participatory and social, thus facilitating a communication format which on the one hand is embedded in the experience economy paradigm with its focus on co-creation and on the other is based on learning theories that regard learning as constructivist processes in which participants "act as content creators, distributors, consumers, critics, and collaborators" (ibid.).

Exit

This paper has demonstrated how the interplay between mobile media technology and physical places is a potent tool when it comes to meeting the challenges and potentials put forward by digital, mobile media to museums when it comes to creating new and engaging experiences which are based on collaboration, participation and co-creation. Digital augmentation of physical places makes us see things in new ways. Buildings are not just buildings, streets are not just streets – they carry stories, they carry cultural meaning which audiences through the gameplay and the interplay

between the physical space of the city and the mobile media may acquire, discuss, investigate and relate to in a playful and creative way.

The “Trust no-one!” project in the making can be visited on Facebook, which is being used as a development tool:

<https://www.facebook.com/media/set/?set=a.3032634648928.138106.1054748211&type=1#!/Stolpaaingen>

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Collaborative spaces for reflective practice

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abstract

In this paper we will present the main structural guidelines and contexts for an on-going research project being carried out by the authors which deals with the nature of museums in a collaborative background and with the transformation of how institutions work together in the real world. We begin by briefly presenting the main contexts and challenges the project attempts to address while also considering methodological options. We will look, particularly, at the use of journal writing to enhance reflective practice *through the lens of learning*. *This collaborative project has asked participants to write journals as a form of reflective and creative practice; that is, not only as a device for working with events and experiences in order to extract meaning from them but also as a means for creative imagination*. Drawing from the action-research and interactive-participation traditions, the field of action of this research project deals with Porto's museums and, particularly, with professionals, as social actors, devoted to the work of mediation. It aims to promoting sustainable collaboration within museum professionals, that is to say, the proposal involves mainly the development of a collaborative space and a community of practice that supports critical and creative thinking, promoting change.

buzz words(at least in this article...)

activist professional

collaborative and learning spaces

quasi-

objects

community of practice

resilience

reflective writing

liquid methodologies

post-critical empowerment

flourishing

creativity

action research

organic territories

happiness

performative democracy

There is no happiness if the things we believe in are different than the things we do

Albert Camus

In this paper we will present the main structural guidelines and contexts for an on-going research project being carried out in Porto/ Portugal - *Porto Museums: Challenges for the construction of museum territories*. This project deals with the nature of museums in a collaborative background and with the transformation of how institutions work together in the real world. The project aims to promote sustainable collaboration within museum education professionals and involves, essentially, the development of a collaborative space and a community of practice that supports critical and creative thinking, promoting change. We begin by very briefly introducing the main contexts and challenges the project attempts to address and go on to consider, not only the proposed methodological framework for working within a reflective transformative worldview, but also its conceptual assumptions and transformative possibilities. We will look, particularly, at the reflective and creative use of different devices in group sessions and journal writing as ways for working with events and experiences in order to extract meaning from them. Hence we will also be sharing the spirit of the framework itself, focusing on the conditions that enable people to *flourish* as they recognise their own individual challenges, identify challenges for the group, the organisation, the city... and, at the same time, reflect and creatively put forward ideas for collaborative change.



Coming together: learning, reflection and reflexivity

Partnerships, collaborations, encounters — these are all cool concepts used by museums and other organizations to describe a process of coming together. Co-creation and creativity are often associated with these practices. Our story begins when the authors of this

paper as well as all other actors involved in this began to make meaning of these words through an on-going collaborative partnership to foster a collaborative space and a community of practice that supports critical and creative thinking, promoting change, as already discussed elsewhere. The challenge for this participatory appreciative action research project (PAAR project) lies not only in supporting *contact zones* for the production of knowledge about museums by the *academia* and the different actors that work in the field but also in providing a discussion about fundamental concepts, such as inclusion, social functions, social impacts of museums, key areas of intervention, creating conditions for a social change and a more interventional action of Porto museums, in future (see Semedo and Ferreira 2011 for a more thorough background discussion of the project)..

The project presented here focuses on the development of work processes and innovative methods. The project was inspired by the research guidelines of PAAR / *Participatory Appreciative Action Research* (Ghaye 2008). Therefore, we aimed at a *reframing* of work contexts, from positive reflexive processes constructed on experiences which are so characteristic of an appreciative work culture. This methodological approach has proved, in other instances, to be fertile both either at the individual and group or even organizational level (Ghaye 2008).

Collaborative research is an investigation process in which participants have an active *voice* and are included in all (or at least some) of its phases, departing from the traditional perspective in regard to their participation. Taking into account experience of all involved in this process, any of the participants is considered an expert since it is the diversity of knowledge and of viewpoints that will provide greater depth to research.

In view of that, the conceptualization of a post-critical museology seems to be a fruitful conceptual and theoretical model for the research project we will be talking about here; project that essentially seeks to build with the group of Porto museum professionals who work with audiences a culture of reflexivity, of collaborative action; a deeply critical museum culture; that suggests, for example, critical imagination and the recognition of visitors and of museum professionals – *as interpretative communities*.

Furthermore and in resonance with other researchers working in mainstream qualitative research, education, organisational development, health and museums (see, for example, the seminal studies of Lincoln and Denzin 2000; Heron and Reason 1997; Senge 1994; the stimulating work of Alsop *et al* 2005; and, more recently, McIntosh 2010), the creation of these transformational reflective practice spaces are person centred and aim at enriching and promoting human (creative) flourishing for all involved.

With Heron and Reason (1997) and within a participative worldview this project draws on an extended epistemology in such a way that critical subjectivity is enhanced by critical inter-subjectivity. Heron and Reason have called this collaborative form of enquiry, in which all involved engage together in democratic dialogue as co-researchers. As they put it: within this participative worldview the main purpose of human investigation is our action in the world *in the service of human flourishing*. Participatory research projects do not result only in propositional knowing but they are primary transformational.

Paul McIntosh and Claire Webb (1996:38) have also presented a strong case for this worldview stating clearly that action research: integrates research and action; it is conducted by a collaborative partnership of participants and researchers; involves the development of knowledge and understanding of a unique kind; starts from a vision of social transformation and aspirations for greater social justice for all; involves a high level of reflexivity; involves exploratory engagement with a wide range of existing knowledge, powerful learning for participants; and, finally, locates the inquiry in an understanding of broader historical, political and ideological contexts. Importantly they also argue (see, also, McIntosh 2010) that reflection is research and reflexivity and is not seen only as an aid to situating the researcher in the research process, but is also seen more, and perhaps more significantly, as a method of emergence for the participant (McIntosh and Webb 1996). In this sense this internal search (“heuristic research”) could be understood as *reflexivity as introspection* as described by Finlay (2002: 213).

Nevertheless, in our view this form of reflexivity if located within a dialogic framework does not exclude other variants of reflexivity, namely *reflexivity as intersubjective reflection* and as *mutual collaboration* as also defined by Finlay. Furthermore, and as to reflexivity as *mutual collaboration*, Finlay (2002: 218) stresses the shared nature of this inquiry, engaging participants in exploration and research actions (understood here as reflection) which has also been pointed out before as a key feature for our endeavours. We do want to stress though, that we understand these processes as being important as acts for personal and organizational flourishing and transformation and that they call for learning and critical creativity in the making.

We recognize the importance of Czikszentmihalyi’s (1997) assertion, that creativity is not a phenomenon that exists inside people’s heads but is also a profound social and systemic one that results from the interaction of a system composed of three different elements - a culture that contains symbolic rules, a person who brings novelty into the symbolic domain, and a field of experts who recognise and validate innovation – we are certainly more interested in other formulations of creativity, namely about the value of everyday creativity,

taking in handmade physical objects and real-life experiences (see, for example, Gauntlett forthcoming). This approach seems to be more appropriated to the project in hand, as everyday creativity can be scaled up into something significant, political, and vitally important. Gauntlett (forthcoming: 13) gives as an example the *Transition movement* (<http://transitionculture.org/>) that stems from the idea human beings are creative and can work well together imaginatively to do great thing and make plans and ideas for a new enjoyable way of living. This is an approach based on optimism and creativity. Building up of resilience – one of the buzz words of the Transition movement – and the *creative capacity* to deal with significant challenges Gauntlett adds. Resilience and creative capacity are integral parts of the reflection and reflexive processes of the self and the collaborative project as understood here. Let us then look more closely at these processes.



Seeking transformation: becoming a reflective and critical community of practice

Museums live in extraordinary days and they aspire more than ever to cease to be mere repositories of information to become participatory platforms, places of wonder, encounter, discussion, creativity and learning. This demand for significance in museums can be associated to the construction of new forms of public dialogue and civic participation, requiring not only reciprocity but also continuity and it is at the local level that these partnerships with the community probably better work and become sustainable. Museums are attempting to create relevance trough the constitution of networks that work as critical resources of places. Offering not only their assets (collections, spaces, research...) but acting also as forums and, ultimately, developing innovative ways in addressing questions characteristic of the public space and of contemporaneity. Interrogations which are often fracturing, as indeed recent debate as demonstrated (see, for example: Knell *et al.*, 2007; Cameron e Kelly, 2010). We are

talking, explicitly, about *performative democracy* (Chakrabarty, 2002) and as museums as actors of the *third space* (Soja 2000) that participate actively in urban policies and intervene in the construction of the public space and democracy (Kirchberg 2003); "*performative places*"; places of "*communicative action*" that, somehow, materialize the values of the "*rationalized utopia*" announced by Bourdieu (1998: 128); hence, places admittedly political and of action.

These contemporary changing demands call for museum professional as social mediators, learning facilitators, and reflective practitioners. Being able to function in these roles begins with museum professionals' self-awareness, self-inquiry, and self-reflection. Indeed becoming an effective museum professional involves considerably more than accumulating skills and strategies. It involves reflection and when museum professionals become reflective practitioners they move beyond a knowledge base of separate skills to fully integrate, modify and adapt skills to fit specific museum contexts. It involves, as Larrivee (2000: 293-294) points out both the capacity for critical inquiry and self-reflection. Self-reflection goes beyond critical inquiry by the dimension of deep examination of personal values and beliefs, embodied in the assumptions professionals make and the expectations they have for visitors. The term critical reflection will be used here to merge the two concepts of critical inquiry and self-reflection, and define the distinguishing attribute of reflective practitioners. Hence, critical reflection involves examination of personal and professional belief systems, as well as the deliberate consideration of the ethical implications and impact of practices.

Reflection does not only pertain to the cognitive domain than. The participatory worldview, with its emphasis on the person as an embodied experiencing subject among other subjects; its assertion of the living creative cosmos we co-inhabit (in this project the relation made, for instance to Senge's worldviews (Senge *et al* 2010) and how we envisage every-day creativity in relation to the surrounding world); and its emphasis on the integration of action with knowing, seems to be more fruitful than constructivism (cf. Heron and Reason 1997) for reflective critical and creative thinking.

By being critical we mean a positioning that entails reflection, deconstruction of situations, contexts and so on to then construct something else: new practices, *knowledges*, worldviews, and new futures. We are thus talking about critical and creative imagination and learning that has access to embodied knowledge and is able to incorporate these experiences in one's work settings / organisations.

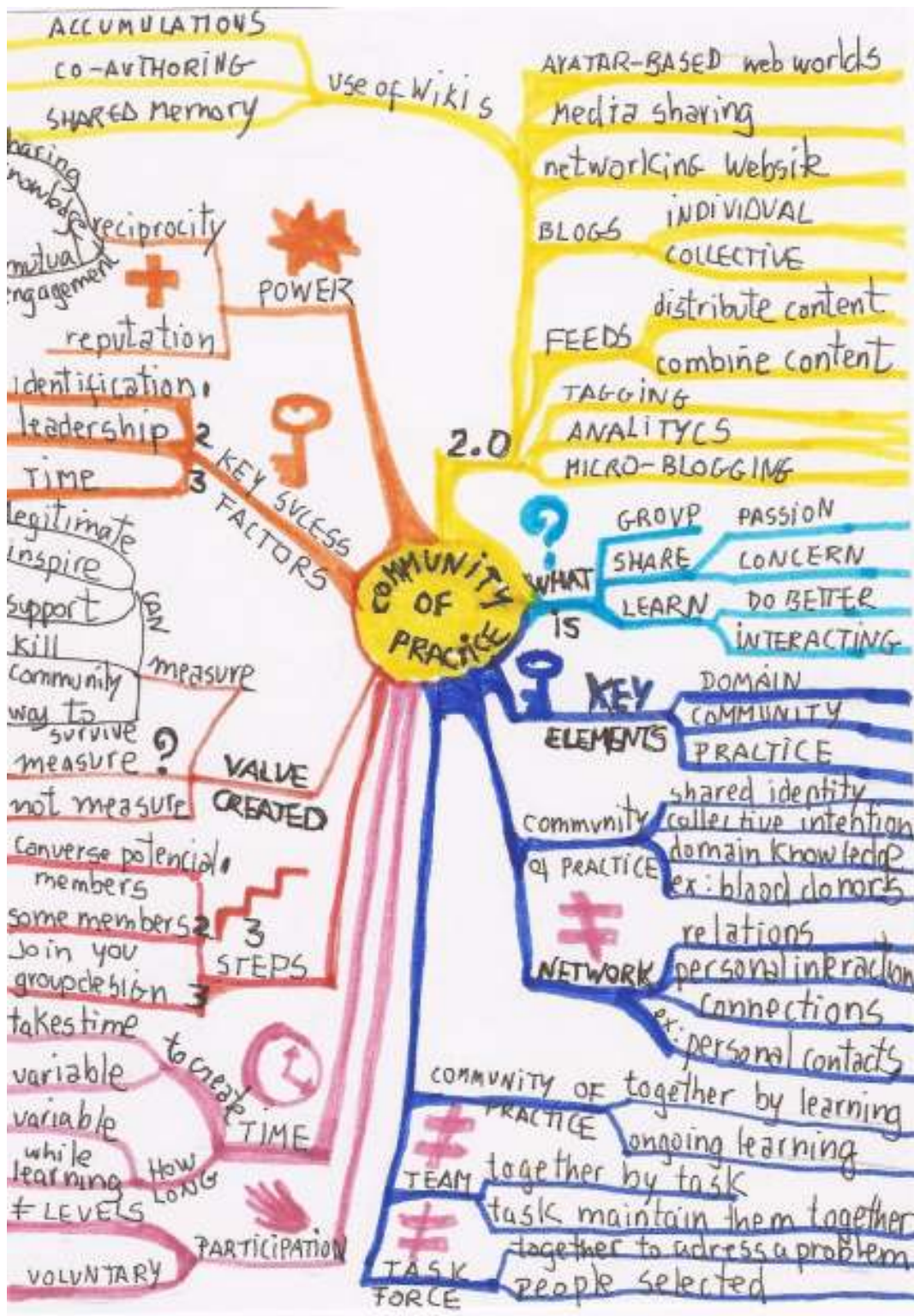
We also invoke the idea of communities of practice (Wenger *et al.* 2002). It seems fruitful to explore some of the characteristics and values of communities of practice in relation to the project goals and visions as they relate to a collaborative research project and especially to the

possibilities for transformation and reflection (see Kelly 2004 and 2005). We will also draw on the work of Senge *at al.* (2010) as we think it has much enriched our approach from the outset.

Communities of practice can be found in all places: they are extremely flexible and are formed by “groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an on-going basis. These people meet because they find value in their interactions. As they spend time together, they typically share information, insight, and advice. They help each other solve problems. They discuss their situations, their aspirations, and their needs. Members may create tools, standards, generic designs, manuals, and other documents—or they may simply develop a tacit understanding that they share. Over time, they develop a unique perspective on their topic as well as a body of common knowledge, practices, and approaches. They also develop personal relationships and establish ways of interacting. They may even develop a common sense of identity. They become a community of practice” (Wenger *at al* 2002: 4-5). What distinguishes them is the *learning voyage*, the project they share, the people they know; Boundaries are, therefore, flexible and membership involves whoever participates in and contributes to the practice creating a permeable, liquid periphery with many opportunities for learning and engaging with others. Knowledge is fluid and an integral part of activities and interactions and, in that sense, communities of practice act as a living and repository for that knowledge. The shared learning and interests also distinguishes it from a team. It is not the tasks that hold members together but because participation in the group has a meaning, a value for each one even if this may be perceived long after the project has been completed officially. Wenger *at al.* (2002: 4-5) also argue that a community of practice is different from a network in the sense that it is "about" something and that it is not just a set of relationships. A community of practice exists because it produces a shared practice as members engage in a collective process of learning and is then an identity based / making process. Lately, though, they have been working further on these concepts (Wenger *at al* 2011: 11-12) presenting them as complementary structures.

Although we are aware of the limitations related to communities of practice (see for example Fox 2000; Roberts 2006) especially concerning power relations and local struggles we find this is a useful theoretical/tool to embrace the field, both with our ground and aspiration narratives as well as different cycles of value creation - immediate value: activities and interaction; potential value: knowledge capital; applied value: changes in practice (as described by Wenger *at al* 2011). Senge’s work apropos learning organisations was also most useful for us. In the opening paragraphs of his book, *The Fifth Discipline*, he defines learning organisations as “where people continually expand their capacity to create the results they

truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together" (1994: 8). The core of learning organisation work is based according to this view on five "learning disciplines" (see Senge 1994: 10-12): *systems thinking* (a way of thinking about, and a language for describing and understanding, the forces and the interrelationships that shape the behaviour of systems. Indeed, within this project we have supported learning beyond disciplines, organisational management, gender and other fragmented gazes upon the city and the world to construct more organic, connected and profound outlooks; *personal mastery* (is about wanting to learn; it is about learning to expand our personal capacity to create results we most desire and creating an organizational environment which encourages all its members to develop themselves toward the goals and purposes they choose; *Mental Models* (reflecting upon, continually clarifying, and improving our internal pictures of the world, and seeing how they shape our actions and decisions; *Building Shared Vision* (building a sense of commitment in a group, by developing shared images of the future we seek to create, and the principles and guiding practices by which we hope to get there. Building a shared vision is critical to success in collaborations and emerged and has been one of our major concerns.



Creating shared vision means thinking about the future, its possibilities and committing to new roles ascribed to each partner within that vision. We have been achieving that through different and inclusive processes throughout the several workshops that have taken place as well as with journal writing challenges and, as the time goes by, the vision gets clearer (one hopes!). As we will be referring later in this paper the interview moments have also been

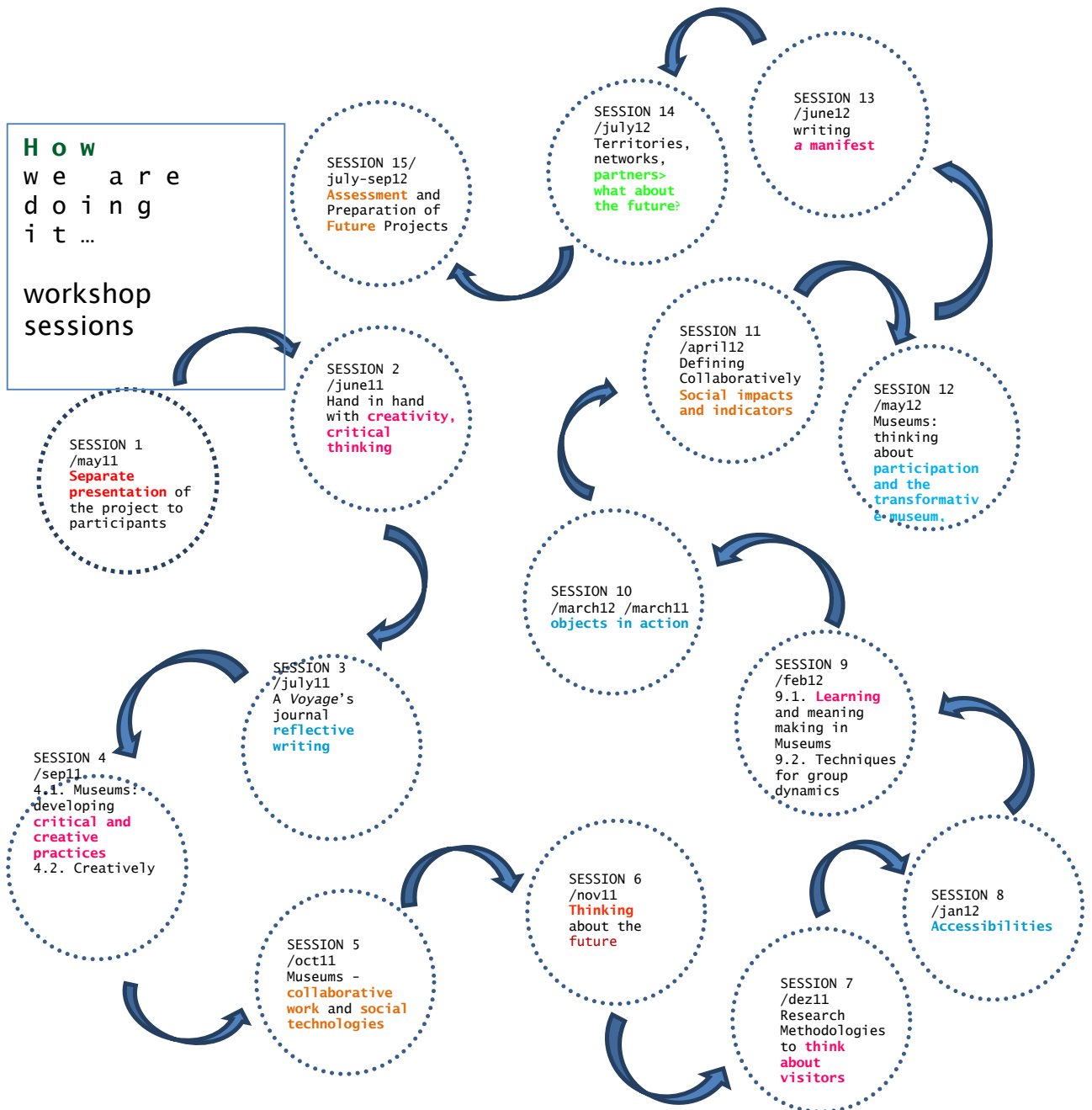
seminal moments for the construction of this shared vision. Without engagement, ownership, empowerment change is imposed. But change processes take long and are fragile. They need resilience and critical mass. It needs – ultimately - reflective and creative methodologies for people to work together within these. Transformative creative spaces: liquid methodologies, adaptable and fluid.



Within this project we have been resorting to a variety of empirical materials to study the complex processes we have been talking about here. Mainly, we are recurring to interviews, “artefacts” produced within workshops / activities, journals, blog entries, sessions’ video recording that *describe* moments and meanings for group members. It is understood that each of these practices makes the world visible in a different way (Denzin and Lincoln 2000).

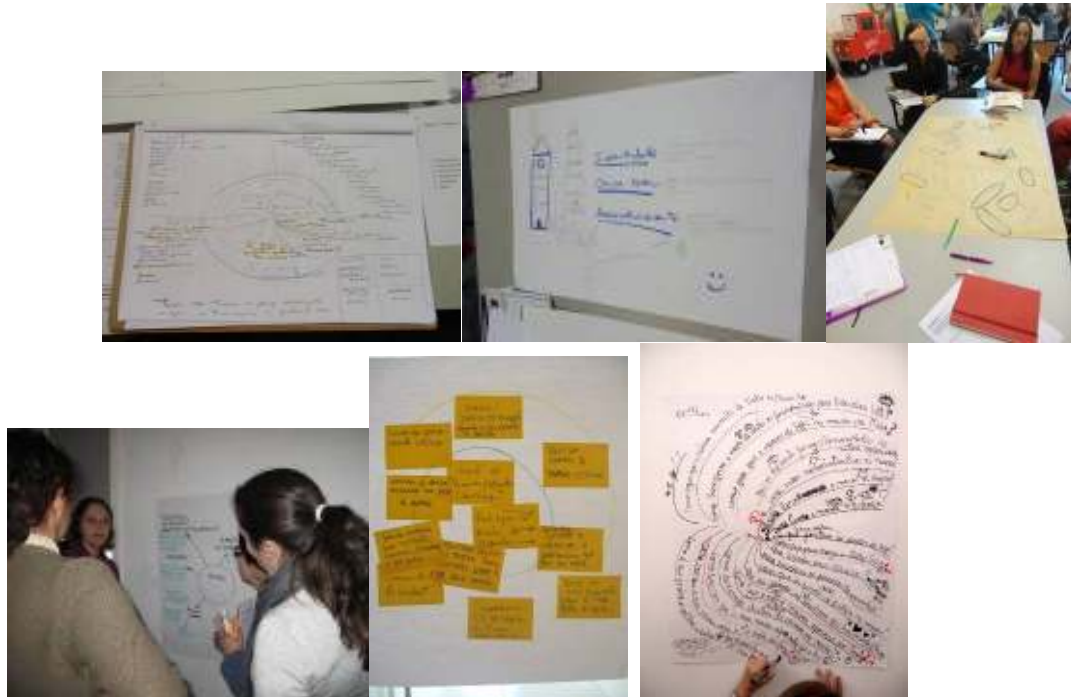
After an initial intensive period of consultation with peers (co-inquiry) which included group members and presentation to members of the group, the first draft of the project with its aspirational narratives was drawn. A whole array of workshops was devised and guests were *enticed* to participate (*this is a project developed without any funding whatsoever...none of the workshop leaders or participants has been paid*).

The first cycle devised by Wenger et al (2011: 4) as “immediate value: activities and interactions” has been underway since June 2011, every afternoon of every first Monday of each month. The themes of the workshops have varied and have taken place in each museum as initially planned: we started with a session about creativity and critical thinking to go straight on to the session “A voyage’s journal”, about journal writing. In September we had a full day session about critical and creative practices; the following session we looked at social technologies and how to go about it. During the following sessions we thought about the future and social functions for museums, research methods to think about visitors, accessibilities, learning and making meaning in museums. We have also created a group in a preexistent web 2.0 social network of which many participants were already part of (<http://museologiaporto.ning.com/>). Each of the sessions has a forum within the group.



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Each of these sessions is welcomed by a member of the group. The theme of the session was chosen to take place in this member's museum, in view of its strengths. During the session that took place in March 2012, we thought about *objects in action* and had three workshops: a creative / poetic workshop; one, which could be taken as personal storytelling and objects and, another, about memories and photographs. Mitchell (2008) has noted how objects, things and spaces can be used as having connotative or personal meanings (and stories), which draw on autobiography and memory, along with their denotative histories, which may be more social and fact centred. This last ensemble took on that autobiographical and memory department to let us discover not only the objects that surround us but who we are as a community of practice. This series of workshops are still running until July and will be complemented by activities open to the general public and will include, for example, the writing of a common manifest and other outputs relating mainly to an agenda towards the evaluation of social outcomes and participation in the construction of the public space (Soja, 2000; Kirchberg, 2003). These series of workshops (and its journal writing challenges) also materialise our view of reflection and reflexivity in a much more holistic way that involves both sides of the brain, the body, heart and spirit much in accord with the work of Damásio (1996 or McIntosh, for example (2010). During these workshops reflective thinking and critical creativity

is explored using (sometimes simultaneously) multiple methods, for example, creative arts media, visual and word imagery, poetry, or the framing of reflection and reflexivity in the world we know, metaphors, mind maps, objects or even post-its to engage in cognitive critique, creative writing, reflective and creative ways of seeing and thinking about the world.

These workshops have been rich moments for dialogic conversation and to learning to listen to others' points of view which is as important for reflective dialogue (Johns 2004: 205 cit. in McIntosh and Webb). Workshop leaders have been essential *inquiry tools* to facilitate reflection, adapting and constantly envisaging new strategies to work with the group, enabling them to develop the skills for interplaying, *being critical* and *creative* through reflection, reflexivity and creative and cognitive critique, enabling them to develop the competencies, qualities and necessary attributes (CQAs) for successful partnership collaboration and transformative empowerment. This dynamic and dialogical approach to learning means that it is understood as a process, emphasising aspects of change, flexibility and critical thinking.

These have also been intensive playful moments and as Palus and Horth (2002: 107) noted the idea of serious play allows people to communicate even in the face of entrenched differences, drawing on a way of communicating that explores similarities and differences (see also Higgs *at al.* 2011). Play is also important because it has the potential to free participants from external concerns so that they may enter the state of "flow". According to Csikszentmihalyi (2002). Although not every workshop took on the same tone those that relied intensely on play envisaged activities which were conducted fast to generate energy and enjoyment and to produce a range of diverse ideas. The processes involved provided opportunities for divergent and convergent thinking and the use of techniques to promote creativity, such as brainstorming and its variations. Reflective exploration of questions and "artefacts" created during workshops was mainly done within small groups and then shared and discussed with the rest of us contributing to the making of the group's knowledge capital, producing sometimes new understandings or the identification of new questions.



The affective dimension is inseparable of this project. It is made of affect and all relations we have been constructing with co-inquirers are, somehow, of complicity and affect and we do not wish to deny that. If *flourishing* is a buzz word in our aspirational narrative the

affective dimension cannot be here dismissed. But then again as Damásio (1996), Alsop (2005), McIntosh (2010) and many others have already shown learning cannot be separated in the Cartesian sense between rational thought and emotion. All learning, even of the most logical topic, involves emotion, just as emotions virtually always involve cognition and some emotions (love, happiness, hope...) act to enhance learning and the *flow experience* Csikszentmihalyi (2002). Alsop says that education works best when it combines hearts and minds and citing Dewey (1931: 189 cit. in Alsop 2005: 4) he writes that “there is no education when ideas and knowledge are not translated into emotion, interest and volition”.



During the whole month of February 2012 we conducted interviews calling upon all group members (except one that was unavailable). This moment was to be taken as one more reflective moment and thus it was decided to have group interviews as these would facilitate interaction and conversation. We were interested on interpretative understandings, meanings and dynamics in relation, for example, to resonance of workshop themes in “real life” or, on the contrary, “real life” resonance on museum work; we were, naturally, mostly interested in members’ perspectives and experiences, *knowledges*; but we were also interested in creating a further reflecting moment and questions had that in mind (some more than others). The emphasis in the interaction cannot be easily dismissed as it is a key factor for this reflection we were looking for as it is within this setting that each person brings their own voice to stand. It seems some members are finding their own voice within the group while others are certainly building on other member’s ideas and developing interpersonal skills. Cards unfolding questions were also used at certain moments of the interviews to allow for a full flow to continue and space to *rest*. Psychologically, the handwritten questions on the table performed as a third party in the interview session as the interviewed pick them up and became our assistants in exploring these questions. We also asked participants to fill in cards that required *quick thinking*; we re-looked at the map of previous relationships and draw... and, again we thought about it, identified obstacles, how to overcome them, thought about the future... Then, we came to think these are interviews of a more a creative / reflexive genre than anything else. With Denzin (2001: 24) we assumed that interviews arise out of performance

events and they transform information into shared experience. It also presumes that words and language have a material presence in the world.



We have also materialised that presence through journal writing as already said. For an increasing number of researchers engaged in educational and social research, the idea of journal writing seems increasingly more interesting. Within this project journal writing is viewed as a form of reflection, learning (Moon 1999) and creative self-expression. Participants are asked to freely write about experiences, explore ideas and make connections with what was explored during the monthly sessions. Also, each session tries to propose visual *challenges*. We understand journal writing as a profound way of knowing, a method of inquiry (Richardson, 2000) of one's motivations, thinking and practices; a place for reflection and creative imagination and, consequently, we see it as a transformative methodology itself. When referring to writing journals as learning strategies Boud (2001) has also described how journals can enhance reflection and reflective practice. He calls upon the seminal work of Schön on the reflective practitioner (1983, 1987 ref. in Boud 2001: 11) that argued that a vital attribute of all effective practitioners, no matter in what area they operate, is that they are able to reflect on their on-going experience and learn from it. In his work Schön describes examples of architects, musicians, therapists, teachers, and others, all reflecting on what they do as they go about their everyday practice. He calls this approach *reflection-in-action*. However, just as important as *reflection-in-action*, is reflection that takes place when we pause and think over what we are doing. This type of reflection may occur driving home at the end of the day or over a cup of coffee when discussing with colleagues or friends what we do.

The reflection we have been suggesting for journal writing may focus on the activities and themes advanced by the different workshops, events of the past, or other experiences at the workplace that act as stimulus for thinking and reflecting upon the issues at hand. Not only are they an important place for making-meaning and reflective learning but, as we see it, they are also a creative and dynamic process capable of conjuring feelings and senses in new, insightful ways that overcome any boundaries between narrative and formal analysis. We have also encouraged the use of mindmaps in journals, the use of photographs or other visual representations following the tradition common throughout fine arts and design disciplines. These more visual journals are common practice and help to develop core skills such as drawing but most importantly they enable practitioners to reflect on; document, organise and

advance ideas. Also we are thinking in using journals as way for reflection on anticipation of events / creative imagination, to practice imaginary scenarios (what if?) and try out new form of writing (visually?), to make plans, to dream about the future (I want a museum that...).

Reflective writing appears therefore as an actual tool to explore the transformative potential we are seeking. It produces documentation, creating records that can later be used in reflections and inquiries; it is flexible, enabling different approaches; allows for exploring connections and, thus, produces analysis; it can be used for self-learning or for collaborative learning and it is, indeed, a lifelong, professional and personal resource (see Burton et al 2009: 9). We are certainly aware of the constraints involved in writing shared journals namely that the expectations for writing for external audiences can profoundly shape what we write and even what we allow ourselves to consider.



Conclusions for now (or... what next?)

This action research project with museum professionals working with visitors in Porto museums focuses on people and organisations. Such studies are complex and random in the sense they concern real life situations which involve a large number of interrelated variables, many of which arbitrary; they are about events which are relatively irreplaceable and irreproducible and take place in an ever changing context. From the first meetings with members during the preliminary phase of the project, we crafted an outline for a series of workshops that we hoped, through reflective discussions and creative activities would create a reflexive learning space to rethink the city as a more organic, interconnected territory to produce other more critical and imaginative ecologies in the manner of Senge's vision (2010): collaborating across boundaries, showing a high degree of relational intelligence and a passion for innovation. The creation of this reflective space has provided a forum to take risks, challenge personal beliefs and practices. Journal writing was also a key strategy to our

thinking and as in many other reflective research contexts we understood research as trial and error that occur when people, previously unknown to one another, work together (Allard at al 2007) and research / methodology design as emergent and adaptive. At times methodological options (as for instance with interviews) seem to be more intuitive (the outcomes guide the type of interview) and then a project which uses creative interviews and other inspiring visual methods (see, for instance the Real Life Methods Node at <http://www.socialsciences.manchester.ac.uk/realities/> research projects) or a most emotional one (can we call a text about methodology emotional? That is a text full of emotion though, is it not?) about reflexive interviews (Denzin 2001) gives us just the theoretical background we were looking for. The working framework hereby presented for transformational practice development, reflection / learning / research and their facilitation has an explicit agenda of human flourishing for all concerned in the endeavour. Denzin and Lincoln's announcement (2005: 13) that they wanted a social science committed up front to issues of social justice, equity, nonviolence, peace, and universal human rights it is not foreign to us. By the end of July 2012 we will have finish this cycle of activities / workshops and move on to what Wenger *at al.* (2011: 20) call Cycle 3 or Cycle of Applied Value: Changes of practice (of course these are not compartmentalised cycles and as we have shown applied value takes place at all times). This last cycle of value creation is achieved "when social learning causes a reconsideration of the learning imperatives and the criteria by which success is defined" and this includes thinking about new strategies, goals, values, thinking about the future. Producing collective visions about the future and new metrics for performance that reflect the new definition of performance (individual, collective or organisational levels). These last workshops sessions are already part of that process. In addition to including conversation topics about museum functions and visions in the recent interviews, participants were asked to write about these topics in their journals during this month. Also, we translated the GSO (<http://www.inspiringlearningforall.gov.uk/toolstemplates/genericsocial/index.html>) framework which was sent to group members to be tested for relevance and adapted (individually at this stage) to their own museological contexts. During the next few months we will be collaboratively developing a first draft for a framework to think about social outcomes and by July the group will be able to write a common Manifest, expression a vision.

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An exhibition facilitating reflections and discussions about the body among youngsters

Morten A. Skydsgaard and Hanne Møller Andersen¹

Background

Young people are social creatures who participate actively in society – and who are influenced by society and its values. A number of studies indicate that young people’s ideas about their own bodies can be a barrier to their engagement in certain social activities. At least 10 per cent of adolescents are “dissatisfied” with their body.²

Young people’s identity is closely related to their physical development and their ideas about their body. It is a challenging process going from childhood to adulthood, because the shape of the body changes radically, and not simultaneously, in any given group of youngsters. This natural process has always been a challenge for young people. Nevertheless, one can argue that young people’s problems with their body can be reinforced when body ideals become more narrow, and when “perfect” bodies, manipulated with Photoshop and other digital tricks, become omnipresent in the public space.³ Several investigations from recent years document that an increasing number of young people are battling with illnesses related to the body and its exterior.⁴ Adolescents who are dissatisfied with their body also experience a lower quality of life and have less self-confidence.⁵

As a museum, we have been inspired by these investigations of adolescents and the body. With the exhibition *Dear, difficult body* we wished to facilitate discussions and reflections about young people’s perception of their bodies, “self-acceptance”; their view of the naked body, “nudity”; and the changing ideas of the beautiful body in the Western world, “body-ideals”.⁶ Very few museums have tried to create exhibitions about these and similar issues, which is quite challenging and calls for new curatorial strategies.⁷

In order to engage young visitors at our exhibitions, we have experimented with different design strategies over the last five years. In the exhibition *The incomplete child* [Danish title: *Det*

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² See, for example, *Når det er svært at være ung i Danmark* [When it’s hard to be young in Denmark], Center for Ungdomsforskning [Centre for Youth Research], 2010: 138–43.

³ Susie Orbach: “Bodies real and not so real”. In: *Bodies*. London: Profile Books, 2009: 108–10.

⁴ Mette Waadegaard: “Spiseforstyrrelsernes forekomst og udbredelse” [The occurrence and prevalence of eating disorders] and “Risikoadfærd” [Risk behaviour]. In: S. Lunn, K. Rokkedal, and B. Rosenbaum: *Frås og faste – spiseforstyrrelser i klinisk og kulturel belysning*. Copenhagen: Dansk Psykologisk Forlag, 2010: 73, 485.

⁵ *Når det er svært at være ung i Danmark*, Center for Ungdomsforskning, 2010: 138.

⁶ “Self-acceptance”, which involves awareness of one’s own strengths and weaknesses, is seen as one important element of “psychological well-being” (Carol D. Ryff and Corey L. M. Keyes: “The Structure of Psychological Well-Being Revisited”. *Journal of Personality and Social Psychology* 1995; 69, 4: 719–27.

⁷ An interesting art project called “Body Mapping” made students outline their bodies on paper with added words, quotes, and images about health issues and their feelings on these issues (cf. the exhibition “Body Mapping”, Ontario Science Centre, 2008).

uperfekte barn] about congenital physical deformities, we explored the deviant body from the perspective of history, art and society in order to facilitate reflections upon human deformity and imperfection. This exhibition – focusing on a difficult topic, associated with many taboos – gave rise to strong responses from our visitors, who found it both “frightening”, “interesting” and “beautiful”. The exhibition also initiated relevant and interesting discussions, which inspired us to take up another taboo topic – the naked body and locker rooms – in Dear, difficult body. The incomplete child also made us aware of the importance and motivational effect of including a variety of exhibits (authentic objects, sculptures, films, photos and interactivities) in an exhibition.

In another newly developed exhibition: Egg. Having a baby with technology [Danish title: *Ægløsninger. Om at få børn med teknologien*], we introduced three aesthetically designed participatory exhibits, two physical and one digital, that touched upon key issues or key phenomena in the exhibition. In an observation study we found that these interactive elements engaged visiting pupils for more than half the time they spent in the exhibition. Such element obviously motivate young people and make them feel included in the exhibition. In Dear, difficult body we have included several participatory exhibits that feature digital as well as physical interactivities.

To reinforce their relevance and authenticity, Egg and The incomplete child also included “voices” from ordinary people telling about their personal experience with using reproductive technologies, or with having a physical disability. Personal stories are also a key element in Dear, difficult body.

The exhibition’s design principles and content

In recent years, several attempts have been made to rethink the role of the museum. Museums should, for instance, be inspired by the idea of “customization” and therefore increase their external orientation, address contemporary matters, and pose questions rather than dispense knowledge.⁸ Furthermore, there has been an ongoing wish to translate these new ideas into exhibition design.⁹ In The Participatory Museum, Nina Simon argues, based on a number of case studies, that participatory design strategies are crucial for a much-needed modernization of the museum today. Many museums still treat their audiences as “passive consumers” and not as “cultural participants” who can transform the museum to a more relevant, non-static, and inclusive place.¹⁰ Museum should more extensively invite visitors to respond to the exhibition, share ideas, and thereby engage the audiences personally in the issues that the exhibition introduces.

Deborah L. Perry presents a model for designing exhibits that can maximize visitor motivation. Inspired by research into “motivation” in educational and behavioural science, Perry suggests six components related to the “intrinsically motivating museum experience”: curiosity, confidence, challenge, control, play, and communication. She stresses the importance of taking

⁸ “Customization” is a concept from the 1990s originating in the business world (Mary Ellen Munley et al.: “Envisioning the Customized Museum”. In: John H. Falk, Lynn D. Dierking and Susan Foutz: In principle, in practice. Museums as learning institutions. Plymouth, UK: Altamire Press, 2007: 77–90).

⁹ See, for example, John H. Falk, Lynn D. Dierking and Susan Foutz: In principle, in practice. Museums as learning institutions. Plymouth, UK: Altamire Press, 2007: xiii–xviii.

¹⁰ Nina Simon: The participatory museum. Santa Cruz, California: Museum 2.0, 2010.

these aspects into consideration in the process of designing museum exhibits.¹¹ Perry's model, based on her own experiments with exhibition design, has inspired our design process, and five out of six design principles have been specifically integrated into the exhibition: 1) curiosity, 2) challenge, 3) communication, 4) control, and 5) participation (play). In this process we have substituted "play" with "participation", because it has been crucial for us to involve visitors both mentally and physically, thereby giving them opportunities to share ideas, values, and feelings during their visit in the exhibition.

An exhibition about bodies and body culture

Dear, difficult body [Danish title: Kære krop, svære krop] is a newly opened exhibition at The Steno Museum, Museum for the History of Science, located in Aarhus, the second-largest city in Denmark. The exhibition addresses contemporary issues related to body ideals, nudity, and joint bathing, as well as prejudices about overweight, food culture, and our ever-increasing use of machines instead of muscle-power. The key issue in each individual section is communicated through text, objects, films, interactive screens and/or participatory techniques, and the exhibition combines display of objects with scenographic elements created in collaboration with the dutch-born visual artist and designer Rosan Bosch.

The exhibition also has a historical dimension illustrating how our body culture has changed over the last 50 to 100 years. The section about body ideals contains sculptures of women from different historical epochs, and it shows visitors the changing body ideals and different norms for how much fat an ideal woman's body should have (Fig. 1). "The Locker Room" explores our changing traditions and habits of bathing.



Fig. 1. From the section about body ideals

Twenty years ago, all young people in Denmark would use the communal shower after sports. Nowadays, many youngsters find it unpleasant to shower alongside others. Adding a historical context to the key issues has been important, because historical awareness can facilitate reflection and discussion about modern-day body culture in the West.

Perry's design principles have manifested themselves in the exhibition and can be illustrated by the following examples:

¹¹ Deborah L. Perry: "Designing Exhibits that Motivate". In R. J. Hannapel (Ed.): *What Research Says about Learning in Science Museums*, Vol. 2. Washington, DC: Association of Science Technology Centers 1993: 25–29.

Control. Using interactive “Your-choice-film” in every section, we have tried to reinforce a feeling of self-determination, as museums are, by their nature, free-choice environments. But we have only included a limited amount of “choice activities” so as not to overwhelm the visitor – which can also be a problem according to Perry. A “Your-choice-film” begins with a 60-second film, for instance about bathing after sports, after which the visitor will indicate age and sex and answer the question: “How do you feel about using the communal shower after sports?” The possible answers are: “It’s okay”, “It’s not okay”, or “I don’t know”. Finally, a screen appears with the answers from the other visitors, presented graphically and divided by gender and age groups.

Curiosity. The exhibition should surprise and intrigue the visitor. The above-mentioned sculptures of female body ideals make up a central exhibit and include a human-sized Barbie, which surprises many visitors because of her obvious physical deformity. Here we also display a thought-provoking drawing done by a 14-year-old girl who suffers from anorexia, showing that she perceives herself as fat, although she is nothing but skin and bone. In “The Locker Room”, the visitors can open small lockers and explore a kind of “human cabinet of curiosities” containing, for example, collections of female and male body hair exhibited in dozens of small bags labelled with age and sex, and categorized as “axillary hair”, “pubic hair”, “leg hair”, and “beard”.

Challenge. “The Locker Room” also displays six full-scale pictures of naked people taking a communal shower, three men and three women, from three generations. These pictures are accompanied by films, shown in a small projector room next door, in which teens (aged 12–14) are talking about changing clothes and being naked in locker rooms. Here, “challenging” our teenage visitors has been an important engagement strategy, because we wished to provoke their existing ideas and make them discuss nudity and bathing and body ideals.



Fig. 2. The locker room

Participation. Activities like “Straight from the heart”, where visitors can anonymously post sticky notes with thoughts about their body, invite visitors to share their feelings and concerns. Active “participation” will often increase peoples feeling of being personally involved in the discussions, and their reflections concerning the questions being raised in the exhibition. In this way the museum can act as a facilitator, bringing new voices and perspectives into the discussion of challenging socio-scientific issues.¹²

Communication. To stimulate discussion among visiting pupils we have developed a session where an educator uses “clicker technology” to collect and present ideas and attitudes held by the group. A clicker is a wireless hand-held device enabling individual visitor to answer questions

¹² Nina Simon: *The participatory museum*. Santa Cruz, California: Museum 2.0 2010: iii–iv.

posed by the educator, and the group's answers are displayed on a screen. The responses will reveal potential differences in attitudes and can lead to interesting discussions.

Investigation and method

In this pilot study, we have examined young visitors' thoughts and reflections initiated by the exhibition *Dear, difficult body*. We have adopted a mixed-method approach combining qualitative and quantitative analyses of questionnaire data. The main study will include more questionnaire data, and also interviews and observations of visitors in the exhibition. This extended study is required to gain a more profound understanding of the ways in which the exhibition stimulates young peoples' reflections in relation to their own and other peoples' bodies.

Data collection and analysis

One 8th grade and one 9th grade class participated in this first investigation. These classes were selected because the pupils (aged 13–15) represent the exhibition's main target group. The first class answered a short questionnaire with three open-ended questions, where each pupil was asked to write what they liked and/or disliked about the exhibition.

The second class answered an improved version of the questionnaire containing nine open-ended questions explicitly asking pupils to give reasons for their answers, with wording like: "Did the exhibition make you think about how you look at other people's bodies? Please state the reasons for your answer".

The questionnaire contained seven questions about the exhibition as a whole (Which exhibits were the most interesting/appealing? What kind of effect did the exhibition have on visitors' thinking about their own and other peoples' bodies? and so on). In addition there were two questions that targeted visitors' experience and reflections concerning one specific part of the exhibition: "The Locker Room". The full questionnaire (translated from the Danish) is presented in Appendix 1. In this pilot study we have chosen to focus on the locker-room section because initial observations indicate that many visitors react strongly to this part of the exhibition. In addition, various new design elements are implemented in "The Locker Room" and we want to investigate the effect of these elements.

In our analysis of the second questionnaire we wanted to investigate the effect of the exhibition on the young respondents' ideas and reflections about their own and other peoples bodies. The questionnaire answers were coded using the following categories:

- Respondent's own body – positive comments, negative comments – comments referring to the effect of the exhibition
- Other peoples' bodies – positive comments, negative comments – comments referring to the effect of the exhibition
- Being naked – curiosity, comparison, shyness, naturalness, etc.
- Pictures of naked men and women in the locker room – positive comments, negative comments
- Engaging exhibits and aspects
- New ideas, reflections and considerations – comments referring to the effect of the exhibition

Results

Young people in the target-group age seem to find the exhibition interesting and engaging. Approximately half of the pupils answering the first questionnaire wrote that they found the exhibition “interesting” and/or “very good”. Their responses (translated from the Danish) included: “It was really interesting. It gets you thinking” (boy), and “It was also good to see things with my own eyes, rather than just learning about it in school” (girl).

Some respondents also commented on the overall design of the exhibition. “I like that way of exhibiting things” (boy), and “I think it is a really fun and exciting exhibition. It’s very sensory-oriented, and I find that part of what makes it more interesting. Both seeing and listening, and feeling things. It made me want to go exploring and try out all the things” (girl).

A couple of negative statements about the exhibition came up in the second questionnaire, when respondents were asked whether “someone, you know” could benefit from seeing the exhibition. “No, I don’t think it would be any better for them than all the other kinds of knowledge expansion [there are]”, as one boy responded.

Variations in visitor outcome

One third of the pupils can be categorized as “Reflecting visitors”. Questionnaire answers from this group indicate that the exhibition had given rise to new ideas and reflections about their own and other peoples’ bodies. The majority of pupils in this group found “The Locker Room” and the section about body ideals to be the most interesting and thought that other people would also benefit from visiting the exhibition, expressed, for instance, as: “Yes, others who might not feel very good about their bodies [might benefit]; so they can see that everyone else doesn’t feel that great about their body either” (girl), and “Yes, [it might benefit] 2 different people. A person who is overweight. And a person who comment on other people’s bodies in a negative way” (girl). Pupils in this group also express rather elaborate reflections about the pictures of nude bodies in the locker room. One girl responded: It was “Overstepping my personal boundaries a bit, but also OK, because we can’t seriously think that everything should be hidden away [...] now you think about what the human body can also look like, beside your own body”. Reflections about how other people view their own body were also most frequent in this group. “You know, you can’t really help it, that you look the way you do!” (boy), and “Yes, this [the exhibition] has had the effect that I can also see that other people can have a hard time, too” (girl).

Another third of the visiting pupils can be categorized as “Informed visitors”. Questionnaire answers from this group indicate that they had gained new information from visiting the exhibition. Pupils in this group found the section concerned with “Food culture and overweight” most interesting. Approximately half of this group mentioned “health” and “taking care of your body” when they were asked the question: “Has the exhibition made you think about how you feel about your own body?” These respondents were all boys and answered, for example: “[Yes], you have to take good care of your body, because you have it your whole life”, and “No, I feel good about my body. I’m in good shape and eat right”.

Based on their questionnaire answers, the last third of the respondents must be categorized as “No awareness of outcome visitors”. These respondents did not mention that the exhibition had caused any new reflections about their own body, and they would not recommend the exhibition to other people, as in: “No ... The issue is already in focus in the media, and at school. So there is so much talk about body, health, and self-confidence that there’s really nothing new in it” (girl).

Exhibits that stimulate engagement

The questionnaire data also revealed that the young visitors found some exhibits interesting and engaging. The full-sized pictures of naked people in “The Locker Room” seemed to be rather challenging. Half of the pupils found the pictures “overstepping their boundaries”, “repelling”, or “disgusting”. Some students explained their reaction as a result of being “not prepared” for this visual presentation, whereas one boy answered that the photos were “frightening”, as “You’re not used to seeing a naked body”. The other half did not pay much attention to the nude pictures, with comments like: “Well, it’s just young and older people showering” (boy). Others found them “good” or “OK”, as in: “I think it’s cool that they are there. Maybe challenging my limits a little, but cool” (girl).

Another exhibit in the locker-room setting is also engaging: Videos of pupils from 7th and 8th grade telling about their experiences and attitudes towards joint bathing after sports. In the questionnaire we asked the pupils to comment on the girl saying that “looking at each others bodies is inevitable, when you are undressed in a locker room”. All of the pupils confirmed that it is impossible not to look at the others’ bare bodies. Half of the boys added that they did not pay much attention to the bodies of their classmates, with remarks like: “That’s just the way it is. But I’m really not that concerned with it”. Half of the girls said that they do pay attention to the bodies of their classmates, and they reflected upon why it is interesting to look at other people’s naked bodies. For instance: “That’s right. One is always curious to see what other people look like”, and “Well ... I guess that’s true. Probably you do it to see whether you’re “right enough” yourself?”, and “You really can’t avoid it [looking at others], and you do also judge people based on their appearance”. Apparently, the female visitors mirror themselves in each other much more than the male visitors.

Many visitors were also attracted by a “Your-choice-film” showing a scene from a locker room where two girls undress and shower while a third girl waits with a towel around her body. Approximately 25% of visitors under 18 (more than 1000 visitors) have responded to the film. A full 60% of the girls think that “It is OK” to have communal bathing, whereas 20% answer that “It is not OK”. In contrast, 50% of the boys think that “It is OK”, whereas 30% respond that “It is not OK”. Surprisingly, boys seem to have more problems and considerations about showering together than girls do, which does not concur with questionnaire data indicating that boys are less preoccupied with the bodies of their classmates. However, perhaps this “lack of interest” in the bodies of others is not linked to an acceptance of one’s own body when it comes to joint bathing.

In general the “Your-choice films” are quite popular among the visitors. This element of personal involvement and feeling of self-determination seems to be very appealing: “I like the little films, and it made it more exciting that you could click on the touch-screen ... instead of not being allowed to touch anything at all” (boy), and “It was also fun to see those votes (about how you see your body, and what you would buy when spending an evening with friends), so that you got a good picture of how others saw themselves” (boy).



Fig. 3. The activity “Straight from the heart”. In the “heart chamber”, at left, visitors can post notes with thoughts and feelings about their body.

The activity “Straight from the heart” is also popular. In this exhibit visitors are asked to post sticky notes with thoughts, feelings, and worries about their body. In a small room, a “heart chamber”, visitors can write about problematic aspects or parts of their body on red notes, or about things that they find endearing on grey notes. The notes are put into a box and a selection of notes is displayed in the exhibition (see Fig. Y). Approximately 300 sticky notes from girls and 75 sticky notes from boys have been posted. The notes reveal a wide range of feelings and concerns relating to the body. Girls are preoccupied with their breasts, belly, bottom, legs, and weight and post both positive and negative statements, such as “I have too much flab [on my belly], big thighs, and too much fat under my chin. Bummer! But I’ll manage” (girl), and “I like my body the way it is. It’s just right” (girl). The boys also post positive and negative comments about their body and its parts, such as muscles, penis, and weight: “The thing I find it hardest to deal with is that I weight a lot, even though I’m not fat”. Furthermore, boys post comments about the function of their body, like: “You can do sports with your body. That’s the best thing of all”.

Finally, many visitors also found the slide show illustrating the changing body ideals over a period of 100 years to be very engaging, and some pupils wrote that it facilitated reflections about current body ideals, responding, for instance: “When I saw the ones about how people have looked down through the years, [considering that,] I actually think the body ideal we have these days is OK” (girl).

Discussion and conclusion

The aim of the exhibition Dear, difficult body has been to facilitate reflections and discussions among young people about their own bodies and about changing body-ideals. The present study indicates that the exhibition has the potential to facilitate such reflections and discussions. Approximately one third of the respondent pupils experienced that the exhibition gave rise to new thoughts and ideas. Their reflections mainly concerned their perception and acceptance of their own and other people’s bodies, for instance personal feelings and worries about their body. We have not investigated whether it is the film in “The Locker Room”, the activity “Straight from the Heart”,

and/or the “Your-choice films” that have caused these thoughts and reflections. The pilot study only indicates that at least two exhibits have the power to stimulate pupils’ reflections, namely: the full-size nude photos and the slide show about body ideals. In order to better understand how different exhibits can initiate young people’s reflections, and how this effect can be reinforced, a more thorough investigation is called for. In the case of these powerful exhibits it is also relevant to get a deeper understanding of the interplay between the content and the design of the exhibits. Is the exhibit appealing due to interactivity, an interesting issue, or a sophisticated interaction between the two? We need more knowledge about the ways in which design aspects influence young people’s outcome when they visit museums.

Our pilot study indicates that pupils visiting this exhibition can be categorized in three groups, with varying outcomes from their visit: “Reflecting visitors”, “Informed visitors”, and “No awareness of outcome visitors”. These categories are preliminary and not fully described, but they are relevant because they point to the fact that visitors experience very different outcomes – that is, derive very different benefits – from visiting the exhibition. We have only a vague idea about the proportions of each group, although approximately one third of the pupils belong to each group. However, if we are to clarify the size and the characteristics of each group, we must carry out a more extensive and therefore more valid investigation. One aim of the exhibition *Dear, difficult body* is to reduce the number of “No-outcome visitors” and “Informed visitors” and transform them into “Reflecting visitors”. But to reach this aim we need to know more about our visitors, and about how they experience the exhibition.

To get a better understanding of these issues, we are planning to enlarge the questionnaire survey and set up interviews with visitors that fall into our main target group. Such in-depth interviews are important to gain more insight into how different groups of pupils experience the exhibition and its various exhibits, and to determine which elements they find particularly interesting – appealing – provocative – fascinating – or, indeed, surprising.

Appendix 1

Questions about Dear, difficult body

Age:

Gender:

1. Which section of the exhibition did you find most absorbing and engaging? What was it, in particular, that attracted your attention?
2. Did the exhibition make you think about how you use your body? Please state the reasons for your answer.
3. Did the exhibition make you think about how you look at other people's bodies? Please state the reasons for your answer.
4. Did the exhibition make you think about how you feel about your own body? Please state the reasons for your answer.
5. Has it made you think about things, or ways of perceiving things, that have changed compared to what they were previously? Feel free to state examples, and to write your thoughts about these changes.
6. "You always look at each other, you know. It's not something you can avoid," says one of the young people on the film shown in "The Locker Room"? What do you think of this statement?
7. How do you experience the photographic images of naked bodies? Please state the reasons for your answer.
8. Do you think it would be beneficial for some people you know to see the exhibition? Please state the reasons for your answer.
9. What new thoughts and reflections do you take with you from the exhibition?

Experimental zones - spaces for new forms of participation in museum exhibition development

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Abstract:

This paper presents a case study from The Norwegian Maritime Museum in Oslo where an temporary exhibition experiment, called an 'experimental zone', explored new forms of museum innovation and organizational change with a special focus on establishing educational practices for museum staff members. The museum innovation model using experimental zones is discussed in relation a need to focus on educational needs to be defined as part of museum strategic planning.

Experimental zones – spaces for new forms of participation in museum exhibition development

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Introduction

The transforming institutional organization of innovative exhibitions integrating social media underpins a re-thinking of exhibitions as being part of a nucleus of events in museums (Hooper-Greenhill 2000). With the advent of social media has this nucleus changed character and put the focus on the societal role of museum communication in relation to community building, providing educational resources for a variety of educational institutions as well as for cultural communication in large. Social media are understood to provide potential for visitors to co-create and interact socially, and because they meet with the call for museums and heritage institutions to be responsive, democratic, and reflective and subsequently take `museum conversation` beyond the museum (Black 2010). Many museums are comfortable using social networking technologies, such as Flickr, Facebook, YouTube, Twitter and blogging, and are welcoming the possibilities these provide to invite communities and participants into dialogues and sharing (Dicker 2010). Meanwhile, studies also show that the integration of social media into museums' curatorial and pedagogical practices preserves a situation where these media primarily are used to engage visitors in short term voting and rating, or to engage communities in collecting images (Russo et al. 2008).

Consequently, designing for visitor participation has become an issue in several research based studies of designing interactions in museums (Ciolfi et al.2007) as well as in practices of museum development. Designing for visitor participation involves to create spaces and infrastructures, digital or non-digital that enhance activities such as contributing, collaborating and co-creating (Simon 2010), giving visitors characteristics of spectators, joiners, commentators or creators (Kelly and Russo 2008). The new forms of visitors interactions and participation do meanwhile require new ways of thinking as well as new competencies in digital media use that few museum professional have gained during their education.

We find few studies of museum development and exhibition work that discusses how to scaffold the learning and competence building among museum professionals. In this paper we discuss the concept experimental zone that was developed during a

collaborative design project at The Norwegian Maritime Museum in Oslo. The project was a one year temporal exhibition, where the museum wanted to experiment with live curation and face-to-face and participatory experiences connected to the building of a replica of a renaissance boat. Experiments with social media accessible by multitouch surfaces was included as an additional way of giving visitors insights into the building processes as well as providing a possibility to follow up on the museum visit.

We will in this paper focus on experimental zones as an endeavor to provide both a physical space, a strategy and an exploratory possibility for museum professionals to investigate the possibilities and limitations of social media in relation to ongoing exhibition work. Describing a separated physical part of the museum open for the visitors and the public passing by, the experimental zone was defined as a living lab where not only visitors reactions was collected, but also as a space for extension of practices and understanding of dialogues with visitors in the museum – with and without social media. Our main research question is related to the experiences we have gained during the project, and we ask how experimental zones, limited in time as they are, can be related to strategic planning of staff educational processes as a major part of museum innovations and development processes.

Background

Museums and cultural heritage institutions have for more than a century been re-invented and re-imagined (Heine 2000; Weil 2002; Witcomb 2003; Anderson 2004; Message 2006; Sandell and Janes 2007) based on the transitions in governance, institutional priorities, management strategies and emerging communicational forms (Dawson 2008). The transformative museum of today is characterized by emerging new forms of multivocal relationships with its communities (Black 2010), and new and co-productive approaches to exhibition design (Davies 2010) in concert with explorations of the possibilities and constrains of digital and networked technologies and social media into museum and cultural heritage communication and learning (Cameron and Kenderdine 2007; Parry 2007; Kalay, Kvan & Affleck 2008, Russo 2011, Stuedahl 2011, Pierroux 2012, Giaccardi 2012 forthcoming). The complexity of museums' transformation requires reflection upon the theoretical, managerial and strategic levels of museums' innovations and transformations (Dawson 2008, Peacock 2008). In addition, an observational and analytical vocabulary needs to be developed to capture the way innovative exhibition design and exhibition experiments might evolve (Macdonald 2007; Macdonald & Basu 2007).

The transformation of museums has a material form where an increasing emphasis is put on interactivity (Barry 1998, Witcomb 2006) and designing visitors interactions

(Meyer 2011). This is changing the role of the curator, and the practices of curatorship and design of exhibitions. It also represents a move from `conference architecture` towards architectures of interactions (Yaneva, Rabesandratana, Greiner 2009) which requires to re-interpret curatorship from being focused on displaying answers into a display that allows for visitors questions, and from designing exhibitions that represent existing matters towards exhibitions that performs, creates and experiments with new ones (Macdonald 2009, Meyer 2010).

In many museums does museum transformation represent a tremendous change in curatorial and educational thinking and management of exhibition development. Exhibition development methods has mainly come from the field of visitor studies, and been based on evaluation techniques such as summative evaluation and formative evaluation (Screven 1976) and later, on front end and remedial evaluation (Screven 1986, 1990). The development of methodologies for exhibition work have mainly been focused on integrating and capturing visitors experiences related to exhibitions while they where developed, providing information on issues such as visitors expectations to a certain exhibition theme, or evaluating ideas for educational programs in exhibitions. Many of these methods have been criticized as being based on bull's eye perspectives into a successful exhibition communication (Hooper-Greenhill 2009). Current museum discussions evolve around methods for exhibition development involving prototyping and testing that goes beyond the field of visitor studies. Meanwhile, these methods are mainly focused on involving citizens in developing museum communication in various forms and less on museum innovation as an staff educational issue.

Museum experiments

Boston Museum of Science gives one example of methodological approaches to this in their exhibit development resource¹, where several stages of prototyping and use of test tubes, observations, interviews, comment cards and feedback forms are used to gather visitors` response. The concept of innovative labs for museum transformation programs gives another example on current approaches to develop methods for museum organizational change. These lab initiatives are essays to the need to develop and maintain teams around museum innovations, the capacity to engage stakeholders in new thinking and innovations, and to implement innovative initiations. As one example do lab initiatives experiment with bringing museums beyond their walls by providing mobile units that are set up in diverging urban spaces engaging visitors in questioning central local challenges,

¹ <http://www.mos.org/exhibitdevelopment/index.html>

such as the BMW Guggenheim Lab². Also, to be mentioned is Museum of Copenhagen mobile and interactive picture wall Væggen, a museum lab that travels to different locations in the city to engage urban and local communities with city development and immigration issues. Væggen meanwhile also represents experimentation with new ways of collecting material for the museum collection by inviting citizens to contribute with their stories and photo material.

Experiments in museums have a long history and have come in various forms ranging from making visible the processes of exhibiting, using the exhibition as reflexive experiments, experimenting with novel visitor experiences and interactions, or merely by exhibiting scientific experiments (Madonald and Basu 2007). Currently an intriguing development is taking place in several European Science Museums, where university research laboratories are moved into the museum to display research processes for museum visitors. This trend is closely related to the transformation of museums towards being public meeting places, where science is communicated in the making, rather than science already done (Meyer 2010). The open research laboratory model as well as the travelling museum lab model combines experimentation with new ways of building dialogues between expert and lay knowledge with new forms to connect museum issues with society. As such, are the different approaches to applying the lab model for innovative activities to connect the inside and outside of museums, a trend where museum use the experiment to transform their practices and where change is explored in smaller scales of single and temporary events.

Meanwhile, there is a gap in understanding how museum change happen and how museums can shape its outcome (Peacock 2008). Surprisingly, few reflections on the process of organisational change in museums have been published (Sandell and Janes 2007, Peacock 2008). It seems that adaption to external pressure may be one motivation (Weil 2002) while museum computing may pose the other (Parry 2007). While museum computing till now has been preoccupied with questions of practice rather than theory, a discussion has grown of how technologies disrupts museum practices and poses new dilemmas. This constructive disruption (Parry 2007) can be understood from diverging perspectives, whereof the social constructivist perspective do stress that it is the social configuration of technology that creates the disruptive effect rather than the technology in itself (Pinch and Bijker 1984, Winner 1993). Understanding museum transformations

² <http://www.bmwguggenheimlab.org/>

therefore requires methods and perspectives that capture the social processes of configuration related to the process of turning ideas into products and processes. The social configurations mark the step from invention to innovation in organisational theory (Brown & Duguid 2000).

From an actor-network perspective would museums technology related transformations meanwhile be conceptualised as a process where technology is understood as configuring actors on the same ground as the social actors. In this view museums professionals perception of how technology is involved in visitors' enacting the exhibition plays an important part for their own alignment and configuration of technology. Configuration is in this perspective relational with several types of actors involved and it becomes a methodological issue to analyze these in understanding what it takes for museum staff to integrate technologies in their practices, and how museum strategic planning of organizational transformations may build on an experimental approach. As a framework from this perspective we have used the notion of assembly (Weibel and Latour 2007) to understand how the experimental zone in question became a space where museum professionals could try out social media as a communicational means in a realistic museum setting. Assembly in this perspective conceptualizes the experimental zone as spaces of enactments, which open new alliances between authors, work and the observer. Assemblies are constituted in part by the activities of visitors and in part by the material objects and representations that make up the exhibition (Yaneva 2003). This understanding differs from the socio constructivist approach, in that the socio-material interactions are regarded as a constituent part of the assembly.

Experimental zone at the Norwegian Maritime Museum

The Norwegian Maritime Museum in Oslo is in a process of transformation related to its 100-year anniversary in 2014. The museum has the national responsibility for the archaeological maritime heritage as stated in the Norwegian Heritage Act. In 2008 the museum was responsible for one of the largest Norwegian maritime excavations in central Oslo in the so called Barcode-complex where much of current urban development is progressing. 13 boats and ships were excavated together with a huge collection of objects from the 1500 and 1600 century. The findings were prevalent also in an European scale. One of the boats, called Barcode 6 was reconstructed in the form of a 1:1 scaled replica. This was decided to take place at the museum in an open workshop (by the museum termed the 'Boatlab'), as part of the public offerings of the museum, as well as part of

museum exploration of ways to communicate traditional Norwegian boat building as part of coastal culture.

A carpenter trained in traditional boatbuilding techniques was engaged for the project, and he maintained a blog in the shape of an online diary. On the blog he provided insight into his reflections on the boat building, also with his community. The idea of using a blog was to provide visual material that could give visitors possibility to understand the process and stages of boatbuilding to understand the ongoing activities represented in the workshop. This need to contextualize the building process in relation to other practices related to the reconstruction, such as the different phases from archeological excavation, the documentation process of the pieces of the shipwreck, to the conservation of the wooden pieces. All this happened before the building of the replica started.

During the building, photos, videos and daily descriptions of the reconstruction process were published on the blog. The puzzles, open questions and hypotheses were posted there, and visitors to the blog were invited to pose questions and comments. The blog was written in Norwegian and was directed towards the Norwegian community of boat builders. In this way social media also was explored as a tool to communicate intangible heritage of traditional craftsmanship (Stuedahl and Mörtberg forthcoming 2012). The blog also made it possible to discuss emerging problems related to the building of the replica with the other professions that had been involved in different phases of the reconstruction.

Later, two volunteers with international background engaged themselves in the reconstruction project and published the highlights on Facebook for a broader English speaking audience. They also experimented with head mounted video cameras to be able to document the handling of tools and tasks related to the wooden material. Using Facebook and blog in the experimental zone as a platform to communicate museum practice inspired other departments such as the archaeologists to communicate the way they worked with several projects. The blog and the Facebook page together gave an extended documentation material that will be archived and potentially be used in a later exhibition related to the excavation.

Being aware that the museum preferred visitors to communicate personally with the boat builder when he was in the workshop – it was an issue to support this dialogue with digital tools – and to find solutions for communicating the reconstruction when he was not in the workshop. Observations in the workshop made it clear that most visitors needed the contextualising information to be able to understand the stage of the process exhibited in

the lab; what did they build, what happened to the original pieces from the wreck and how did the boatbuilding relate to these etc. The design project focused on supporting the visitors enactments of connecting the physical activities in the workshop with the digital information provided by a touch surface on the window space into the workshop. We conceived and implemented an interface for the blog and the Facebook pages, assembled a photo series by documentation material made by archaeologist and conservators during their work and added these with audio based interviews that explained the processes related to the boat from other museum departments.

The museum invited university researchers from InterMedia into the project, mainly to help finding good digital solutions of how to make the online material from the social media available for the audience onsite in the museum environment. We suggested that the museum would use the occasion of having set up the boat lab to explore several other museum communication issues, such as using digital media to build collaboration across the museum's sections, and to exhibit other professional practices at the museum to visitors interested in the Barcode excavation, such as the work of the conservator and the archaeologist. The boat lab became the physical representation of the experimental zone and displayed the multiple perspectives into the reconstruction, at same time as it explored live curatorship, visitor participation, new forms of internal collaboration among staff members and volunteers as well as social media as means to enhance these activities. The experimental zone gave in addition the opportunity to establish research collaborations with university focusing on how to integrate social media as part of the experimental activities.

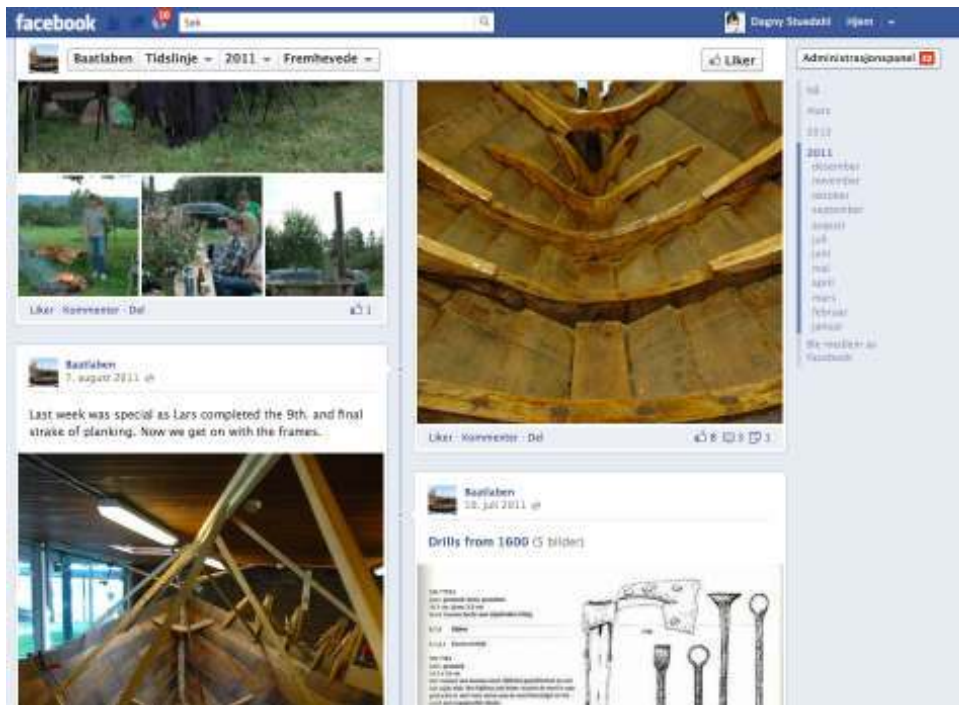


Fig.1 The building of the replica was communicated on a blog and on the Baatlab FB-page.

The experimental zone meanwhile had a much broader character than the physical and digital presence described above. During the project did the experimental zone include three workshops; one starting the projects research collaboration with a focus to connect all perspectives involved in the project from arcitects planning an exhibition on the project in 2014, to educational department at the museum. The second workshop focused on issues related to the boat in question, BARCODE 6, and the third workshop was set up in the studio at the university exploring different solutions to using sound in outdoor exhibition communication. We had planned for one more workshop related to interactions with touch screens and placement of digital resoures in the museum, but this was cancelled due to that the museum went into a very hard financial period where it was partly discussed to be closed down.

Empirically we our research is based on on documentation material from these workshops, as well as notes from meetings, design diaries as well as deep semi-structured interviews with the responsible curator, the boat builder, the acting director, and the director of outreach programmes. This paper will build on material from the interviews undertaken at the end of the project. In these interviews we discussed the relevance of the concept experimental zones that we had suggested at the start of the project, and what experiences the museum understood as most valuable for museums furhter development.

From the interviews with the director of the museum, as well as the director of the outreach programme, we have gathered several points that are relevant for a discussion of experimental zones as a practice based and collaborative space for museum innovation. One issue was reflections on using experimental methods instead of well-known methods for front-end and formal evaluation in exhibition development, such as focus group interviews or asking visitors what they would like;

“We have very sound discussions in the field that very rarely get manifested in exhibition production or exhibition gestalt. And I think that it does not work to use museum studies literature to support development in the museum – but I see the experiment and to have the courage to simply do things as the right way to go. Also, to do things that are not extremely successful. In many ways can we learn more by these – because when something grate you dig deeper to find out what was not working. I believe more in this approach than interviews with focus groups etc.” (museum director recorded interview, translated into english by author).

The museum director also pointed out that one of the experiences from the research collaboration was to be able to collect systematically experiences, but also to be able to do things before it was perfect and readymade. Because the challenges of new communication modes you first meet when the exhibition meet with its audience. This, he underlines, cannot be thought through in beforehand.

The museum has implemented the model of experimental zone to being part of their development strategy, in ways both used for exhibition planning in experimental steps. But also, as a way to approach the development of new exhibition concepts in more collaborative and practice based ways.

Discussion

While it seems rather straightforward to see experimental zones as successful because of the museums willingness to integrate this approach in their future practices, the model still can be discussed in relation to the outcomes of the research related to the project. While the museum understood that digital communication in blogs and FB pages should be available also from museum website – this was not established during this project. The blog and the FB connected to the boat lab was written by museum people on temporary and voluntary engagement, and even if the archaeologists of the museum did establish their own FB page they did not reference each other.

Also, to fully exploit experiments as a research based approach, it is crucial that the project makes arenas for discussions and to document the experiences. We learned that scheduled and systematic meetings for exchange of ideas should be an obligatory part of

the collaborative project. This to secure that research activities will be closely related to the museum practices in question, and to prevent the museum from believing that research could deliver the solutions with no participation by museum professionals. In the collaborative project described here, the experiences collected of how to reasonably update the blog and FB in relation to physical activities during the building of the boat, and what it takes to design interfaces to make this available for the visitors onsite, stay mainly with the boat builder, the volunteers and the research team.

It seems that for a museum to fully gain from the huge potential for development and innovation that are characteristic for experimental zones, it needs to integrate a procedural process where knowledge is exchanged between researchers and museum professionals. This is not merely as an evaluation of the project – but also during the process and as part of the learning by doing approach that the experimental zones invite into. The learning that experimental zones provides has to be appreciated by the museum management, and not the least it has to be integrated into museum strategic planning and development as a competence building activity. While there are many external reasons why this aspect failed during the project at Norwegian Maritime Museum, such as dramatic changes in museum leadership group and funding issues and economical conditions of the museum, this we understand as normal challenges for museum transformation. Summing up on our main experiences of the use of experimental zones as an innovation tool for museum transformation we claim that these experiments has to be strategically defined as part of staff education, and has to be scaffolded by museum management and leadership actively.

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Electrohyphing the Disciplines - Analyzing Three Modalities of Research Methodologies in the Media Art Field: Transdisciplinary Domains, Laboratoria Systems and Submedia Designs

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Abstract

Art museums all over the world have tried to ‘adapt’ to the ‘reality’ of digital media and ‘media art’ without changing too much the foundation of its (modern) identity; yet the way this adaptation is implemented has more often than not been bordering upon either scepticism or a turn in the direction of the ‘entertainment’ industry ...

Today, Art Museums all over the world run the risk of competing only with the nearby Shopping Mall and the ubiquitous smartphones, and not on content or the quality of their exhibitions or collections.

The adaptation (by default) to the ‘digital media reality’ is based upon a wrong analysis of that ‘reality’; museums risk missing out on an amazing opportunity to transform the methodologies behind the ‘modern’ institutions. Those methodologies are, basically, research methodologies – and the yet-not-realized transformation of the ‘reality-constructions’ surrounding the museums is part of a much bigger picture involving a transformation of the human sciences as well. Building upon examples from the Electrohype Biennales (1999 and 2008) and other examples this paper will argue that at least three emergent modalities are visible in the transforming cultural field in which museums operate: Transdisciplinary domains, laboratoria systems, and submedia designs.

Intro...

Art museums all over the world have tried to ‘adapt’ to the ‘reality’ of digital media and ‘media art’ (in the broadest sense) without changing too much the foundation of its (modern) identity; yet the way this adaptation is implemented has more often than not been bordering upon either scepticism or a turn in the direction of the ‘entertainment’ industry ...

Today, I think it is fair to say, Art Museums all over the world run the risk of competing only with the nearby Shopping Mall, and not on content or the quality of

their collections. At least, the commonplace attitude among users (who are voters, and therefore this is also the stance of the politicians even though they actually often have other priorities) is that the art museum should be something other than a 'boring' archive and a place to exhibit cultural heritage (or, at least, the latter should be 'entertaining'). However, this tendency is not only hazardous to the traditional 'role' of the museums (which, in some ways, have transformed to something out of control in terms of strategy for engaging the future public) – I will argue that the adaptation (by default) to the 'digital media reality' by some museums not only is based upon a wrong analysis of that 'reality' (it is, in other words, being misunderstood BIG time); those museums, and this is the issue of this paper, misses out on an amazing opportunity to transform the methodologies behind the 'modern' intuitions (and the construction of our 'cultural knowledge'). Those methodologies are, basically, *research* methodologies – and the yet-not-realized transformation of the 'reality-constructions' surrounding the museums is part of a much bigger picture involving a transformation, at least, of the human sciences as well.

Building upon examples from the Electrotype Biennales (1999 and 2009) and Enter Action (Aros, 2009), as well as projects that I have curated and/or developed: The 'Body Machine' exhibition by Boxiganga (1999), GET REAL – Real Time + (2004), MAP – Media Art Platform (2005-08) & Biotopia (Revisited) (2011/12) this paper will argue that three modalities in the transforming research methodologies are visible in the cultural field in which museums operate: Transdisciplinary domains, laboratoria systems, and submedia designs. The paper will further explain the three research methodologies and attempt to place them in/outside the paradigms of human sciences.

Towards the Museum as Transdisciplinary domain

Most often than not, the museums do not address the real issues and challenges of digital media and media art – or they address the real issues in a wrong way. One reason would be that they do not have the methodologies to do so – and therefore need to develop those methodologies, fast.

Moreover, the 'solutions' do often not address the future challenges of the media conscious and -consuming society. Whereas many good things can be said about the ability of digital media to facilitate the public access to cultural material, there has been no real development in the use and theoretical

understanding of digital media as an electronic technology in the social context of art – and what this means for culture?

Together with big art institutions like ZKM and Ars Electronica, ISEA and the much smaller re-new digital arts festival in Copenhagen, Electrohype is the famous exception to this general picture. 'Electrohype' first came into my vocabulary in the year 2000. I remember 'tasting' the composite title, e-lec-tro-hype, getting the feel of the special 'sonority' and slowly grasping its connotations. It provoked and challenged me. I think, because it provoked an exciting and intrinsic dialectics: What, exactly, was being hyped?

From the first show at the Bella Center in Copenhagen in 2000 to the shows at Malmö Konsthall in 2007 & 09, and the latest show at Ystad Konstmuseum, run a precise line of investigations into the information spaces of art – and the development of the, until very recently, almost unnoticed field of media art by Art Science and Art Museums alike.

I will suggest, that what we may wish for in the next ten years is an Electrophyping of the art museum. This would mean that the art museum should run through a number of stages – or re-configurations – towards becoming a transdisciplinary domain.

First of all, it has to become aware of the fact that not only the commercial pressure on the art museum has intensified; the 'implicit' roles of the actors in the art world have been transformed as well. The first has to be repelled at all costs. The latter has to be addressed in a serious and meaningful way. In the following I will map out a few of the possible alternative routes to consider.

In the following, I want to use the electrohype metaphor in an investigation of the potentials for a new critical position of the art museum (and art) in terms of 1) the idea that the 'visitor' is transformed into a 'producer' – and how this, in turn, changes the art museum; 2) how this new role as a 'producer' is placed in-between the human and computer, creating new platforms for 'reactive media' from where the critical actions should take place, and 3) how this, finally, is changing the way creativity works as a (trans)formative principle in making ubiquitous cultural and cognitive patterns 'visible' – at least in patterns of meaning in the process of everyday life in a society that more and more performs like and resembles an 'information space'.

New set of Rules

Boris Groys has claimed (Groys 1997) that a new paradigm for art and cultural institutions emerges – and that this situation builds upon a new ‘logic’ and ‘epistemology’. Thus, ‘amplifications’ of reality and new constructions of representations that is stemming from media is taking place in aesthetics as well as in the broader cultural context. The age of media has only recently become part of the museum horizon, yet the paradigm of ‘new media’ is already entering into a historical phase. The paradigm of media, however, has not yet been implemented – and with the ‘age of new media’ this paradigm, already history and archive material, is exchanging facets and identity with (mostly the aesthetic) paradigms of New Media. For short, I prefer to refer to this mixed situation of paradigms, and the expanded culture as ‘the expanded digital field.’

One of the key features of the expanded digital field is the fact that technologies, in the words of Mark Weiser, are disappearing, because “they weave themselves into the fabric of everyday life until they are indistinguishable from it.” (Weiser 2009). Furthermore, this development is often described as the ubiquity of computing everywhere – or ubiquitous computers that on the one hand is entering our world and becoming ‘as natural’ as trees in the forest, as Weiser has it...: .

Computer access will penetrate all groups in society [...] ubiquitous computers will help overcome the problem of information overload. There is more information available at our fingertips during a walk in the woods than in any computer system, yet people find a walk among trees relaxing and computers frustrating. Machines that fit the human environment, instead of forcing humans to enter theirs, will make using a computer as refreshing as taking a walk in the woods (Weiser 2009).

On the other hand, this ‘hidden but always present’ becomes a metaphor for the emergence of completely new parameters of reality and patterns of communication. Ubiquitous computers are the hidden texts, the unwritten parts, of art in the expanded digital field. In the words of Lev Manovich, “What before was ephemeral, transient, unmappable, and invisible become permanent, mappable, and viewable” (Manovich 2009).

Art receives a new role – “... content, a cultural object, cultural production and cultural consumption – are redefined by Web 2.0 practices” (Manovich 2009)- it

is not about its visuality anymore but about rendering – simulating or representing - the ubiquitous communication patterns of the expanded digital field.

This “expanded digital field” has had an enormous impact on the cultural institutions, and the (art)museums especially are facing some serious challenges – some of which are closely connected to the aforementioned lack of implementation of the paradigms of the ‘age of media.’ To meet those challenges, it would be helpful to understand the patterns of communication in the rapidly changing expanding digital field – and to do that, we need to know more about the ‘new’ actors that are playing in the art museum.

The Production of Museum Spaces

Far from suppressing criticism of everyday life, modern technical progress realizes it. This technicity replaces the criticism of life through ... those actives which rise above the everyday, by the critique of everyday life from within: the critique... of the real by the possible and of one aspect of life by another (*Lefebvre 2008 (1958)*)

Since Lefebvre’s comment in the foreword of the second edition of *Critique of Everyday Life* (which originally came out in 1947), new media have certainly realized a situation where technology repeatedly is pushing the limits of reality of everyday life to new frontiers. This, it seems to me, is the true ubiquity of technology: That the modalities of criticism (and critical thought) become transitory, fugitive and invisible. This, however, does not mean that criticism in, what I choose to term as, the expanded cultural field of digital everyday life (short: expanded digital field) is extinct or just not important. On the contrary, the critical activity of philosophy, art, poetry, hermeneutics are very present, albeit ubiquitously. This means that cultural artefacts and e.g. works of art do not carry the same ‘implicit’ authority anymore – it is not possible to assume an implicit reader of literature or an implicit visitor at an art museum that share the same fundamental cultural norms and values, and habits, of the author or curator. A circuit of cultural order has been broken – what has taken its place? What is the role of the reader / visitor?

The museum is a medium. Indeed, it could be claimed that the art museum could be realized as a ‘new medium – and it is as such I would like to approach it. As a new medium museums are platforms of communication in ways

that are specific of new media, which includes such things as, for instance, interaction, simulation, virtual reality, gaming, networks & social web, cyber culture and augmented reality. The ubiquity of computers runs across those platforms as a precondition of their aesthetics.

In between, or on, these new media platforms of communication there exist a number of new human roles – personas – like gamers or hackers (McKenzie, *The Gamer* 2007) (McKenzie, *The Hacker Manifesto* 2002), which share at least one common denominator: They produce the content as well as the strategies for the communication of that content. Today's visitor is a producer, in his/her own right.

On those platforms, a coding and decoding of cultural content is taking place – and this circulation of representation is basically the same today as it was a hundred years ago. This shows how little the users of the expanded cultural field – from moderns to post humans - have understood the new medium of the art museum in the expanded digital field and it's potential. And as a result the relation between senders (the curators et.al.) and receivers during the modern age (the modern discourse is still the common discourse in most art museums) grew increasingly static to a point where it has only two positions to take: 1) A position of completely non-critical entertainment, where the visitor may be active physically but not mentally. 2) A position of completely hermetic elite that may be a reaction to the first position, and that does include very high levels of critical awareness, but does not reach any audience outside those groups that are already critical – and thus, does de facto not function as communication. Many splendid things may be produced by both positions, but they remain the result of a static understanding of the museum – and the lack of ability to use the museum as a true medium and platform of communication - and are as such damaging in the long run.

Perhaps this is due to the fact that new digital media are more than just 'the message'; they are the technical frame of the (presumably radical) enhancement and transformation of the existing cultural field - the consequences of which we do not yet fully understand. The uncertainty of the outcome seems to be one of the parameters in the matter-of-fact strategy being deployed in the ideas of 'new museums,' which really just seem to be a 1:1 implementation of digital-media-are-the-message in a cultural heritage context. However, this is a hugely mistaken off-hand assumption, one that should at least be met with certain sceptical reconsiderations. The mere fact that the museum itself is a medium calls for a much

more elaborate and thorough investigation of the way in which digital media may transform the paradigm of the (art)museum – or, indeed, how it may result in a focus on the function of the user as a producer in the art museum.

The Implied Producer

When Wolfgang Iser wrote *The Implied Reader* the relation of the human and the computer was not implied in his thoughts and patterns (Iser 1978 (1974)). But since Iser's focus was on the novel as a medium of communication, investigating the intricate patterns of the sender and the receiver as well as those of the intermediate 'aesthetics' of the novel, the journey is not that far from the implicit reader to the user of 'ubiquitous' computers as would be expected. Indeed, the question that is being discussed continuously, and will be discussed over and over again in years to come, is exactly that same intermediate role of the medium, and mediated communication taking place between humans, carried out in a still more sophisticated and intricate digital network of computers. In fact, I would argue that the same fundamental problematic, as those patterns that Wolfgang Iser points out with regards to literary communication, are involved in the framing and positioning of the user of the expanded museum space; this will become apparent in the analysis of that which is being produced and communicated in the expanded field of electrotyped art and culture – only, and this is what interests me, the 'reader' behaviour seems to have been intensified and radically altered. Instead of an implied reader I would claim that the electrotyped field operates with a new 'user': The implied producer.

This is not as different from Wolfgang Iser's position as one may think. He is focusing on the novel as a 'new' medium, and on the 'meaning production' coinciding with 'reader involvement'. (Iser, xi). The implied reader is an active reader set out on a journey to discover meaning in texts. Just as, according to Iser, it should be up to literary hermeneutics to map the topography of the no-man's land between text and theory, it should be our purpose to map the forms of production in the expanded aesthetic field of electrotyped art and discover their patterns of meaning, like hermeneutics. But then, we must ask, what would be the framing of the hermeneutics of the expanded museum space?

By this, I am seemingly putting my topic, the construction of critical experience in the art Museum, slightly off the mark. But, as I will argue below, it is

exactly necessary – indeed important – to re-examine the role of the hermeneutic position in the expanded digital field

Clearly, it is difficult to claim a literary hermeneutics, although even digital cultural artefacts may be interpreted as 'texts', insofar as they represent some kind of symbolic system that we share the (allusive) meanings of. But this will only go so far... and cannot, at least, stand alone in the discovery-process of an effective hermeneutics for the expanded digital field.

We may, in the process of discovering that hermeneutics, be forced to point out that the development of media is not in any case necessarily a positive one (or the opposite). New Media is not determining human cultural future, but neither is it (clearly) without effect at all. Instead, we should keep in mind that the field and framing of meaning and understanding, as well as that of being a human being, have changed (in some cases dramatically) – i.e. it is difficult to presuppose that society is permeated of distinct norms that are shared by most people and thus the whole process, and dialectics, of pre-structuring and actualization of potential meaning (by the implied reader) is not so implied (anymore). At this point, I would like to take this in two directions: First of all, to take a closer look at the implied producer in some concrete examples from art museums that works specifically with HCI in an expanded way. Secondly, I take this further, however briefly, into a discussion of the 'transformative creativity' as a precondition of the implied producer in the art museum.

Laboratoria conditions: Electrohyping The Art Museum – two examples (comparison of 1998 / 2008)

Two examples – 10 years apart – may shed some light upon the role of the implied producer in the process of electrohyping the museum. It should perhaps be mentioned here that already I have pointed out a number of prerequisites for the implied producer, the most important one being the undoing of the 'implied reader' as an active critical source of cultural pattern and representation. Two other points would be 1) the transformation of a few 'common' public spaces into many potential 'public spaces' – many of which are only ubiquitously present or simulating 'real' space.; 2) critical faculties, if they exist, are almost entirely defined by the culture of

everyday life and commerce – undermining the traditional authority of the museum and the ‘implied’ visitor (and the ‘ubiquitous’ curator).

As I have noted earlier, this situation has prompted for many bad choices, either by ‘giving up’ and letting every critical faculty down in order to be part of the fashion (which seems to be ‘new media’); or by protecting the authority of the museum-professional. In both cases the art museums are only adding to the unreflective status of the culture of everyday life – and are not trying to find alternatives. Interestingly enough, the two are often mixed, or indeed: intertwined. A good example of the first kind could be seen at the exhibition *Enter_Action* at Aros – Aarhus Museum of Modern Art, in the spring of 2009. I will not go further into this exhibition, only point out the fact that the focus on homo ludens, the playing/gaming human being would have been a fantastic subject in terms of critical potential if it had been followed up by more than what seemed mostly as institutional spin and search-for-visitors. Really, the activities were not truly aimed at the implied producer – thus, the exhibition could be seen as a covert version of the old paradigm where the curators set out the rules whereby meaning is being constructed. *Enter_action* was not realizing the museum as medium, or the artworks as communication, but displaying interactive art as art in the modernistic sense – inside their own autonomous definition of reality with which the audience was asked to play, or not.

Against this example, I would like to point out two examples that – 10 years apart – understand the premise of the expanded digital field as an aesthetic and artistic field and, more importantly, investigate the role of the implied producer in the art museum. The first, and early, example is the “Augmented Reality Project, Part 1-3” (1998-2008) by the Danish media performance group, Boxiganga (a.k.a. Kjell Petersen and Karin Søndergaard), which was shown at The Museum of Contemporary Art in Roskilde, Denmark. The other is Electrohype 2008, the fifth version of the Swedish biennale on electronic art, which was shown at Malmö Konsthall. Between these two, very different projects, a more detailed outline of the implied producer may be formulated.

Sub Media Designs 1998 – Experiments in Augmented Reality

Augmented Reality Project by Boxiganga was a project designed to investigate the invisible patterns of communication in a museum space. It is also an experimental

research project concerning augmentation as a strategy within the paradigm of reactive media (Søndergaard 2009), where the focus is on the experiences that take place on the edge of our senses, as they put it:

In this project, visitors will come into contact with a series of staged and choreographed, high technology installations that can sense their presence. These 'sensitive' sculptures are likened to pieces of furniture in a room. But the installations, each in their own way, do not only sense, they also react. Thus they promote relationships through experiences that may take place at the edge of the senses (*Karin Søndergaard og Kjell Pedersen 1998-2008*).

This edge, the fusion of performing mind and technological body, is clearly visible in the practice and artistic strategy of Boxiganga. In 1998, they formulated the principles for an environment for exploring the use of the relation between humans and computers in an artistic/ performative exploration of the museum space. Building from a tradition of Noh drama and "classic" performance art practice in the 1980s, the augmented reality project was to be realized in three parts: "Relational Mechanisms" (1998-2000), "Constructed Interactive Spatiality" (2000-2005), and "A Sensing Sculpture in Public Space" (2005-2008). The result of the first part of the project was shown at The Museum of Contemporary Art in Roskilde, January - March 2000 – and later, on the first Electrohype at Bella Center in Copenhagen. Working with a network of Apple G3-computers, the basic principle was to place the computer and data processing in the background; this is a precondition of achieving the illusion of reality in the "human-computer interaction".

The 'relationship' between humans and computers – often termed HCI, Human-Computer Interaction, should be explained shortly here. It is the technical term for understanding how this is happening in practice. We need to understand the new parameters of reality and develop an understanding of 'the museum as interface.' The research in Human-Computer Interaction has run through some interesting phases, since the development of the digital computer in the 1940s to the development of the 'mouse' and the 'GUI' – Graphic User Interface by Xerox in the 70s. In the 1980s Macintosh made GUI a standard for all so-called personal computers – or, PCs.

But the true potential of HCI remained still somewhat unrealized in a critical domain since the contact of human and computer is still very much happening

on the terms of technological interface – which is mostly grasped academically by computer science and other variants from the field sometimes termed as ‘hard science’. However, several different attempts of critical analysis have looked further into the ‘cognitive’ or ‘phenomenological’ levels of HCI. In the 1990s, and founded in linguistic research, Mark Johnson and Mark Turner formulated the notion of the embodied mind and conceptual integration as a structuring principle of knowledge (Johnson; Turner). In the last decade, the idea of the embodied mind, bodily based rationality, cognition based upon physical and bodily active relations with the surrounding world have entered the stage of artistic as well as aesthetic research.

Paul Dourish, on the other hand, should be mentioned as one who wants to nourish HCI from a phenomenological stance, and claim that one should recognize “the embodied practical action in the world as the foundation of our conscious experience” in this kind of research (Dourish).

A kind of interesting middle ground between those two theoretical camps emerged around the year 2000. Based on practical interface research, often in artistic-based projects, the idea of the ‘implied’ body present in every interaction took this into the field of cultural and psychological representation.

Art, the way Boxiganga sees it, is conceived as a network of open systems. And this is also where we find another parallel to Iser’s project – that of the process of creativity. But whereas his intention is to point out the fact that we read as much as we do not read (the unwritten part of the texts are as important as the written part) and which require involvement and an activity by the reader to imagine the required amount of norms of reality that are represented (Iser 1978 (1974)) – the ‘users’ of the works by Boxiganga are asked to produce the relational patterns of communication, the cultural field that they can use, by themselves. And the artists are supplying the framework for doing just that:

We intend to develop relations-orientated multimedia works, which function in the social realm, in which we as people continually recreate and reinvent our existence — in relations between people. This is ‘relations technology’ as opposed to functional or manifested technology; open systems in which content and relevance is directly dependant on involvement (*Karin Søndergaard og Kjell Pedersen 1998-2008*)

The Augmented Reality Project part 1 is organized in four complex, spatial constructions: *Smiles in Motion*, *Mirrechophone* (Mirror+Echo+Phone), *I think You — You think Me*, and *The Different Stories of a Bride and Groom*. Each construction – or: augmented installation - plays with the notion of constructing the preconditions for how we are experiencing actual phenomena and relations in physical space, through hidden data processing.

In our multimedia set-ups, the computer is relegated to a place where data is recorded, processed and transmitted. We can then be concerned with multimedia in a context of Augmented Reality, with creating spatio - sensory, perceptive and reactive constructs. (*Karin Søndergaard og Kjell Pedersen 1998-2008*)

Boxiganga works with specific strategies, which uses the audience's actions and reaction as a framework for the creation of an augmentation of reality. But the real power of the project lies in the critique and resulting augmentation of the museum space. It is a pretext for making it possible to experience the construction of reality and by the same token enables the audience to reflect upon their interpretation of this experience – the first stage, I would claim, in an electrohyping of the Art Museum:

In this way, the visitor also becomes involved in an augmenting of what can be sensed and is likewise brought to an augmented state of interpreting that experience. (*Karin Søndergaard og Kjell Pedersen 1998-2008*)

Smiles in Motion, the largest installation, clearly shows how Boxiganga works with bringing the “edge” of sensing into the experience of the audience. This installation carries out the premise that it always takes at least two persons using it, in order to have an experience: You exchange smiles in the chairs – through real time video transmission of the smile between the chairs; and through motion sensors that are activated by the laughs of the other person.

The reactive edge of Human/computer experience is investigated further in the augmented installation, *I Think You – You Think Me*. Here, the reactions themselves are staged by two rather aggressive computer-generated personae – Robert & Roberta. They react to any person entering their stage (looking a bit like a basketball field); first, by being mildly curious; but then, as you move closer to one of them, by showing more and more feelings of the more angry kind – i.e., the closer

you get to Robert, the more aggressive he gets (at least, that is our conventional interpretation of their reactions).

This point towards the important notion that what really is being augmented in the Augmented Reality Project is the interface itself:

Augmented Reality involves the body through the installations presented here, and in doing so, proposes 'conversations' at the edge of our normal means of sensing and communicating. (*Karin Søndergaard og Kjell Pedersen 1998-2008*)

The reactive installation *Mirrorechophone* shows another way of researching the edge of normal sensing; here, two persons exchange faces – gradually, the different parts of your face is being transmitted to the other persons mirror-image; and vice-versa.

All the mentioned installations are staging an augmentation of relationships, where the human/computer relationship is not so much about the interface itself, but about how relations occur and develop between human beings – how they react on each other:

In fact, the basic function of the installations often requires that two visitors enter into a relationship and investigate an interpretation of the contents of that relationship. These installations then are situations for augmented relationships. (*Karin Søndergaard og Kjell Pedersen 1998-2008*)

Thus, it may be interpreted from this, that one important condition for the critical impetus of the implied producer is the activation of the body and senses as well as the 'tangibility' of communication: on the edge of our normal perceptive system. Wolfgang Iser wanted to take the critique of literature in the direction of the processes of communication that took place outside the text – and he explicitly saw this as a phenomenological project. (Iser 1978 (1974), 276). If we have to approach the situation of the implied producer, however, the phenomenology is less clear – either we have to think in alternatives to phenomenology (and I think we should), or the epistemology behind may still emergent.

But let us consider the possibilities: The relation of humans and computers consists of 1) extended sensing (the body using technology to sense and

discover what is outside the grasp of our normal sensing apparatus); and 2), as Mark B. Hansen has pointed out, affective communication (technology receiving consciousness features using the body) (Hansen 2001). In effect, what we have is a redefinition of the art museum as a reactive interface – a new media that involves the public in an active communication on the edge between past and future values. Even phenomenology is expanding – into non-sensory, ubiquitous fields. Here, much like in the literature of 20th century, poetry and creativity returns – and may even have moved art beyond the implicit producer in order to reach a kind of critical momentum. Wolfgang Iser writes about the activity of accessing the unwritten part of the text as a process of creativity – a ‘game’ of ‘gaps’, even.

The fact that completely different readers can be differently affected by the ‘reality’ of a particular text is ample evidence of the degree to which literary texts transform reading into a creative process that is far above mere perception of what is written. The literary text activates our own faculties and enables us to recreate the world it represents. The product of this creative activity is what we might call the *virtual* dimension of the text, which endows it with its reality. This virtual dimension is not the text itself, nor is it the imagination of the reader: it is the coming together of text and imagination. (Iser 1978 (1974), 279)

There is a hint of the implicit producer in this formulation, since it presupposes the activity of the reader involving imagination as well as relating to (the construction of) reality (in the text). In Augmented Reality Project, which is an interactive installation, this hint of the implicit producer is being realized in the focus on the body and the physical interaction in a construction of reality that oscillates between perception and mind. Here, a cognitive game is unfolding itself where technology is creating a situation that enables the visitor to produce his/her own conception of the reality being simulated by Boxiganga. This makes it difficult to rise above the mere fact of the ‘augmented reality’ of the installations – which are not pointing out new platforms of critique. Electrohype 2008, on the other hand, is fully immersed in the ‘game’ with the implicit producer – both in a cognitive and social field of space-production.

Submedia Design 2008 – towards a critique of the implied producer in the art museum

... the true challenge posed to art by social media may not be all the excellent cultural works produced by students and non-professionals which are now easily available online – although I do think this is also important. The real challenge may lie in the dynamics of Web 2.0 culture – its constant innovation, its energy, and its unpredictability. (*Manovich 2009*)

The idea that technology and art together may (can/will) transform ‘man’ or ‘society’ is not a new one. Some would call it idealism - or an ideology, even – to have anything outside the market create transformation. But changes over the last decade, in the cultural constitution of the world’s global culture and economy, have changed the attitude towards art and creativity

The art-is-transformation metaphor is a very strong driving force in the creative development of new ideas in the growing alternative culture of transdisciplinary domain-exchange. Art, in this instance, is practice, the facilitator of movements across domains and the dialogue between different fields of competences. It is, also, the implementer of new aesthetic paradigms.

There are some good examples to give from the art world, but indeed very few where society is, in fact – if not transformed – then being moved in a new direction. The question I want to raise here is what is the status of ‘transformation’ as an artistic form of practice? What, indeed, do we understand by ‘transformative creativity’ today?

One of the more significant propositions about this comes from Richard Rorty, that in 1979 wrote that

...for all we know, it may be that human creativity has dried up, and that in the future it will be the nonhuman world which squirms out of our conceptual net. It might be the case that all future human societies will be (as a result, perhaps, of ubiquitous technocratic totalitarianism) humdrum variations on our own. (*Rorty 1979, 351*)

This position engages the idea of the implied producer into the hybrid condition of the expanded digital field: The transformation of creativity might not be innovative processes but instead, indeed, a reproduction of the idea of creativity as a human activity. The slightly dystopic overtone in the quote by Richard Rorty should not, however, be seen as a representation of an ‘undergang’ – of some sort of ‘intellectual’ decline of transformative creativity to mere repetition (albeit on different

levels). It could, however, very well be seen as a sort of functional 'closure' brought on by the general system (or systemic theory) of society that we find in Niklas Luhman's writings:

Art participates in society by differentiating itself as a system, which subjects art to a logic of operative closure - just like any other functional system... [m]odern art is autonomous in an operative sense....society imposes this form on all functional systems, one of which is art.
(Luhmann 2000, 134-135)

This position is too reductive, however... and does not offer much insight into the function of the implied producer. What, we may ask, is really going on in the transformation from implied reader to producer? Maybe, it is that which David Rokeby has termed a 'user interface for reality'? In order to get closer to an understanding of the parameters at play, Rokeby suggests 'we need to look at how our experience of the real world is constructed. In other words, what is our user interface for reality?' (Rokeby 1998)

The sense modalities involved in participation in the installations mentioned above are both performative and experiential within the same acts of engagement, bringing an extended focus on the act of participation in itself. Participation can be seen as a sense of involvement, which articulates "the dividing line between observation and engagement" (Iles 178), expanding the engagement as a site of social encounter and self-reflective experience. It is this 'sense of involvement' in a technological art-field that I have nick-named 'electrohyping' – and it is in this context that the 'visitor' transforms from 'reader' to a participating 'implied producer'.

Electrohype 2008 was the fifth biennale of computer based technological art – shown at Malmö Konsthall in October-December 2008 (Electrohype 2008). From the very first *Electrohype* in 2000, where Boxiganga participated with parts of Augmented Reality Project, it has dealt with the relation of art and technology. Whereas the first exhibitions were of a more investigating and technological character the latter has focused increasingly on the poetic and conceptual elements of electronic art. As other art museums and exhibitions were moving into the same field and creating a 'hype' of new media (the example of the Aros-exhibition *Enter_Action* illustrative and representative of that point – see above), *Electrohype*, as a conscious reaction

became gradually less focused on the 'hype', and more on what possibilities new electronic media create - and how it may be used aesthetically.

Electrohype 2008 took place indoors in the classic, almost 'modernistic' exhibition space of Malmö Konsthall. The context itself did not signal any hype, electronically or otherwise; and the interactivity with the public was held to an absolute minimum - at least for the untrained eye (or: untrained spotter of implicit producers). The exhibition slowly grew on you like a mental landscape consisting of sense expanding, ironic and though provoking installations: Technology is hyping the modernistic space of Malmö Konsthall, as it were.

The passage through the exhibition is like an adventure game with the artworks as the game site, and you the gamer. The game begins by *Rechnender Raum* (Calculating Space) by Ralf Baecker and *Rule number 30* by Kristoffer Myskja. They point out the basic rules of the game, which have to be accepted before the game can continue: 1) Humans and computers are related, and 2) technology enhances and transforms the human faculties of perception and understanding.

The visitors are the implied producers of the game-field in a double sense: The museum space is electrohyped into a physical landscape through which different paths may be chosen – with different outcome. At the same time, the physical landscape, and especially the visitor's journey through that landscape, performs a cognitive mapping of the relations between human and computers. Thus, you might encounter a reactive landscape that pulses and moves as if it was alive: The German artist Kerstin Ergenzinger has collaborated with scientists to create this work where people's movements in the exhibition, as well as other movements in the ground coming from outside the museum – are registered by a seismograph. This data is then 'translated' into 'feelings' by a custom made program, that through different algorithms create energy-exchanges with the material (grey and black felt and cloth on the floor) in the landscape, thus creating the 'movements'. Bill Vorns 'Evil/Live 2' consisted of three large panels of electrical bulbs that each represent a life (light) that is created and dies (turned off). This visual movement of light is based on an algorithm called 'game of life' which, in the context of the exhibition creates a meta comment on the position you are in as visitor: you are playing a part, being a producer, in the 'game of life'.

The digital algorithm of simulated reality is everywhere – but this ubiquitous evolution of digital life is being represented in Bill Vorns installation, making the implicit producer visible and part of an electronic perception of the world. This points towards an alternative, albeit hazardous, new road: the electrohyping of the art museum actively focusing on the audience as implicit producers of the reality-spaces of art.

Jessica Field's 'Semiotic Investigation into Cybernetic Behaviour' heavily underlines the potential powerful dialectics of the implied producer. Two robots, ALAN and CLARA are built from miscellaneous materials and media (new and old). Both are limited in the possibilities of 'sensing' and 'perceiving' the world – but not in the same way. ALAN can only 'sense' movements and CLARA can only 'sense' distance. They try to help each other (they are linked by a network) so that they may interpret what is happening around them when someone is approaching them. They are not very successful in finding out what is going on, or anything else for that matter, and their reactions are bordering the paranoid giving us a sense of 'a couple of poor robots alone in the world' – 'is anyone there?'; 'Someone is moving close to us' etc..'Semiotic Investigation into Cybernetic Behaviour' is pointing technology back at us, alone in front of the installation in the middle of a process of understanding. Their limits are our limits, in the sense that we know as little about them as they know about us. We may not 'perceive' the reality of technology because it is not perceivable.

What cybernetic behaviour does not have, of course, is the implied producer of a reality-space and the augmentation of that space into the cybernetic reality. Electrohyping the museum would not only mean to (re)connect the cybernetic 'real' to the reality spaces of the human cognitive game-of-life, but also and maybe more importantly, the hugely needed upgrade of the social and cultural debates necessary to understand and navigate and map the complex landscapes of techno-society.

Mapping transformations...

In this short paper, the argument that we need to transform the context and construction of the museum into a transdisciplinary domain has been based upon the future production of a laboratoria condition of the museumspace and two sub media

projects that have redesigned the museum into an interactive media art paradigm 10 years apart. Thereby I have also wanted to highlight the significance of organizations like the Malmö-based, NGO style, biennale Electrohype. Instead of a move towards heavy commercialisation, or being developed into a 'fun park', I have argued that what is needed is an electrohype of the Art Museum – as the final move out of the modernistic paradigm and aesthetics and towards a whole new user-paradigm: The implied producer.

It could be summed up like this: Electrohype activates the audience as the implied producer of media art. Instead of discussing art and media as something separate that collide suddenly in new media, creating the abstract notion of "interface", I have approached the implied producer from two angles: 1) Compared to the perspective of Wolfgang Iser's 'implied reader' which has shown that, although there are many parallels to the analysis of the text as communication, there are some important differences: The involvement of the physical body, the ability to augment reality outside the imagination, and – above all – the interaction between humans and computers. These specific characteristics of the implied producer place him/her in a field of uncertain platforms for criticism. 2) Again with a parallel to Iser's notion of the creative process and 'game' of perceiving the unwritten text (and construct a reality), the analysis of *Electrohype 2008* led to a short investigation of transformative creativity – approaching the subject from the idea of reactive media that works within the transdisciplinary innovative experience paradigm in an experimental way.

I have been mapping the transformations indicated by Electrohype as a metaphor for change that is still underway – and on the verge of happening.

The global reach of contemporary media has greatly influenced social, political, and physical space. Indeed, we are becoming inhabitants of information space. (*Weibel 1999*)

We are, indeed, becoming the inhabitants of information space – and the implications of that for the Art Museum is an electrohype in itself.

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Interface of Immersion - Exploring culture through immersive media strategy and multimodal interface

Christian Grund Sørensen

Abstract:

This paper presents a strategy for a holistic use of interactive digital media through the concept “Axis of Immersion”. With a persuasive technology approach combined with rhetorical kairos media design should facilitate immersive progression in engagement, reflection and knowledge.

Handling the complexity of this immersive approach suggests the design of a multilayered interactive graphical interface “Virtual Vedersø”. The aim of the interface design is to facilitate comprehensive and informed overview and navigation, yet simultaneously facilitating personal reflection and experience in relation to Danish playwright and vicar Kaj Munk.

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1 Introduction

In tradition the term Museum denotes a building, in which artifacts and archives are gathered and displayed. It denotes a place where learning takes place through the mediation by skilled staff in research and communication. In recent years, this concept of Museum is challenged, among other things, by the possibilities of new media. Is the core of Museum still temple-like structure or has it become something new? A concept increasingly detached from location and/or organization?

For most people Museum still carries the connotation of a building, a structure, an organization, or an archive. The presentation at the index site of the Smithsonian underpins this delicately: “The world's largest museum and research complex, with 19 museums, 9 research centers and more than 140 affiliate museums around the world”.

But there is more... Despite the Smithsonian's presentation emphasizing physical structure, an extensive work is done in the field of facilitating online access to archives, learning and experience. This means that a bipolar strategy is displayed: One of maintaining the classic concept of Museum, and one of redefining Museum as something fleeting in society, culture and cyberspace.

Perhaps Museum is a narrative introducing the user to new knowledge, new reflection and new understandings?

In this paper I reflect on the following two questions and pose possible answers:

Is it possible to develop an approach to utilizing interactive digital media that

- supports the aim and scope of the traditional concept of Museum,
- radically takes advantage of the possibilities of utilizing interactive digital media, and
- allows for manifold expressions of learning objects

Is it possible to design a graphic interface that supports intuitive access to and overview of a multifaceted learning system as described?

Suggestions for meeting these challenges and posing relevant answers are gathered in two concepts, The Axis of Immersion and the Virtual Vedersø interface. The two concepts in combination may offer a fruitful approach and at the same time provide very practical and manifest guidelines for transformative learning.

Prior to reflecting on these important questions, it is nevertheless imperative to do two things:

First, to add a brief explanation of the case-study in relation to which the concepts of The Axis of Immersion and Virtual Vedersø has been developed.

2.0 Kaj Munk and the Vedersø Vicarage

This paper is primarily based on experiences gained through working with the EUROPlot-project. EUROPlot is an international EU research project of Persuasive Learning Objects and Technologies (www.eplot.eu). The project consists of a number of work-packages, each of them addressing issues of and use cases in relation to learning. The objective of the project is to create and develop learning designs and educational applications. This is done primarily with the use of GLOmaker and GLOmaker mobile (Applications for

creating generative learning objects for computers and mobile devices) (, Plotlearner (An application for language learning) and Plotlearner for Munk software, including an EMDROS database for annotated and searchable full texts (www.emdros.org).

The overall task in the relevant part of the project is the mediation of knowledge about Danish playwright and vicar Kaj Munk (1898-1944). Kaj Munk was well known as a playwright in the 1930s, often focusing controversially on the strong leader, the inhumanity of Nazism and the potential of divine miracles, he was early inspired by fascist nationalism, but left this view before the war. He was an ardent theologian arguing against atheism and relativist ideology through sermons, plays and newspaper articles. In 1944 he was arrested in the Vedersø Vicarage and was executed by the German authorities at a roadside.

Munk is respected – and criticized - as a playwright, a theologian, a commentator, and a resistance martyr. Some of his works are part of the Danish canon for teaching and in recent years, his thoughts were implemented as inspiration for the South African reconciliation process. This listing may emphasize the complexity of the Kaj Munk Case and the rather extensive impact of his thoughts.

The EUROPlot project is engaged with the Kaj Munk Research Center at Aalborg University and the Vedersø Vicarage Museum.

2.1 Learning objectives

Learning in a Museum context is rarely as straightforward as the definition of intended learning outcomes in curricular teaching. Generally recognized theories of learning such as the cognitive domain of Bloom's Taxonomy (1956) and the Solo Taxonomy of Jonathan Biggs (2007) (Structure of Observed Learning Outcomes) have an emphasis on evaluation and assessment. This preference for evaluation and assessment is more dominant in an Anglo-Saxon learning paradigm than in Scandinavian school tradition, but even so it seems obvious that the context of culture mediation requires another approach. In Hooper-Greenhill's definition: "Learning is described as encompassing the acquisition of new knowledge but is now seen as much broader than that. It includes the acquisition of skills, the development of judgment, and the formation of attitudes and values. It includes the emergence of new forms of behavior, the playing of new roles, and the consolidation of new elements of personal identity." (Hooper-Greenhill p.156).

This approach is very much in line with the intentions of mediation in the Kaj Munk Case. The objective is not limited to the transference of historical or biographical knowledge, but is even more directed towards an immersion in the fundamental ideas of Kaj Munk, and the scope of these ideas when they are applied to personal reflection and contemporary culture. Actually, the term *learning* in itself may be problematized in goal setting for this actual cultural mediation. Perhaps the connotations are in fact counterproductive to the process of defining intended outcomes.

To be meaningful in a cultural mediation context knowledge distribution about Kaj Munk should adhere to certain specifications:

- It should enhance interest and engagement in the biography and contemporary time of Kaj Munk.

- It should offer easy access to Munk’s literary works and support reading and semantic searches in relevant archives.
- It should generate engagement and discussion about topics related to Munk’s ideology, thoughts and beliefs.
- It should facilitate these objectives for recipients ranging from primary school children to academics.
- Systems should cooperate convergently with the Kaj Munk Research Center, Vedersø Vicarage Museum, and schools at various levels.

These specifications are well in line with Hooper-Greenhill’s five generic outcomes of learning from culture (Hooper-Greenhill p.154):

- an increase in knowledge and understanding
- an increase in skills
- a change in attitudes or values
- enjoyment, inspiration, creativity
- action, behavior, progression

At the same time, it has been important to realize that this receiver centered approach may not fruitfully stand alone. The *rhetor* (speaker) centered approach of rhetoric is also an inspiration for the approach presented in this paper. As almost any act of communication in a rhetorical sense is a deliberate persuasive act, serving to inform, move and delight (*docere, movere, delectare*), one should recognize the responsibility for determining the aim of any communicative act.

22.3 Creating an immersive learning environment

This paper argues that an immersive, digital environment may be a transforming factor in communication of culture.

The term *immersion* is taken from the terminology of *virtual reality* expressing the full absorption into a new, digital dimension. In Janet Murrays definition in “Hamlet on the Holodeck” (1997) *immersion* is linked to the narrative potential of digital, multi-media storytelling. In this theory there is a progressive descent into a subject moving through the steps *immersion, agency* and *transformation*. Immersion is described as “entering the Enchanted Place” (Murray p.99). This has to do with arousing interest, pleasure and cognitive/emotional engagement in a multimedia environment. I use *immersion* also as a metaphor to bring attention to the psychological mechanism of engagement. This engagement is in casu facilitated through several digital applications working together in order to enhance the experience and gratification of the user. The implementation is rooted in the persuasive technology-theory discourse presented by B.J.Fogg, H.Oinas-Kukkonen and others “using computers to change attitudes or behaviors or both.” (Fogg p.1). The next level of engagement is marked by participatory *agency*, leading forth to *transformation*.

On the basis of these reflections, it may be understood that what is needed in the mediation of Kaj Munk is a rather comprehensive learning environment building on an immersion agenda. Seen in a narratological terminology, the narrative of Kaj Munk is too complex for any one approach for mediation to be satisfactory. Neither displays nor interactive digital learning objects are in themselves satisfactory. Therefore, this paper presents a holistic approach to applying interactive digital media in cultural mediation.

The different applications in question are intended to cooperate to equip the user for immersion deeper into the life and works of Kaj Munk. This is done through mobile devices, websites, searchable archive systems and multimedia content working together with social integration. Some offer experiences through sound, video and captions. Others are primarily text-based and offer guidance in learning and evaluation, or they are part of an archive system that facilitates deep searches. These systems should interact with non-digital resources such as the actual museum, staff, physical archives and on-site exploration.

Abundance is a core value of *the Axis of Immersion* approach. Cultural learning entails immersion. Learning is entering a world of impression, information, experience, amusement, challenge, and reflection.

One of the strengths in applying the metaphor of immersion is the intuitive recognition of the three dimensional aspects of an immersive system. When swimming in water our movements are not limited to serial or sequential movements. We are free to explore the environment moving in all imaginable directions. Learning objects are usually designed to be either sequential or encyclopedic serving different functions. An immersive learning environment should support both. Sequence is to some extent necessary to ensure learning and informed reflection. On the other hand, the user should expect the same extensive choice and interactivity that is experienced on most digital media platforms.

3.0 Axis of Immersion

The Axis of Immersion is in short an approach to exploit the specifics of different media types for generating a persuasive learning system. This learning system should provide the user with possibilities for a dynamic and progressive sequence of learning experiences moving forwards into a deeper level of immersion.

In a dynamic perspective the axis represents a movement on several levels:

- From the simple to the complex.
- From the manifest to the abstract.
- From the beginner to the expert.
- From initial interest to immersion in the subject.

The fundamental assumption is this, that users should be assisted in entering the learning system at a suitable point in relation to maturity, entrance knowledge and *kairos*. The users should furthermore experience a persuasive movement towards engaging gradually in learning material on an even higher level. This is done through e.g. suggestion or tunnelling technology (Fogg p.34) encouraging users to move forwards through microsuasion (Fogg p.40). These are persuasive design techniques focusing primarily on persuading users to take just the next step moving deeper into immersion.

- An example could be a pupil being prompted from a GLO to perform a very simple search in the Searchable Research System. He thereby gets acquainted with the complex system. This positive experience extends the comfort zone in accessing the system on another occasion.
- Another example may be an adult geocaching in Vedersø. When the geocache is found, a QR tag facilitates a very low tech access to multimedia material on his smartphone. This material suggests access to a number of *mobile GLOs* that may combine the geocaching treasure hunt with short learning experiences. And these learning experiences may themselves link onto other, more complex material in order to enhance immersion.
- A third example could be the virtual portfolio that facilitates simple drag and drop of material from applications. This portfolio is available for the user in the digital environment onsite or at home making it easy to resume the learning activity and facilitating a sense of ownership.

3.1 Kairos

Doing this, *The Axis of Immersion* takes account of three aspects of the *kairos* of classic rhetoric:

- The opportune moment: Content is mediated at the contextually appropriate time.
- The opportune location: Content is presented in suitable (virtual) geographical surroundings.
- The opportune manner: Content is mediated through the appropriate technology (or the omission of technology).

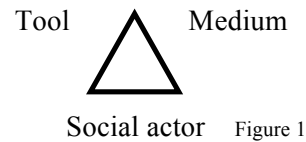
It is important that the user is met in a *kairos* situation and that connection is made with suitable material in a suitable way. If e.g. content is presented on a mobile platform at the exact historical spot it may be more appealing to users not familiar with the traditional notion of Museum. If the user can take photos through his personal mobile device and contribute to a pool of user generated content a sense of ownership to the system may evolve prompting an ever deeper level of immersion.

A focus on *kairos* is an important factor in designing the learning system. Suitable material should be presented at the opportune moment, at the opportune location and in an opportune category of mediation. Unfortunately it will not always be possible for the user to be on site in the Vedersø area. This calls for a solution, which this paper suggests may be the virtual geographical interface of Virtual Vedersø.

In the same way there is a temporal problem. Temporal *kairos* may point to the challenge of presenting learning material at the opportune moment. But it may also emphasize the challenge of presenting material in a historically meaningful connection. A temporal logic approach inspired by Arthur Prior regards the relationship between sequence and *kairos* as highly important. Without moving too far into this field of research it contributes a theoretical framework for the integration a virtual time machine in the Virtual Vedersø interface.

The third aspect of *kairos* mentioned [here](#) is concerned with *manner*. I understand this as an approach of selecting the opportune technology, and making the proper use of it. In his *functional triad* theory B.J.Fogg suggest (Fogg p.27) three fundamental categories of applied interactive digital media.

- Tool – increases capability
- Medium – provides experience
- Social actor – creates relationship



All three functions obviously have a potential in the Kaj Munk case. The tool function is important for the learning system to facilitate learning. The user should be equipped with a toolbox of knowledge, skills and procedural insight.

The experience aspect is no less important. Especially at the initial stages of the immersive process experience (and perhaps edutainment and gamification) is a vital factor. The use of visual media, sounds, videos, quests, applies a more concrete experience to the Kaj Munk learning environment. Experience is also important in the personal reflection mentioned above in relation to intended learning outcomes.

Noting the progression from the manifest to the abstract mentioned above, the experience may be more directly connected to works and content at the deeper stages of immersion.

The social actor function with Fogg was originally focused on interaction with computer systems offering e.g. praise and emotional award. Recent development in social media has made the potential of social comparison and peer support even more obvious. In studies related to the health care sector (Munson, Lauterbach, Newman, and Resnick) and weight loss websites (Lehto and Oinas-Kukkonen) social networking seems to result in enhanced user engagement. The combination of familiarity with social media and the penetration rate of mobile devices suggest that self-monitoring and social comparison or social cooperation is promising in an immersion perspective.

3.2 Axis of Immersion in the Kaj Munk Case

In the EUROPlot project several media types are in play. As mentioned above, this is to a large degree due to the broad range of intended users as well as the complexity of the content to be mediated. The central mediation technologies will be described below:

Primarily location focused media:

- *Geocaching*

Around the area of Vedersø and the Vicarage Museum a number of geocaches are in place. The caches are presented on a geocache website presenting the story for each location. “Leveraging the notion of *Kairos*, the whole design rests on the idea of presenting a work of literature in the very physical surroundings it was conceived thus creating a link between the museum visitor, the text and the physical location.” (Gram-Hansen). Evaluation is facilitated through the usual online feedback from cache hunters assessing the experience. This offers social networking and experience shows that geocachers do comment on the content of the Kaj Munk experience.

Geocaching is often part of a family outing so both children and adults participate in the hunt at different cognitive levels.

- *Mobile GLOs*

A product of the EUROPlot project is Generative Learning Objects designed for smartphones and tablet PCs. These GLOs offer video, text, sound and interactive features like tests and wordpuzzles. Some of the content is unlocked only at location (GPS) or unlocked through conditioning technology. In principle *mobile GLOs* are standalone apps that may be imbedded in an interface. Implementing different instances of augmented reality in these GLOs presents a vast pedagogical potential. Considerations of supporting different *learning strategies* may point to a focus in this direction, implementing a less text based, more intuitive and visual mediation.

Primarily non location focused media:

- *GLOs*

Generative Learning Objects designed for use on PCs or tablets. Most of the characteristics of the *mobile GLOS* apply, but the larger screen, keyboard and presumed higher bandwidth facilitate larger quantities of text and more complex visual experiences. GLOs are expected to be used primarily at schools, on workstations at the Vedersø Vicarage museum or in private homes. GLOs are therefore central agents in connecting the outside world with the immersing learning environment of Kaj Munk.

- *The Kaj Munk Searchable Research Database*

This *Emdros* database is both an archive and a toolbox. At present, all plays and sermons of Kaj Munk are digitalized and accessible in this database. However, handling complexity and presenting overview is a key consideration. The databases are searchable by words offering conjugation tolerance for a broader search. In the future semantic searches will be included. This will enable a search of e.g. “Money” also to include results of “prosperity”, ”rich”, “Mammon”, “gold” etc. It is expected that this semantic approach will make the database much more attractive for users at the lower end of the immersion scale.

Figure 2 describes in a visual and complexity reduced way the intended function of the different media types of the Kaj Munk Case with the *Axis of Immersion*:

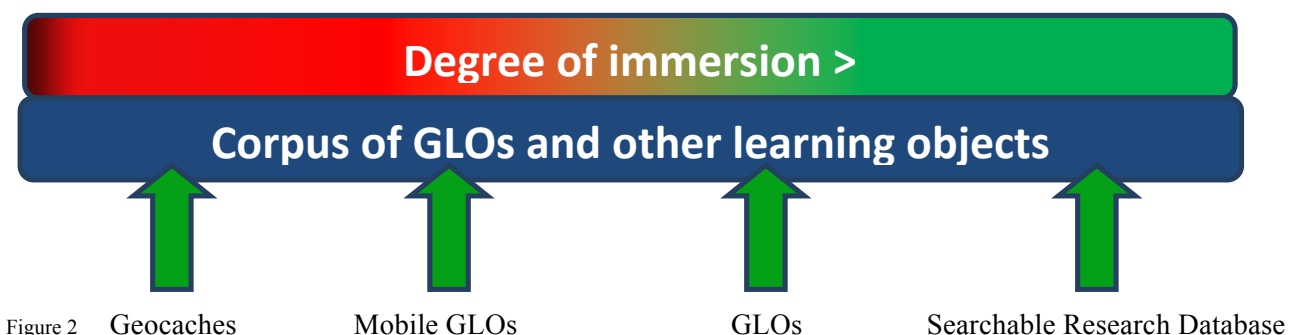


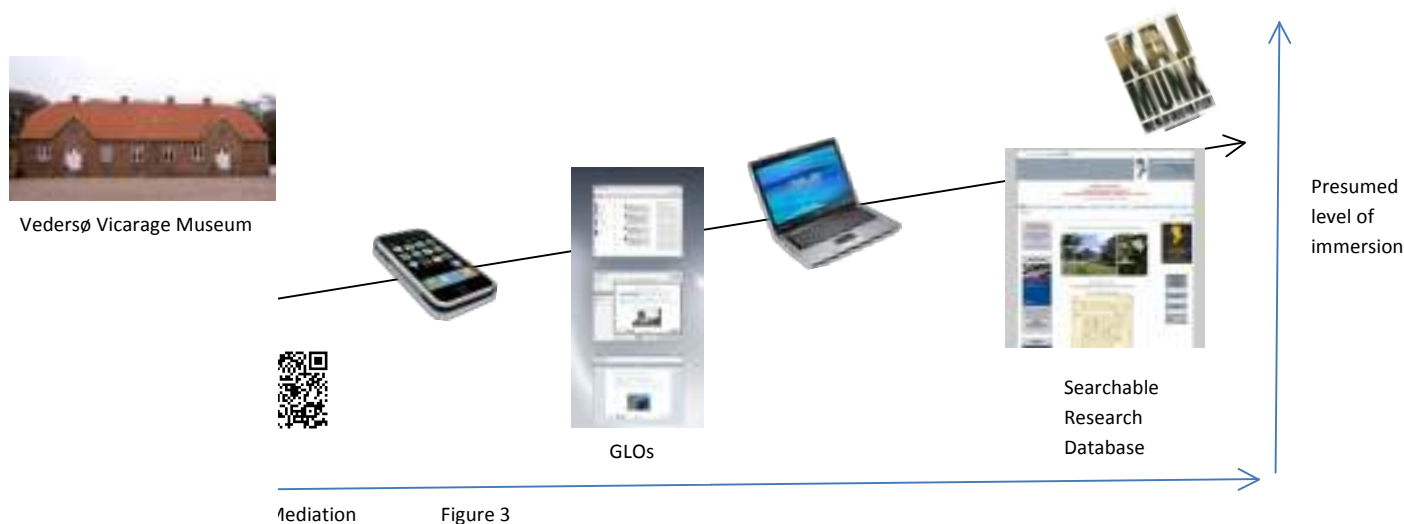
Figure 2 Geocaches

Mobile GLOs

GLOs

Searchable Research Database

The axis of immersion may also be described in a less formal structure also including mediation that is present outside of the immersive digital system. Note, that this is an overview of the Kaj Munk Case. It may not be directly transferrable to other situations due to contingent factors.



4.0 Access and overview: Virtual Vedersø

Obviously, a complex information system as described above requires a functional system for handling this complexity. The aim is to present all digital information in a format that fits the screen of a laptop computer empowering the user to navigate through content with a high degree of freedom.

Keeping in mind the broad range of intended users, the interface should be both intuitive and support multiple cognitive styles. Based on observations in the field of *cognitive style* by Riding & Raynor (2000), it seems imperative that the interface should support a visual as well as a text-based presentation in order to fit the *learning strategies* of the individual user. The interface incorporates both geography and time in order to provide an interactive experience.

Since the interface in question is linked to the EUROPlot-project, it should facilitate immersion from a number of observation points. One is the Vedersø Vicarage Museum. Others are schools, universities, or private homes. The ongoing digitalization of Kaj Munk's works should facilitate extensive online access to archives so in principle the Virtual Vedersø interface should be a viable option regardless of location.

4.1 A metaphor pointing to content

Designing an augmented virtual location interface is not only relevant for creating an engaging learning experience. It also establishes a virtual metaphor for holding together the different facets of Kaj Munk's life and works. Dramas, sermons, novels and newspaper articles may be connected to either the geo-graphical matrix, the time-shudder facility or the conceptual mapping.

This does leave more of a connotative than a consistent interface. This, however, may still be a viable

approach in facilitating navigation and intuitive overview in the entire corpus of Munk's works. It underscores coherently the relevance of ideas outside their historical context. This is important, as personal reflection may benefit from texts being experienced as contemporary to the reader. Learning is "not only multidimensional in scope, it occurs through multi-dimensional processes, and it will result in a diverse and multi-faceted range of outcomes." (Hooper-Greenville p.158). Following this argument a multifaceted interface structure should be justified.

4.2 The interface

The interface is designed with a focus on reflective experience as well as navigation.

It consists of three fundamental layers: location, time and concept.

Basis is a historical map of 1944 that may be morphed into a contemporary version. Overlying layers support a virtual time-travel. This furthers the immediate understanding of coherence between historical periods. To mediate the understanding of *kairos* and time, a time-line shutter presents contemporary pictures and e.g. WWII video clips in the periphery of the interface. Sounds accompany the visual experience.

The maps are zoomable with access to multi-media experiences supporting the experience of independent immersion into the learning environment. This is done by providing abundance, so the user experiences persuasion through the element of choice.

The conceptual map level facilitates browsing through subjects, ideas and works. This level leaves the tangible metaphors of location and time. Nevertheless, it is important to support and emphasize a concentration on ideas and discourse as this is a vital factor in immerse

4.2.1 Geo-graphics

Historical map of 1944 Vedersø area (for historical reasons provided by German Luftwaffe)

Morphing with contemporary map / air photos enabled.

Zoomable.

Legends:

- Historical locations related to Kaj Munk

E.g. a house central to Munk's best known play "The Word" (1925)

- 3-D views



Figure 4

- Geocaches
- Access to GLOs and mobile GLOs when relevant
- On mouse over previews for enhanced overview.

4.2.2 Time layers

A number of historical layers displaying periods from 1898 to 1944. These layers depicting:

- Events in Kaj Munk's life
- Contemporary historical events. E.g. political development in 1930's
- Suggested plays, novels, articles and sermons
- Access to GLOs and mobile GLOs

Medium types are pictures, videos, text, and external links.

Navigation through the layers is a shutter device facilitating seamless transference from one layer to the other.

4.2.3 Conceptual map

Presenting thoughts and ideas of Kaj Munk categorized for enhanced overview.

- Plays incl. brief introductions
- Articles, incl. keywords
- Sermons, incl. keywords
- Access to GLOs and mobile GLOs categorized by subject
- Pictures, secondary literature etc.

Obviously conceptual mapping is problematic. There is no objective answer to the question of categorization and it is definitely a subject of interest for further study. Most likely(komma) the work with semantic searches with the Research Database will provide some valuable ideas. The establishing of semantic fields and the categorization of concepts have much in common.

4.3 Personal portfolio

Material should be drag-and-drop enabled for collection of a multimedia based personal portfolio. This feature is already being developed as part of the EUROPlot-designs for GLOs and for the Research Database. It is a highly relevant feature since much assessment in the Danish educational system is done through students making oral presentations with visual aids.

5.0 Conclusion

As this paper describes it is helpful to watch individual multimedia systems as parts of a comprehensive system supporting an experience of immersion. Different media types have advantages and disadvantages in certain conditions why probably no one category of mediation may fully exploit the potential of multimedia learning. Experience from working with the EUROPlot project reveals that several systems may cooperate in

order to facilitate a learning experience tailored in the light of content, mediation and cognitive user potential. Introducing the three shapes of *kairos* helps to decide what shape the mediation should have under the various circumstances.

Does this recognition add anything to research and development? It may very well be argued, that the value of the concept *The Axis of Immersion* lies not in the analysis of individual elements but in the perspective of interaction and relationship between these elements. This is an important understanding especially since media types are bound to change at a rapid pace. *GLOs* in the present form may be exchanged with new designer tools and new types of social media may be implemented. What this study reveals is potential in structure at a macro level and some principles and guidelines for the development of such structures. These principles are actualized in *The Axis of Immersion* and they seem more permanent.

Another sustainable suggestion from this paper is the modeling of a multimodal interface. Obviously, in cultural mediation much content is too comprehensive and too complex to fit convincingly in an ordinary navigation bar interface. Presumably such interfaces require a number of different approaches such as the ones implemented in *The Virtual Vedersø* interface: Location, time and concepts. Perhaps the most interesting approach is the conceptual categorization. This categorization has several instances in common with the development of semantic searches in the Searchable Research Database. Cultural mediation cannot be understood solely as objective presentation of content. Content needs to be processed and categorized to empower the user. In an information economy society navigating complexity and retrieving relevant information is a prerequisite for insight.

Kaj Munk argued that cultural relativism would in time result in a nihilistic view on values. This was what he saw evolving in prewar Germany. On the other hand he was neither reactionary nor revolutionary in his approach. Becoming immersed in this important discourse of values is a vital consideration in designing *The Axis of Immersion* and *Virtual Vedersø*.

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Identity struggles of museum professionals: autonomous expertise and audience participation in exhibition production

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Abstract

The paper looks at the formation of the museum professional's social identity in two processes of exhibition production at the Estonian National Museum. Based on participatory observation, the analysis juxtaposes the traditional curatorial process and a research intervention, which opened up possibilities for structural audience participation in exhibition production. Traditional curatorship bastioned itself against diverse forms of structural audience participation and attempted to mark clearer frontiers between a legitimate expert and an idealized amateur. Slight assimilation of participatory diversification appears as well and possibilities still remain for a more participatory cultural expertise emerging through future collaborative processes.

Identity struggles of museum professionals: autonomous expertise and audience participation in exhibition production

The context and data source for the study on how audience participation affects exhibition production in museums has been a museum innovation process in Estonia, where a new building for a national ethnographic museum (Estonian National Museum, referred to as ENM below) is being constructed. There have been intense moments of public debate over the signification of the architectural design as well as the problems related to the financing of the construction. Audience participation in both the design and content planning has not played any significant role and this is partly related to the postcommunist transition culture that has characterised the developments in Estonian society. There seems to be an unchallenged consensus, that the role of the museum is still to be a rather static repository for the collective memory and a shrine of ethnic nation-building. (Runnel et al 2010)

Generally speaking, architects, curators and collections structurally determine what is 'legitimate' and what is not for the audiences in terms of participation and a top-down linear communication model dominates in this context. Possible rethinking of museum communication, content production and related (professional) practices has hardly been discussed publicly. From the perspective of communication studies and 'new museology'¹, there are, however, several important aspects to be studied that relate the 'newness' not only to the building's architectural idea, costs and marketing, but to the implications that the active audiences of the information society bring to the cultural expertise that museums possess and cultivate (Runnel & Pruulmann-Vengerfeldt 2010).

This research takes advantage of an internal position for participatory observation to look at the opportunities and bottlenecks for a more diverse identity formation of cultural expertise in museum context. The overarching method for collecting data is participatory observation, which allowed to make sense of a complicated process based on the possibility to access these as an employee of the ENM. Following Haraway's (1991) fundamental argument that all knowledge (even the most 'scientific') is situated and embedded in a limited location, such a "double vision" could also be viewed as a method of making the knowledge claims more locatable, more responsible and more embodied (Haraway 1991: 191, 195). The main data set is composed of recordings and notes on the

¹ Since 1970s, a significant and increasing number of studies concerning museums have focused their attention on rethinking its professional priorities and the relationship with communities it serves. In these studies, an image of a traditional museum is presented as one of a fossilising institution, more and more "out of sync" with the rapidly changing socio-cultural situation. The danger of the museum losing its relevance to the potential audiences is deemed imminent. (Vergo 1989; Van Mensch 1992 & 2005; Marstine 2006; Santos 2010)

museum construction, the permanent exhibition production, and one of a series of interventions which aimed to increase visitor and community participation. Research interventions are not simply experiments in the museum, because they also gather data through surveys and content contributions with a 'distanced' analysis already in mind. Intervening into exhibition production could also be viewed as a method(ological) “enacting of democracy” (Weibel & Latour 2007:13). In the context of ENM, it was also supported by the more verbal/textual mediation of 'the participatory agenda' within the institution by the group of researchers who designed the interventions. Without going into an extensive discussion of the term here, 'participation' in this paper refers first and foremost to the 'maximalist' or 'structural' participation which includes co-deciding on exhibition content, policy and technology as well as evaluating the content (Carpentier 2007). Socially inclusive and participatory projects can impact the individual and communal (ie audience) identity as they gain better access to the construction of meanings and representatons in museum space which is often still too much a place only for 'high culture' (O'Neill 2006; Newman & MacLean 2006). It is not only representational aspect that can be affected: when exhibitions become “laboratories of “shared incompetence”, their purpose is “not to decrease the “knowledge differential” between experts and non-experts, but to bring together different people with different knowledges in an arena that is foreign to all (the arena of shared incompetence) (Basu & Macdonald 2007:16). Such experiments create an agonistic atmosphere in the sense that there is “no mutual understanding” which can be 'programmed' in order to make the interaction lead to a pre-designed learning outcome (ibid:16).

Research indeed shows that when external parties have been involved in exhibition production, they did not participate in important structural decision making such as management and interpretative messages, but were more involved in early development in exhibition idea, content generation and delivery of related events (Davies 2011:318). Richard Sandell has pointed out the inhibitors to change that „manifest within entrenched attitudes amongst museum workers“ (2003:52) and Janet Marstine notes that “When new initiatives do take place, they occur most commonly in the realm of the temporary exhibition, which usually does not spark substantive change in the museum itself” (Marstine 2006: 26).

Cultural expertise in museums is 'materialised' in collections, but embodied also in curatorship. Curators are engaged in the cultural production of museum institutions: curating the museum collections and producing knowledge that form the museum exhibitions. In order to interpret these issues in the context of the identity of culture expert in museums, it is first of all important to note that identities are conceptualised as social, with both individual and collective dimensions and

working both towards establishing differences as well as similarities (Jenkins 2008: 17-21). At the same time this article identifies with the fundamental social ontology elaborated by Ernesto Laclau and Chantal Mouffe (1985, also Laclau 2007 [1996]) by believing that identities are contingent positions that identify with meanings which tend to be arranged according to some hegemonic discursive framework, but will always also preserve a possibility of being rearranged, identified with other markers of meaning. The human knowing "who is who and what is what" is very much embedded in language and is a process (Jenkins 2008: 5), and can never be entirely fixed. Such processes are sometimes also called identity work to "capture the discursive efforts that people have undertaken in order to (re) construct and maintain their identities" (Carpentier 2010: 12).

The identity processes at the ENM were analysed in the ongoing production of the permanent exhibition on Estonian cultural history and subsequently an research intervention which targeted audience participation in a structural level. The intervention of particular interest here is the 'Open Curatorship' model – publicly promoted as "Do Your Own Exhibition" – as the one aiming at developing structural audience participation in the field of exhibition production. What took place, was in short, a launch of an open public call inviting everyone except museum professionals to submit their ideas for an exhibition in the ENM temporary exhibition space and a public online/onsite vote was conducted to determine the winners.² It has been possible to submit exhibition ideas to the ENM before, but it has not been strategically communicated to the general public before and a committee of ENM professionals have always been the sole gatekeepers making decisions over who gets to make an exhibition at the museum.

In the framework of the intervention, the power relations between curators and audiences are played out differently, and it consequently presents an obvious challenge to the established identity of the museum professionals by restructuring roles and redistributing power. On the one hand, the museum professional in the 'open curatorship' production format can, instead of fully controlling exhibition content and design, only set minimal terms and conditions to the process where publicly selected members of the audience make decisions over museum content. On the other hand, the museum professional identity was also provided with an opportunity to embrace new components to it. In order to analyze the diversity of the responses in the museum context, this paper employs a theoretical framework of these possible components from a comprehensive analysis by Carpentier

² There were a total of 33 proposals for an "Own exhibition" (27 with own objects and 7 engaging museum objects) and 564 voters participated online and onsite to choose the two winners: one with own exhibits and the second one that engaged museum collections as well. The two proposals that won the contest went into exhibition production process and involved museum staff from exhibitions manager to public relations person, as well as collection managers and conservators.

(2010) in an analysis of a culture professional's identity in general. These are modelled after what he calls "an agonistic participatory fantasy" stemming from the sociocultural actuality of a "more post/late/liquid-modernist logic" (Carpentier 2010: 2) . According to Carpentier's model:

1) the knowledge and skills component established by legitimate knowledge could be 'updated' with a recognition of the diversity of expertise during the employment of curatorial skills in the national museum exhibition space.

2) The autonomy component would have to avoid detachment and anxiety towards audience participation and employ well-communicated connectedness instead.

3) Public service provision could entail more facilitation of participation

4) The fundamental professional ethics should accordingly encompass the principle of equalizing power imbalances in the skills and resources needed for exhibition production and, while remaining embedded in institutions and peer networks, foster a respect towards amateurism by finding new ways to include them in these networks and even institutions.

5) Last but not least, while continuing to deploy management and power over the museum collections, museum professional would have to explicitly communicate how such a symbolic power could be shared. (Carpentier 2010: 18-19)

The ENM professional has so far been able to enjoy the relatively low pressure of marketing-oriented popularization and has at the same time retained and defended the 'old' identity of a museum professional. Thus, the culture of producing the new permanent exhibition is centered on facilitating traditional/established professionalism of the expertise related to the field, engaging different professionals who participate by applying the best practices of their fields. At the time of exhibition production today, the structural consultations take place between experts, (re)interpreting the existing collections and "filling in the gaps" according to the needs of the constructed abstract narratives while imagining a community of visitors. The potential in the developments of new media are high on the agenda of the designers and emphasise both access and interactivity. Communities of today are largely left with the opportunity to "consult" a readymade exhibition when it is opened (although the latest news being that an exhibition laboratory is going to be opened

to engage the public to the preparations in 2012). Structural participation is looking overall to be quite limited, but the open access gallery will probably be developed in the climate of participatory design. As it has been argued in earlier research (Runnel et al 2010), there was hardly any consultation, not to speak of audience participation, regarding the spacial planning of the new museum and the permanent exhibition. Although it is never clear whether at all and to what extent the audiences are ready to take some of the responsibilities usually "delegated" to the cultural expert, such a structure and the "invitation" to it has to come from within the museum both at the rhetorical (already appearing from time to time) and practical level that different modes for participation will gradually be integrated to the permanent exhibition.

When it comes to the Open Curatorship intervention, the critical arguments of museum professionals construct their own identity by positioning against the alterity (ie the audiences), by signifying them with what a professional is not. What flashes in these discussions is the museum professional not (yet) willing to symbolically share the stage of museum exhibition production with amateurs by employing more diverse, hybrid and negotiated participatory identities and doing that on more equal and empowering terms. A significant obstacle is the anxiety over their own acquired and established professional standards (and with that, their established identity) being damaged, watered down. Keeping in mind one of the important components of modernist culture professional's identity – deployment of power – , then at the heart of the intervention is a relatively strong disempowerment of the museum professional and an empowerment of the audiences by asking them to provide content and participate in the voting to determine the winners. Both components of the intervention were unprecedented as such in the ENM. The terms and conditions were set so that the museum professionals were not allowed to participate in idea submission and the vote was also in stark contrast with the traditional process in the ENM where the exhibition programme is decided in a committee comprised of the related museum professionals. What the intervention implicitly offered was a new facilitatory and participatory identity, reconfiguring museum professionals' position to being a partner for the empowered audience instead of an autonomous decision-making body of who gets to see what and which meanings are available at the museum to the general public. There was a significant amount of resistance which implied a clear cut distinction between museum professionalism and the professionalism of the 'open curatorship' model where "third expertise" is given more control. What the "Open Curatorship" format seems to be facing in the museum setting is a need to develop a way to very clearly communicate that exhibitions can be produced in a climate of a 'a third museum', not what "only professionals" or its alterity and source of information, "the true amateurs" do. This communication would probably have to articulate possible rearrangements of the the identities of a researcher and an informant in

the way knowledge is produced. Apart from that, it at the same time crucial to give participating audiences an opportunity to become signified as respected "third experts", audience-as-curators of "their" content. This calls for integrating autonomous curatorship skills and knowledge of museum professionals related to exhibition production into a more collaborative (and inevitably agonistic) public agora for proposing and producing museum exhibition content. Museum professional needs therefore to be assured that audience participation does not make things "too complicated" for them. Those engaged in the relevant identity work need to co-produce and acknowledge the benefits for the museum that has so far been developed in the spirit of (high) modernism into a more democratized cultural sphere with a newly legitimate sense of a shared responsibility and symbolic space. Such a professional identity in a museum experiments with the construction of participatory 'climate' to be able to integrate it as a valuable and necessary component of a museum professional's identity.

One cannot obviously expect a new national museum to be composed of halls of full participation and community access galleries. The (high) modernist museum agenda of established, but communicatively uni-directional displays of cultural content will always be there. Hopefully, the new permanent exhibition area of the ENM might benefit from operating not only access or even interactional types of participation but also from more structural ones. And the uses into which the visitors, users, audiences will be engaging themselves might provide valuable input for setting new landmarks of participation in a civic society as a whole – definitely a desirable strategic goal for the ENM in the 21st century. It will be interesting to see to what extent audiences will participate in reconsidering the ethnographic museum's role as an informer and educator to also encompass the exhibitionary means to express (or not) what one's position in Estonian cultural and social processes is today, has been in the past and might be made into in the future.

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The Museum Foyer: Structuring and Affording Visitor Behaviour

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Keywords

Affordances, visitor studies, spatial design, museum experience

Most museum visitors have only the vaguest understanding of their true needs and motivations upon entering the museum. Most visitors also enter the museum with only a vague sense of what the museum has to offer.

(Falk, 2009 p. 232)

When users move through an information space (e.g., library, Web, City)[sic]. . . .[T]hey may change directions and behavior several times as their information needs and interests develop or get triggered depending on affordances encountered on their way through the information space.

(Björneborn, 2010 p. 3)

The aim of this article is to provide insights into the significance and inherent potential of the museum foyer to guide and structure the behaviour of visitors. The impetus for this inquiry lies in the fact that museum foyers play a significant role in preparing visitors for the experience they are about to have. The museum foyer functions as a meet-and-greet space, a space for welcoming visitors, and a space for saying goodbye. The museum is an information space and, in this respect, the museum foyer plays a crucial role in communicating with visitors. It is the first encounter visitors have with the museum and the last impression that they take home with them and share with others. It is the beginning and the ending of the “museum narrative”.

Although much research has been undertaken on museum visitors’ meaning-making and learning in the physical context of museums, these studies have primarily been concerned with exhibition spaces and less with other parts of the museum such as the museum entrance, the museum shop, etc.

¹ The empirical study behind this article was carried out by a team of researchers from DREAM: Kirsten Drotner, professor, SDU; Kim Schrøder, professor, RUC; Oluf Danielsen, associate professor, RUC; Ditte Laursen, post.doc, SDU; Anne-Sofie Løssing, post.doc, SDU; Line Vestergaard Knudsen, PhD Fellow, RUC; Christian Kobbarnagel, PhD Fellow, RUC; Rikke Olafson, PhD Fellow, SDU; Celia Ekelund Simonsen, PhD Fellow, SDU; Vitus Vestergaard, PhD Fellow, SDU.

Consequently, museum foyers remain an under-researched setting when it comes to the meaning-making and communicative aspects of visitor reception and dialogue.

In order to explore how the spatial organization and design of museum foyers inform and influence visitors, a qualitative study was undertaken in the foyers of four Danish museums and one science centre. Empirically, we are building on observations and interviews from the National Gallery of Denmark, the ARKEN Museum of Modern Art, BRANDTS, Experimentarium, and the Moesgård Museum. The interior organization and design of the five museum foyers in the study are very different. However, analysing the foyer spaces from a design and affordance perspective allows us break down the functions of the foyers into categories that can be interpreted and compared at a more general level.

What is a museum foyer?

Architecturally, museum foyers are very different and diverse simply because no two museums are exactly alike. Some museum spaces are built to be museums; other museums inhabit buildings that were built for a completely different purpose, as is the case with, for example, historical houses. Even those built as museums differ because of the era in which they were constructed, reflecting a different didactic view of the museum visitor and the role of the museum; this is the case with the majestic national galleries that were popular in the 19th century. Consequently, a number of museums are currently restructuring their foyers to better suit current notions of inclusiveness in an effort to be non-elitist, welcoming the visitor as an equal, and promoting dialogue instead of imposing an authoritarian monologue on the visitors.

Taking the different layout of museum foyers into consideration, it does not make sense to simply look at the particular physical design of individual foyers. Our study has indicated that museum foyers are not only spaces with physical boundaries, but are shaped by different practices, and as such, the foyer comprises a number of functions that exceed the limits of physical space and architecture. Thus, it makes more sense to talk about foyers as conceptual spaces limited not only by physical design and architecture, but rather understood in terms of the different personal needs they fulfill and functions they afford. For example, one could argue that the museum website, as it is often the first encounter between visitor and museum, constitutes part of the museum foyer as a conceptual space. However, including an analysis of these digital interfaces is not within the scope of this study.

Consequently, we propose an analytical approach where foyers are understood as having different functions that can satisfy certain visitor needs, and these functions can be identified across different foyers. On a comparative level, this can be done by looking at the needs they fulfill and the affordances they are perceived to have—the two key concepts used in this article. The first concept of visitor needs is introduced by John Falk (2009), and the second is borrowed from persuasive design theory, particularly as presented by Donald Norman (1999) and Lennart Björneborn (2008 and 2010).

Method

In this preliminary study of museum foyers, we gathered and analysed qualitative data from five Danish museums and science centre foyers. The museums were of different types, including art galleries (National Gallery, ARKEN, and BRANDTS), museums of cultural heritage (Moesgård Museum and BRANDTS), and a science centre (Experimentarium). The foyers were also of different sizes ranging from small at the Moesgård Museum to very large at the National Gallery.

Our objective was to gather data from a diverse selection of foyers in order to identify a broad set of functions and affordances. The five museums were sampled because they were already research partners of DREAM, and therefore, willing to grant us access, but also because they span across different categories of museums. For the sake of completeness, the sample might also have included a museum of natural history, but we feel that the sample is representative enough for this preliminary study without that inclusion.

A team of ten researchers conducted the fieldwork in pairs that consisted of a senior and a junior researcher. Each pair of researchers spent one or two full days (depending on opening hours and visitor activity) in one museum foyer where they gathered qualitative data. The data included field notes from participant observation, photos of the foyers, and short interviews with members of front staff.

As a means to ensure reliability, researchers who knew a museum very well from previous research projects were not assigned to that particular museum. Therefore, when discussing the data, other members of the research team were able to comment on and assist in interpreting the findings. The data were discussed in several sessions, and when the data were understood and agreed upon at a basic level, three researchers coded and analyzed all of the data. The coding scheme was developed through a procedure of open coding where all mentioned or implied functions of use were identified. After that, the codes were listed and grouped into concepts and categories that formed the basis for this paper.

The museum foyer as an information space

If we consider the foyer as an information space in which the user can navigate and locate information, then the concepts of intended and perceived affordances become relevant in analyzing whether the foyer is designed in such a way that it communicates the desired information to the user. According to Norman (1999), it is the designer's task to minimize the gap between the intended affordances of a given object and the actual affordances perceived by the user. In a successful design, there will be no gap as it is obvious what the intended affordances are. According to Norman (1999), affordance is the potential for use or action in a given interface. The relations between intended and perceived affordances are illustrated in the grid below.

		INTENDED	
		YES	NO
PERCEIVED	YES	Intended and perceived E.g., tickets can be bought at the counter.	Perceived but not intended E.g., the banister makes an excellent slide.
	NO		

	NO	Intended but not perceived E.g., BRANDTS consists of three different institutions. This results in four separate kinds of tickets between which the visitor has to choose.	Not perceived and not intended E.g., the foyer at the National Gallery can be used as a playground (as is the case in other foyers) but it is not.
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In his analysis of user behaviour in libraries, Lennart Björneborn (2010) has extended the concept of affordance to include all interfaces between the user and a given library space. This includes physical, digital, and social interfaces and the interaction between them. Such a holistic and multimodal concept of affordances in informational spaces will be suitable for analysing museum foyers as a medium because they are characterized by communicating information through multiple platforms—physical (e.g., signs and posters), digital (e.g., audiovisual multimedia), and social (e.g., staff). The borders between the three interfaces are not as sharp as the distinction between digital and social, which have become blurred if we consider visitors getting recommendations from other visitors on their smartphones through social media such as Facebook, Foursquare, and Twitter.

Björneborn (2010) identifies how the interplay of different design aspects of an information space can afford certain types of behaviour in users. In order to do so, he introduces three design dimensions to explain how the design of an information space can have a motivating, enabling, or constraining effect on visitor behaviour. Firstly, the museum foyer can have a motivating effect that inspires the visitor to further investigate the exhibition topic, thereby extending the learning and experiencing process beyond the visit. Secondly, the design of the foyer should enable the visitors to perceive what is being offered, and thus, plan their visit accordingly—both with regard to the experiences being offered and onsite facilities such as toilettes and lockers. Thirdly, the approach of constraining design boils down to keeping it simple. There is often an overload of information in museum foyers due to the many different functions being offered in the same space. But if the visitor cannot see the forest for the trees—the overall narrative is not perceived by the visitor because it is overshadowed by the details—then the communication process is broken and the transfer of knowledge deficient.

This is the case at BRANDTS where three different institutions are placed in the same building.² Often the visitors only perceive the common brand BRANDTS, and are, therefore, confused when they have to decide between four different kinds of tickets (one for each museum and a common ticket to all three museums).. Another example from BRANDTS is that the building has two entrances. We observed how this led to confusion when visitors who had planned to meet at “the entrance” actually ended up waiting for each other in different places.

According to Björneborn (2010), the user can relate to the perceived affordances in different ways. They can explore them, use them, or transcend them by using non-intended affordances (e.g., using a staircase for sitting and a banister for sliding, as is the case at Experimentarium). Björneborn’s focus is on information resources as affordances, which is why he distinguishes between exploring and using a given resource. In our context of the museum foyer, it makes more sense to distinguish

² A media museum, an art gallery and a museum of photography.

between perceiving, using, and transcending affordances where, in the first instance, the visitor perceives a given affordance, but decides not to use it based on his or her immediate needs.

User behaviour can be both convergent and divergent, and the information space should be able to accommodate both. Convergent behaviour is characterized by the visitor being goal oriented and focused (i.e., a visitor who wishes to see a certain exhibition based on previous information such as a review). Divergent behaviour is characterized by the visitor being intuitive and explorative (i.e., a tourist who is visiting a capital and wishes to see the National Gallery, but not a specific exhibition). Both kinds of behaviour are latent in all visitors, and they can shift between them (Björneborn, 2010).

The convergent-oriented visitor can suddenly be inspired by something else other than what he was seeking, if the design of the foyer affords such divergent behaviour. Likewise, the divergent-oriented visitor behaves convergently as soon as he finds something he is interested in exploring further.

Needs

In our analysis of museum foyers, we have aimed to identify different foyer affordances in light of needs. Our qualitative data show that the foyers are used for a range of purposes by both visitors and staff, and our rationale is that these actual uses are based on certain needs. So if some visitors use the foyer as a waiting room, we simply interpret this as a need for a place to wait. Thus, the foyer could include affordances for waiting.

Our main focus is what the foyer is actually used for by the visitors, and we assume that visitors have multiple needs. Therefore, the needs of staff and the identified affordances provided for them are excluded from the following discussion.

Some visitor needs are evident from the way they use the foyer (e.g., visitors might need to eat lunch or orient themselves with a map in the foyer), and some are not evident from the way they use the foyer (e.g., visitors might need to feel welcome or might wish to buy a gift where there is no shop). We view the visitors' needs as related to perceived affordances, whereas, the museums' intended affordances might or might not reflect actual needs.

Even though our method does not enable us to identify all visitor needs, we argue that the needs we do identify are authentic, and that they are important. We agree with John Falk when he writes, "The visitor perceives his or her museum experience to be satisfying if this marriage of perceived identity-related needs and museum affordances proves to be well-matched" (Falk, 2009, p. 159). We believe that the satisfaction or dissatisfaction with needs being met in general, and not only identity-related needs, affect the museum experience. Non identity-related needs would be, e.g., the need to eat or to use a bathroom. These needs may, in some cases, be combined with identity-related needs such as when a facilitator wants to gather the group for lunch also for social reasons.

In the theory of needs, much has happened since the introduction of Maslow's theory of human motivation (Maslow, 1943). However, the connection between needs and motivation as well as the realization that there are different categories of needs is generally accepted as being adequate. American psychologist, Clayton Alderfer (1972), further developed Maslow's hierarchy of needs by

categorizing the hierarchy into three broad categories of needs: existence, relatedness and growth. We see these categories as being very compatible with John Falk’s theory of the museum visitor’s experience and with its foundation in the contextual model of learning as proposed by Falk and Dierking (1992). Existence needs are highly related to the physical context. They are concerned with basic material existence requirements, and they include Maslow's physiological and safety needs. Relatedness needs are highly associated with the social context. They are concerned with interpersonal relationships and would include the belonging and esteem needs from Maslow's theory. Finally, growth needs are highly related to the personal context. They are concerned with personal development and maps to the self-actualization need in Maslow's theory. The fit between needs and contexts is not absolute, and even though most existence needs relate to the physical context, some existence needs, such as safety needs, also relate to the social context as shown below.

Maslow’s Needs	Alderfers ERG Theory	Falk
Self-actualization	Growth	→ Personal context
Esteem	Relatedness	→ Personal + social context
Belonging	Relatedness	→ Social context
Safety needs	Existence	→ Social + physical context
Physiological needs	Existence	→ Physical context

We suggest that the most evident needs in the foyer have to do with the physical context, overlapping to some extent with the social context. The needs that relate to the personal context are not very evident from the way visitors actually use the foyer. That does not mean that there are not needs related to the personal context; it simply means that it is almost impossible to identify these needs through the method used in this study.

Falk and Dierking have identified 10 factors that are especially influential for museum learning experiences and categorized them according to context (Falk & Dierking, 2000; Falk & Storksdieck, 2005). In his analyses of libraries as information spaces, Björneborn is concerned with the multimodal interfaces between the visitor and the spatial environment. As mentioned above, these interfaces constitute three kinds of information spaces in which the visitor has to navigate: Physical, social and digital information spaces (Björneborn, 2010). Björneborn identifies three factors that determine user behaviour in these information spaces: motivation, literacy, and triggers. Motivation can be information needs or special interests. Literacy is the user’s ability to navigate through the physical, digital, and/or social information spaces. Thus, literacy includes the means for decoding the information encoded in the design of the foyer. Triggers are design aspects that can stimulate different user behaviour (Björneborn 2010).

The relations between Falk and Dierking’s concept of contexts and Björneborn’s concept of user behaviour in information spaces can be shown as follows:

Falk & Dierking

Björneborn

Personal context

Prior knowledge	→ User motivation and literacy
Prior experiences	→ User motivation and literacy
Prior interests	→ User motivation
Choice and control	→ Convergent or divergent attitude

Social context

Within group social mediation	→ Social information space
Mediation by others outside the immediate group	→ Social information space

Physical context

Advance organizers	→ Digital information space
Orientation to the physical space	→ Physical information space
Architecture and large scale environment	→ Physical information space
Design and exposure to exhibits and programs	→ Physical and digital information spaces

When reviewing these factors, once again, it is the factors related to the physical context, and to a lesser extent the factors related to the social context, that are most evident in the use of the foyer. These are also the factors corresponding to the information spaces present in the foyer while the personal context concerns aspects of the visitor experience prior to entering the museum foyer.

Results

From the data analysis, several functions of use were identified. Overlapping functions were grouped together in concepts that aim to address these questions: What is the function of a foyer? What do people use foyers for?

This resulted in the following list tentatively categorized into four kinds of information space:

Information spaces	Social Spaces	Commercial spaces	Practical spaces
Information	Playground	Marketplace	Eating lunch
Getting inspiration	Saying goodbye	Ticket counter	Standing in line
Showroom	Building excitement	Shop	Toilets
Learning space	Lounge	Ad space	Wardrobe
Library / loan (iPod)	Threshold	Shop for employees	Waiting room
Bulletin board	Meeting place	Bank	Gate / lock
Help desk			Hallway / passage
Planning route			Transport (stairs /elevator)
Navigation center			Entrance (“portal”)
Exhibition space			Storage
Reception			Checkpoint (tickets, bags)
			Transit hall

These functions and modes of use may be intended affordances or perceived affordances of the foyer, and they all point to specific needs. In examples such as the foyer being "storage", it is easy to understand that visitors might have a physical need to store heavy bags in a wardrobe or locker. But even examples such as "standing in line" can be seen as reflecting a need, primarily a social need for order. The foyer may also intentionally be designed to afford needs such as standing in line by lines drawn on the floor. The fact that some people are annoyed by other people not standing properly in line shows that this is a need for some people and that design can address that need.

In the following grid we provide some illustrative examples from our observations and show how the concept of perceived and intended affordances can be employed.

		EXAMPLES			
Structural affordance	Visitor need	Perceived & Intended	Perceived, NOT intended	Intended, NOT perceived	NOT perceived, NOT intended
Information	Visitors get information about exhibitions, opening hours, etc.	Brochures, posters, and signs (All ³)		Some visitors try to avoid the greeting person. (SMK) Banners for a smartphone app are mis-interpreted. (SMK)	
Help desk	Visitors ask for help for unexpected problems.	Visitors ask for help at the ticket counter. (All)	Students to staff: "Can we borrow a pen"? They mark something on a map. (M) The guards can often be of help to visitors, but it is not part of their job description. Their uniform also makes them seem un-approachable. (SMK)		
Navigation center	Visitors get directions for the next destination or plan a route.			Visits to the permanent exhibitions are free, and the visitors can go directly there without Standing in line at the ticket counter. (SMK)	

³ The figure uses the following abbreviations: The National Gallery (SMK), BRANDTS (B), the Moesgård Museum (M), Experimentarium (X) and ARKEN (A). In addition (All) is used when the function was observed in all the foyers.

EXAMPLES					
Structural affordance	Visitor need	Perceived & Intended	Perceived, NOT intended	Intended, NOT perceived	NOT perceived, NOT intended
Lounge	Hang out with group, sit and chat		Using the stairs for sitting. (X)	Couches are not used. (SMK)	
Playground	Have fun playing on the floor, stairs, etc.		Using the banister as a slide. (X)		The solemn atmosphere of the foyer inspires restrained body behavior, but the foyer itself affords play as do the other foyers. (SMK)
Hallway / passage	Go through the foyer to reach another destination	Crowd control with "Child Barrier" (X)	Young users go through the foyer from the exhibition to get outside to smoke cigarettes. Afterwards, they go back through the foyer. (M)		
Learning Space	Learning activities	Hot air balloon demonstration. Mom and the children are allowed to enter while dad gets the tickets. (X)			
Exhibition space	Small exhibits			Most visitors do not notice the Bjørn Nørregaard sculptures.	

		EXAMPLES			
Structural affordance	Visitor need	Perceived & Intended	Perceived, NOT intended	Intended, NOT perceived	NOT perceived, NOT intended
				(They were placed in the foyer to solve an internal storage problem and thus, the placement is only partly intended). (SMK)	
Library/loan	Borrowing Ipods etc.			It is not clear that you can borrow ipods at the ticket counter and that you have to deposit ID. (SMK)	

Adaptive borders

As mentioned earlier, we view museum foyers not only as physical spaces, but also as conceptual spaces with different functions that serve different needs. These functions are not necessarily located in a single cluster but may be scattered physically and even extend into the online realm.

However, it is clear that the physical museum foyer does have boundaries and limits. Visitors outside the museum behave differently than they do when they enter the foyer, indicating that a boundary has been crossed. For example, in the National Gallery, some visitors were very playful and loud outside the museum; whereas, they were much calmer once they entered the foyer. Such behavioural transitions indicate that people have entered another "behaviour setting" as Falk and Dierking (2000) have described it, drawing on the term coined by social scientist Roger Barker. We have observed a similar transition of behaviour when visitors enter the exhibition, indicating the crossing of another border into another behaviour setting.

Our data shows, however, that these sometimes very clear borders (e.g., a door) are in some cases adaptive to a certain extent. Museum foyers, as we discuss in this paper, are used for many different purposes, and sometimes the physical foyer spaces need to adapt to the activities they afford. This may result in an actual increase or decrease in the size of the physical space. For instance, the main space of the Experimentarium foyer is sometimes used for science shows. In these cases, the

staircase leading to the exhibition is clearly included as seating and perceived as part of the foyer. Parts of the exhibition upstairs are also included as a balcony for spectators. Likewise, a very small foyer like the one at Moesgård Museum, has adaptive properties. For instance, there is a curtain between the front desk and a small office located behind the desk. This curtain is sometimes open and sometimes closed, either including or excluding the office as part of the foyer. This is dependent on the needs of the staff who sometimes need a space for eating or meeting and at other times need to be present at the front desk. We have even observed the curtain to be half-open at some times, allowing the staff to be partially present in the back office and partially present at the front desk at the same time. In the same foyer, there is a large steel security door leading into the exhibition. This door is wide open during opening hours allowing the first part of the exhibition space to be included in the small foyer, thereby accommodating a larger number of visitors. But when groups of visitors need information from a guide or a teacher, the staff often closes the door to separate groups on each side, one group clearly being in the exhibition and one clearly in the foyer.

Such adaptivity seems to be of great importance, but it seems that it is not necessarily part of the intentional design. Rather, staff and visitors perceive the foyer to afford a certain degree of adaptivity to better serve their needs in different situations.

Next steps

As mentioned, the study so far must be considered only a preliminary. Our findings are not very surprising, but the study indicates what can and what cannot actually be discovered with our chosen method.

We find the concept of affordances useful, and we feel that the structure of foyers can indeed be described in terms of intended and perceived affordances. There is, however, a need to clarify the concepts before gathering data. The concept of intended affordances leaves a simple question on how to determine the intention of a certain structural element. Some elements such as a sofa or an exit sign may have obvious intended affordances, but other elements might have intentions that are not obvious at all, which is the whole point of the concept. Therefore, it needs to be clear whether researchers should identify intended affordances through deduction of visual markers, interviews with the museum staff, or a combination of these. And if the museum staff is interviewed about the intended affordances the next question is who to interview: the actual designers of the foyers, the receptionists, the curators, the head of visitor services, etc.?

Likewise, the concept of perceived affordances leaves a question about how to identify what visitors (and perhaps also the staff) actually perceive. So far, our rationale has been that if visitors do something, then they have also perceived the affordance to do it. But visitors may very well perceive affordances without actually doing what they afford. Therefore, we need to clarify how to identify this.

In our preliminary study, we have primarily relied on an observational method. We suggest that a structured combination of observation and interviews are needed both in the case of intended affordances and perceived affordances. Researchers need to first analyze the foyers identifying potential intended affordances. Then, these affordances must be verified, reinterpreted, or expanded

upon through interviews with key museum staff members. Ideally, this would be done in several iterations until a list of intended affordances is robust and thorough. Then, researchers need to observe the actual use of the foyer resulting in a preliminary list of perceived affordances. These affordances must then be verified, reinterpreted, or expanded upon through interviews with visitors. The lists of identified affordances must then be transposed into groups and categories. We suggest that such categories can be used in a larger quantitative investigation of museum foyers where the aim is to map the foyers using the categories of needs and affordances. This quantitative investigation may show similarities and differences between foyers and produce a typology of museum foyers. Perhaps most importantly, such an investigation may be used to identify the most common core functions of foyers, thereby, enabling us to better answer the questions: What exactly is the definition of a museum foyer? and What are the needs that a museum foyer should comprise in order to best accommodate the museum visitor?

Finally, the results of an extended study could provide practical suggestions for improving the design of museum foyers through minimizing the gap between intended and perceived affordances. This would result in a more efficient communication process between museum and visitor—and thus a more welcoming and less disorienting experience for visitors entering the museum foyer.

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The Museum Lobby as a Transformative Space

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1 Abstract

A lobby or vestibule is in architectural terms a hall that structurally connects several rooms and both acts as a kind of entrance and also as an access to some of the other rooms of the building. When described in early museums this is the recognized function of the lobby (e.g. Frary 1916). In modern museums the lobby has turned into a multi purpose room, including the selling of souvenirs and tickets, handing out audio guides, and answering questions from the visitors. The lobby is also the first and last impression of the inwards of a museum and as such an important space for branding (Kotler et al. 2008). Museums are often portrayed as either examples of monumental architecture or as a collections of artifacts, but the lobby is a special space as it, at the same time performs both as “museum” and “not-museum.” It is “museum” because it is part of the building that houses the exhibition and “not museum,” because it is not part of the exhibition. It is a transition zone which links the exhibition with the surrounding world, and as such it plays an important, but overlooked function (cf. Carlsson & Ågren 1982). In this paper we demonstrate that the lobby can be regarded a space that transforms the incoming people to museum visitors, and again when they leave the museum to non-visitors (if they leave through the lobby). This transition is supported by a series of services provided by the museum (wardrobe, toilets, shop, information etc.) which let the visitors perform their transition, through acts of different kinds of performances in order to make the museum their own (cf. Wallace, 2006). We use a theoretical framework based on the notion of liminality and ritual (Turner, 1982), heterotopias (Foucault, 1984), and the understanding of the art museum as ritual (Duncan 1991, 1995). Our research studies the transformation from a user perspective, that is how visitors perform the transformations in the lobby. To support our hypothesis we have conducted observation studies in the lobbies of five museums in Denmark, This opens for a discussion on future possibilities of how the lobby can further be developed in order to support the visitor transformation.

2 Introduction

All museums have a lobby, be it large or small, humble or impressive. The lobby is a sort of in-between space, as it is not a part of the exhibition space, but never the less part of the museum building. It is both the first and last impression the visitor experiences when visiting a museum. Often visitors recollection of museum visits are connected with service facilities, like toilets and catering. These services which also include facilities such as ticketing, security control, shopping, and cloakroom are often placed in connection with the lobby, and play a crucial role for the visitor experience. Our hypothesis is that persons entering the museum undergo a series of transformations in order to become visitors, prepared to get the most out of the exhibition experience. The lobby is therefore a specially prepared space that facilitates these transformations for the visitors, both on their way in and on their way out of the museum. The paper is structured as follows: we will first look at the lobby in general and identify four transformative functions of the lobby seen as a liminal space. We will then apply them to the museum lobby and propose that the museum as such can be understood as a liminoid space and that the lobby acts as a space where the pre-liminoid and post-liminoid phases take place. The supporting functions of the transformation are then mapped into visitor transformations. We then present an empirical study of the visitors behaviour in the lobbies of five museums supporting our transformative hypothesis. The paper summarizes the findings by discussing how focus on the visitor transformations may help museums developing the potentials of the lobby.

3 The lobby

3.1 The four functions of the lobby

The words lobby, foyer, entrance hall, and vestibule are all used to describe the space that visitors pass through as they enter a museum on their way to the actual exhibitions. The words are usually used when speaking of large buildings designed to accommodate a large number of people entering and leaving. Plans of temple buildings of Egypt and Greece always show at least one antechamber before entering the most sacred room. Often there is a whole series of courts and anterooms. The idea has presumably always had to do with a sort of separation. The sacred place is separated from the profane using one or more spaces, just as the audience room of an absolute monarch was reached through a series of anterooms. The architectural design makes the way longer and thus more impressive and unique to the visitor. To communicate that a building is impressive or unique is a form of communicating that the function of the building is different in some sense, and thus separate from the ordinary. The temple as well as the museum communicates that a special behaviour is expected from the visitor. This separation could ideally be obtained through a simple door, but a space makes the transition from outside to inside more powerful, and also offers the visitor space and time for preparation. Reaching a sacred place, it usually has to do with a kind of purification ritual, for other places it may be security check, hanging the coat, buying a programme, collecting ones

thoughts etc. All having the purpose of adjusting head and body for the maximum benefit of the experience to come. Besides communicating the difference between the sacred and the profane or the ordinary from the unique, the lobby also became the room that connected up with the rest of the building. Architecturally it became the hub of the building, a space that had to be passed when passing from one section of the building to another. The lobby not only separated the outside from the inside, but also acted as the space that connected the rooms and facilities of the building. For the visitor it also acted as a link between the ordinary life and his or her purpose for coming to the building. The connection was not only symbolic but also had the function of guiding the visitor coming from the outside to the right place within the building. Usually visitors use the lobby both when entering and exiting a building. If the visitor leaves through the lobby, the lobby is not only the first impression, but also the last impression of the building. As such the function of leaving should attract as much attention as entering. One view of exiting is that it is the opposite of entering, that is visitors perform the same functions, just in the reverse order. When they dispose of their coats when entering, they collect them when exiting. Entering and exiting or what in performance studies is known as "gathering" and "dispersing" frames the visit as a performance. As the preparation is important when entering, the way the lasting impression of the experience is dealt with, is important when leaving the building. From these introductory remarks it is plausible to identify four functions of the lobby:

- as separation
- as connection (or orientation)
- as preparation
- as resolution

"Separation" means, in a physical understanding, separating the inside from the outside through a physical barrier or an understood symbolic, for example as passing along a counter. Separation is also the communication of the difference between the ordinary world and the world of the building. The function of "connection" is physically understood as a means of connecting several rooms to each other through a single space. The symbolic form of connection is when the lobby communicates a link between the visitors life and the purpose of the visit. The lobby functions as a space of "preparation" when it offers various services that support the purpose of the visitor. It may also be required preparations, e.g. putting on special shoes to protect the floors. It may also be supporting the visitor to get into the right mood before entering the exhibition. The function of "resolution" is not meant to be opposite of separation, but the function of tying the experiences of the visitor together in order to support either the purpose of the visitor or the purpose of the institution housed in the building.

3.2 The museum lobby

Turning to the museum, the study of the lobby is a somewhat overlooked topic. The lobby is usually connected with museum planning in general terms and not seen as a part of the exhibition, but more as a place which hosts services not directly connected to the exhibition (Ambrose & Paine, 2006) e.g. ticketing, restrooms, shop etc. The "Manual of museum exhibitions" (Lord & Lord, 2001), deliberately calls the functions of the lobby "the front-of-house activities" and thereby effectively separates them from the exhibition. Some museums, as The Louvre (Paris) use the lobby as a kind of prologue to the exhibition (Duncan & Wallach, 2012).

Depending on the traditions of the museum and the way the museum wishes to communicate with its visitors, several of the functions mentioned above can come into use. Museum buildings are traditionally designed to be outstanding, both architecturally spectacular and as places that are different from the ordinary. The first descriptions of museum lobbies describes them as physical connections (e.g. Frary 1916), that is as a space that links the entrance to the various exhibition galleries. The function of separation becomes clear when issues of placing the ticketing in or after the main lobby are discussed (Lord & Lord, 2001:101). The view of separating the sacred from the profane is expressed through the various comparisons of museums with temples. Ambrose & Paine (2006) advises to get inspiration from the design of temples when designing a museum:

"As the visitor leaves the busy street, he or she needs to relax and adopt a calm, receptive mood before entering the displays. It is instructive to look at how temples are designed in many parts of the world: they very often have an entrance court, garden, or hall, where the worshipper can get into the right mood before entering the temple itself." (Ambrose & Paine, 2006)

Duncan & Wallach (2012) also adopts the "museum as temple" metaphor:

"Past societies devoted substantial wealth to constructing and decorating temples and cathedrals. Similarly, our society lavishes enormous resources on creating and maintaining museums of art." (Duncan & Wallach, 2012)

This ideology is reflected through the museums physical appearance as monuments or "pieces of ceremonial architecture" as they call it, and as such serves to separate the unique from the ordinary. In the lobby this is often seen as a monumental hall, that takes up a disproportionate part of the collective space. The function is to let the visitor get the impression that he or she is about to experience something unique and of great importance to society. The separative function is also described as "threshold fear" (cf. Gurian, 2005). Psychologists have shown a connection between the arousal levels of the users (or inhabitants) of a building and what they term the "information rate" of buildings and environments (Arnott et al., 1977:158-180). If the building is perceived as boring, bland or even depressing, the information rate is low. In a theatre the quality and quantity of decoration (architectural ornaments, colours, pictures, sculptures etc.) contribute to the information rate of the building and thus to the users predisposition to arousal by the performance (McAuley 1999:60). This has also been shown for other public buildings, such as hospitals and schools (Sommer 1969). It is reasonable to assume that the information rate of the lobby likewise contribute to visitors predisposition to arousal by the exhibition.



Classical large lobby (Statens Museum for Kunst, Copenhagen)



Ticket sales acting as a barrier



Entrance to a museum (Arken, Denmark)

The museum lobby may function as a connection between the life of the individual visitor and the museum visit itself. It does so by relating the museum, which the visitor often finds overwhelming or even threatening (cf. Gurian, 2005), with the visitor's own personal situation. An example could be a welcoming attitude by the security guards or other services that let the visitor relax and feel at home.

The services provided in typical lobbies are easily associated with preparation rites. These services such as cloakroom, assembly area, rest area, lavatories, catering facilities, retail facilities, security offices among others (Ambrose & Paine, 2006). But preparation could also be more symbolic in form of an orientation plan, sign posts, "what to see" signs, and posters showing the exhibitions.

The last function of the lobby is to act as a function of resolution, that is provide the opportunity for the visitor to focus on the visit and what he has experienced. In a learning context this would be what he or she has learnt from visiting the exhibition. This may be the museum's last chance to make a favourite impression on the visitor, and to make him or her consider returning. Often this is realized in the lobby as the shop, where the visitor can acquire artefacts, that serve as a memory aid of the visit or as a means of further study. Other services that finalize a visit is tourist information, travel times, and a donation box.

3.3 The museum as a heterotopia

Michel Foucault described a heterotopia as a space with special qualities:

"There also exist, and this is probably true for all cultures and all civilizations, real and effective spaces [...] which constitute a sort of counter-arrangement, of effectively realized utopia, in which [...] all the real arrangements that can be found within society [...] are at once and the same time represented, challenged and overturned: a sort of place that lies outside all place and yet is actually localizable. In contrast to the utopias, these places [...] might be described as heterotopias." Foucault (1967/1984)

Foucault provides several examples of heterotopias. Prisons, lunatic asylums, and botanical gardens are all forms of heterotopias. Museums seen as microcosms share the same features and may also be regarded heterotopias. The interesting point is that heterotopias are not easily entered: they require that people either are sent there or have a definite purpose, otherwise they will not be admitted. Heterotopias are separate worlds within the world with their own ideology, but at the same time they exist as physical places. To uphold the world-within-world the heterotopia needs to be shielded against the world, and admission should be strict in order to secure that only persons who are properly invited or recognized enter. Therefore the heterotopia can not exist without some sort of entrance (and exit) system. The museum upholds this through the functions of the lobby. "Separation" as a barrier and as an ideology guards the place, "connection" acts as a wayfinder and as a link to society, "preparation" secures that visitors are properly prepared before entering the exhibition space, and resolution that the visitor leaves the museum with a "proper" experience.

3.4 The lobby as a transformative space

Liminality is a concept first introduced by Arnold van Gennep (1908) and later developed by Victor Turner (1967 and onwards). Originally van Gennep focused on rites of transitions in life. The concept liminality was used to describe the threshold of changes in life, such as marriage and naming ceremonies. He described liminality as a process which had three stages:

- | | | |
|----|----------------|------------------------|
| 1. | Separation | (pre-liminal) |
| 2. | Liminal | Period (liminal phase) |
| 3. | Reassimilation | (post-liminal) |
- van Gennep (1908)

With the work of cultural anthropologist Victor Turner, the terms "liminal," "liminality," and "liminoid" gained widespread usage. Liminality is the visible expression of anti-structure in society. As the antithesis of structure it also represents the source of structure. When individuals are in a liminal phase, they are in between the normal social structure, moving from a starting point to an end point. When the individual reaches the end point they are reincorporated in the social structure. Turner defined liminal individuals as "neither here nor there; they are betwixt and between the position assigned and arrayed by law, custom, convention, and ceremony" (1969:95). Turner realized that *communitas* and rite of passage are different in the modern world from the Ndembu tribe that he studied in the 1950s. To denote the quasi-liminal character of modern cultural performances he introduced the term "*liminoid*." We may define a *liminoid space* as follows:

- in the liminoid space, the liminoid phase is taking place.
- in the liminoid space, ideologies, concepts, methods etc. may be different from the surrounding space.
- the pre-liminoid and post-liminoid phases are taking place in a separate space adjacent, but connected, to the liminoid space.

For a museum visitor the preparation to the visit is the pre-liminoid phase, while the resolution is the post-liminoid phase. These two phases mainly take place in the lobby, and admission denotes the barrier between these phases and life before and after. In this case preparation at home (e.g. studying the museums web page) may be regarded as a preparation to the museum visit as such and not just to the exhibition. At least part of the preparation at home (e.g. looking up travel times) is not relevant as a preparation in the lobby. The functions of the lobby mentioned above (separation, connection, preparation, and resolution) are all functions necessary to enter the liminoid space which is the visit to the exhibition itself. The lobby serves as the necessary space that is neither the exhibition (the liminoid space) nor not museum, but as a space in between. A space that is characterized by people going through in order to get from one place to another. This is sometimes called a “non place” (Augé 1995). The lobby can therefore be regarded a transformative space that turns ordinary persons into museum visitors and subsequently visitors into ordinary persons. This is done through a series of transformations supported by services of the lobby.

3.5 The museum lobby as a multi purpose space

Architecturally and functionally the museum has also been compared to the shopping mall (Stephen 2001), and some new museums turn up as part of shopping malls (e.g. Barcelona Rock Museum 2011). The shopping mall has galleries that connect to common halls and lots of things on display, with visitors moving about to have a look. We have dealt with the separateness of the lobby, but the comparison to the mall shows that if the museum was designed like a mall, many of the functions of the lobby would be spread all over the place, as for example the toilet facilities and orientation plans often are in a mall. A mall is not a heterotopia as it is often just a collection of shops and as such not regarded as a place with a separate ideology, and therefore not in need of a lobby. Just as a mall may be used for other purposes than shopping, a museum lobby may be used for other purposes than passing through on the way in or out of the museum. It may be used as a connecting space between parts (galleries) of the museum, which means that visitors may pass through the lobby several times during their visit. It may also hosts parts of the exhibition or be used as a space for staging events in connection with the exhibitions. But it may also be used for external events where the liminoid functions of the lobby are suspended.

3.6 The visitor perspective

Now that a model has been prepared we must clarify how this affects the visitor of the museum. The four functions of the lobby as a transformative space are not necessarily fulfilled as a series or in an specific sequence. Some museums may have more focus on some functions and visitors may experience the functions differently. Some lobbies may also be designed to facilitate some of the crucial functions in different sequences, e.g. cloakrooms before or after ticketing. Our hypothesis is that the functions can explain visitors interactions with the lobby and serve as a guideline to museums who want to work with the potentials of the lobby. From a visitor perspective the functions of the lobby are performed as visitor transformations:

Entering the museum:

(liminal lobby function → visitor transformation)

- separation → arrival, service
- connection (orientation) → orientation
- preparation → preparation

Exiting the museum:

(liminal lobby function → visitor transformation)

- resolution → evaluation
- connection → orientation
- reassimilation → departure, service

Mapping the functions of the lobby into visitor transformations

“Separation” is experienced when the visitor enters the front door, and possibly passes through security and ticketing. The symbolic separation is experienced as the museum building being another world—the heterotopia. Connected with the arrival may be certain services that has to do with separation, e.g. the hanging of a coat and passing through security. “Connection” is performed as linking the purpose with the plan for the visit, and the process of orientation within the museum (“how do we buy tickets and where do we go then?”). “Preparation” is fulfilled by the visitors preparing for entering the exhibition, by looking at the information available and getting acquainted with the museum. When exiting the museum the visitor may perform similar transformations. “Resolution” is performed through an evaluation of the visit, e.g. by discussing it or by buying souvenirs in the shop. “Connection” is performed as an outward orientation “where are we going now?” using timetables, maps, and other information available. “Reassimilation” concerns the transformations that are necessary to leave the museum and reenter the society outside, e.g. visiting the toilet and collecting the coats. The visitor transformations will form the basis for the empirical study below.

4 Research Method

The study was initiated as an explorative observation study focusing on museum lobbies or entrance halls in Denmark. Five museums were chosen as sites for observation. To pursue a broad study of entrance halls we chose two art museums, two cultural historical museums and a science center. The museums chosen represents a variety of capacities and visitor numbers, from the National Gallery’s approx. 350.000 (2011) visitors a year to Danmarks Mediemuseums’ approx. 30.000 (2010) visitors a year. Also, the museums and the science center were placed in various areas, from suburbs to the capital city center. Although, common for the five museums is, that they all are situated either in or close to one of the three largest towns in Denmark.

Each entrance hall was observed over two days by two researchers. Thus, each entrance hall was observed around 6-10 hours. The observations were limited to the entrance halls.

An open ended observation guide was designed to be used for all observations. This observation guide focused on interpersonal and mediated communication in the entrance halls. All ten researchers used the observation guide when making field notes from observations. The field notes mainly describe the actions taken by museum visitors and the museum front desk staff, as well as the overall communicative structural tendencies that were visible in the entrance halls, such as seen in the architecture, the interior, the service functions and the flow of visitors and staff in the entrance halls. These field notes constituted the empirical data which the analysis of this paper was based on.

Regarding the empirical data it should be acknowledged that the data collected by our observations can tell us about the patterns of actions taken by numerous visitors and staff members in five Danish entrance halls. As we did not consistently follow individual or groups of visitors throughout their presence in the entrance hall in order to reveal typical visitor journeys through the entrance halls, we cannot use the empirical data to extract typical routes through the entrance halls. Neither did we study the transformation of the entrance halls by investigating visitors before and after their appearance in the entrance halls. Also, we are not able to use the observation data to deeply portray the perspectives of the visitors, as we did not ask themselves about their experiences, but rather searched to see their actions and interactions in the entrance halls as evidence of the encounter between visitor and entrance hall. In this way we see our empirical observational data as evidences of the “entrance hall in action/function” and our field notes broadly describes a variety of actions taken by both visitors and staff, and sometimes facilitated by architecture, interior and the logistics of the entrance hall.

The analysis presented in this paper was carried out on the background of a hypotheses. This hypothesis was developed through early discussions of the empirical data and the experiences of the researchers having conducted observations. These discussions were carried out in the larger group of researchers. Our hypothesis was, as stated above, that persons entering the museum undergo a series of transformations in order to become visitors, properly prepared to get the most out of the exhibition experience. In the empirical data we were able to preliminarily distinguish four phases in the action and interactions carried out in the encounter between visitor and museum. These phases were: *arrival, service, orientation, preparation*.

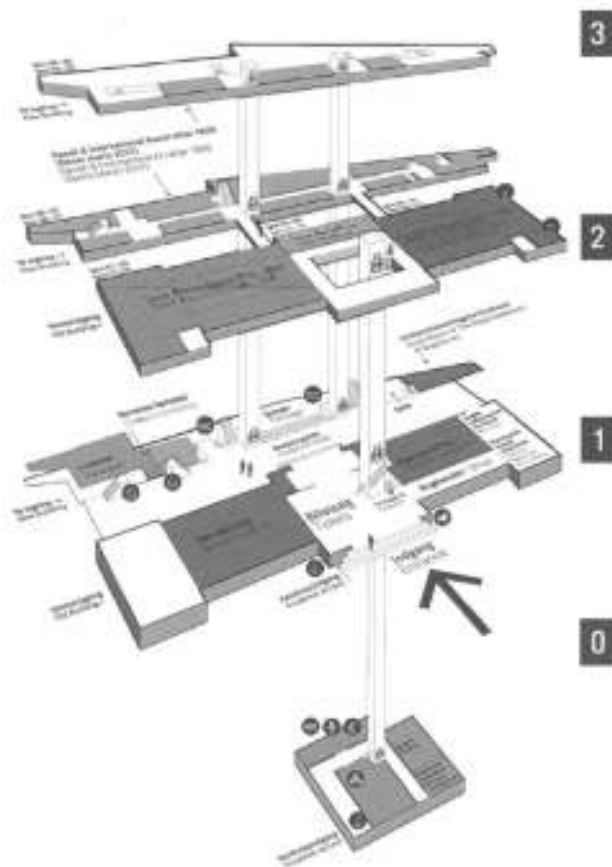
On the background of these preliminary definitions of phases we revisited our field notes from all entrance halls in order to retrieve data that could help understand and describe the four phases. For each phase, observation extracts from all five museums were found to be able to support the preliminary definition of the phase. On the background of the field notes each phase was further defined and described. The analysis section, further below, presents the four phases as they have derived on this analytical background .

5 Presentation of the museums

Among the lobbies of the five museums and science centers that have been included in this study, we see two art museums, two cultural heritage museums and one science center. All have at least one thing in common which is an interest in setting the mood and inviting for a certain kind of visitor behavior that will fit the exhibitions in the museum. These patterns of

action and behavior are typically encouraged by the museums through use of signage, interior design and the architectural concept. The five museums are Statens Museum for Kunst (The National Gallery, Copenhagen), Arken (Ishøj), Experimentarium (Copenhagen), Moesgaard (Aarhus) and Mediemuseet (Odense).

5.1 Statens Museum for Kunst

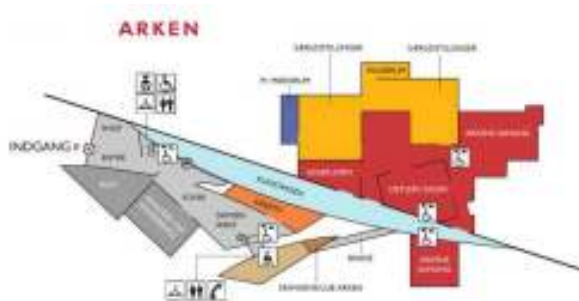


Statens Museum for Kunst (SMK) is the National Gallery and thereby the premier museum of art in Denmark. The museum exhibits Danish and foreign art from Western Culture dating from 14th century and onwards. Statens Museum for Kunst is situated in a museum building dating from 1896 and designed by the architect J. Vilhelm Dahlerup. In 1998, a modernist extension which parallels the old museum building was added in the form of a large glasshouse construction covering some smaller new buildings. The National Gallery had app. 350.000 visitors in 2011.

The entrance hall of the museum resides in the middle of the old and classical museum building as a hall of three floors walled by colonnades at the ground floor and balconies at the upper floors. Today, this room resembles the original design, except that the original broad staircase leading up to the galleries have been removed and a smaller and more discrete staircase of

steel has been inserted. The entrance hall is the largest room with the tallest ceiling in the old part of the museum building and thereby states the transition from outside world to inside the museum as a significant task to be taken care of. Approaching from the outside street through the museum garden, the facade and entrance doors states “a solemn transition from the outside world into the museum collections” as the SMK.dk homepage describes it. The cloakroom with lockers and toilets are placed in the basement of the museum. The museum shop is placed separately in a room adjoining the entrance hall.

5.2 ARKEN



Arken is a private founded art museum which exhibits modern and contemporary Danish and international art. The museum opened in 1996, it is situated in Ishøj, a suburb of Copenhagen and has between 150.000 and 200.000 visitors annually.

Arken is build with reference to the shape of a ship and through a large window in the entrance of the lobby, the visitors have a tremendous view of the museum’s rural and maritime surroundings. The lobby is located in front of the museum and due to the buildings ship like appearance the visitors are almost embraced by the museum and channeled into the lobby. The lobby itself is a large white room with a high ceiling, skylight and no apparent separation from the rest of the museum. When entering into the lobby the visitors can choose between the ticket counter and information desk, the museum shop or to continue down the stairs to the wardrobe at the end of the room.

5.3 Moesgaard

Moesgård museum is located in an old manor “Moesgård” about 12 km. outside Aarhus, DK. It is a local cultural history museum that displays objects mainly from the Danish Prehistory. The museum also has a large ethnographic collection and several objects from the Golf, particular from Bahrain. The museum lobby at Moesgård museum is small, and reflects the fact that the museum is placed in the old manors buildings. Moesgård museum is building a new museum building in the same area, which is expected to open in 2014.

5.4 Mediemuseet



The Media Museum, opened in 1984, specialises in print and audio-visual media history in Denmark. Housed in a former textile warehouse in the city of Odense, the museum is co-located with two galleries (modern art and photography) and all share a foyer space and shop on the ground floor. Related to the museum is a very active media learning lab, primarily offering one-day courses to secondary schools. A new co-creation lab, The Media Mixer, opened in the autumn of 2010 as part of a major new exhibition development at the museum.

5.5 Experimentarium



The Experimentarium is the only science center in this study. It is situated in the old storage facilities of the Tuborg Brewery approximately 5 kilometers from Copenhagen. The science

center consists of one large open space of around 4000 m². The Experimentarium encourages the visitor to play around with the exhibits using a hands-on approach, so that the visitor will learn through experiments and discovery. The lobby is divided from the rest of the museum by a large staircase that leads up to the exhibitions. The Lobby consists of two parts, one before ticketing and one after. These two parts are divided from each other by a funnel, which leads to the ticketing. The first part of the Lobby is a small waiting area, without any service, seating etc. After ticketing you enter the main lobby. The main lobby is a large open space, with high ceiling and a large staircase leading up to the exhibitions space. The main lobby also includes restrooms, cloakroom and a shop. The noise level is as it is the case with the rest of the museum very high.

6 Analysis

In the following section we will present our analysis which focuses on the four phases we found to be present when visitors encounter the museum through the entrance hall. By analysing the empirical data through these four phases of: *arrival*, *orientation*, *service* and *preparation*, we focus on the actions of visitors and museum staff as well as the architectural, interior and logistic tendencies that either perform or disrupt these phases. In our descriptions of the four phases a lot of attention has been given to the ways in which the different entrance halls facilitate the phases and what types of encounters with the visitors these varieties of facilitation results in. As such the four phases can be seen as significant aspects of transformation that are performed through the “entrance hall in action/function.”

6.1 Arrival

The arrival to a museum or science center plays a central part in forming the museum visit. Already in the lobby the museum sets the stage for the visitor experience and creates the preferred script for transforming new visitors into museum visitors. Due to this, a museum lobby can be seen as designed or programmed for a certain kind of performance (Duncan 1995). Although the effectiveness can vary, it is upon arrival in front of the museum and when stepping into the lobby that the visitors create their first impression of the museum and begin to decode the script for the proper way of acting in the museum. The arrival phase might begin well before entering the door and continue after having entered. How the arrival phase unfolds is contingent upon the physical boundaries of the museum, its location and its surroundings. This is perhaps most obvious in museums placed in remote locations (Moesgaard, Arken). Since people only go there to visit the museums, it is possible to argue that in these cases, the arrival phase starts once the visitor descends the bus or steps out of his parked car. The same might be true for outside museums where visitors arrive at a place rather than at a front entrance (Moesgaard). In other cases, the arrival is directly related to the action of entering the museum's front door (Experimentarium, Mediemuseet). When the visitor enters the door, he arrives. In our data, such museums are placed in the middle of big cities, with lots of surrounding similar buildings, and only a facade and a door mark the museum's entrance. Our last museum places itself somewhere in between. The National Gallery of Denmark is located in the middle of Copenhagen and people arrive in various ways, by bus, by train, by car, by foot. While not

remote, the museum has a great garden, including a big front yard ending in impressive, wide steps, which lead up to the front entrance. In this case, we find that the arrival phase begins with the visitor's path through the front yard.

The museums have different ways of facilitating the arrival of visitors:

The lobby in the art museum Arken and The National Gallery of Denmark are both big white rooms with very high ceilings. This imposes an almost solemn atmosphere and gives arriving visitors a humble feeling. For instance, in the National Gallery of Denmark some children were surprised by the large room and they stopped and gazed upwards for a while. Observations show that visitors step into the lobby and either stop in order to get a sense of the room, or immediately proceed to the ticket counter and information desk. If they choose to linger inside the lobby for other reasons, it is often because they are waiting for somebody else to arrive.

At Arken the visitors are led by a five step route predefined by the museum: 1) Go to the ticket counter. 2) Buy ticket or register a group or a membership card. 3) Place ticket somewhere visible. 4) Go to the wardrobe with jacket and bag. 5) Continue into the museum. Even though all visitors pass the museum shop on the way to the ticket counter, few stop to step away from the given route. Those who do not go to the wardrobe even though they wear a jacket and carry a large bag are stopped by a museum guard before they get a chance to continue into the exhibitions. At The National Gallery of Denmark only the visitors for the special exhibitions need to buy a ticket and as a result the museum wants all arriving visitors to go straight to the wardrobe and only turn to the ticket counter and information desk if service or help is needed. However, observations have shown that most visitors go to the ticket counter instead of the wardrobe. In order to help the visitors uphold the script created by the museum, an employee is placed next to the entrance to guide arriving visitors and prepare them for the visit.

At the two cultural heritage museums Moesgaard and the Mediemuseet the atmosphere and the first impression is quite different from the art museums. Moesgaard museum is placed in an old manor and the lobby is found in one of the front buildings. The lobby seems small, modest and almost anonymous, and holds nothing of the sacred atmosphere found at the art museums. It does not seem as if it has been designed to set the stage or preparing the arriving visitors for what they are about to experience. Instead the lobby's purpose is clearly practical, but nonetheless, by receiving the visitors at the counter next to the door ready to sell tickets, provide information and send the visitors on their way, the museum manages to create a friendly atmosphere. At the Mediemuseet the lobby is not small as it is at Moesgaard, but even though the museum shares its lobby with a number of other museums in the same building, the lobby does not seem big as it does at the art museums. Observations have shown that arriving visitors sometimes find it difficult to decode what to do when stepping into the lobby. The counter in the middle of the room acts as a ticket counter at the one side, and a café on the other side, and the lobby seems cozy and friendly, and the employees behind the counter often even recognize members of the house.

The science center Experimentarium has a very big lobby, not unlike The National Gallery of Denmark, still it differs from both the art and cultural heritage museums in a number of ways. E.g. Experimentarium is known as a place for active participation and learning by doing, which is evident from the noise that reaches the visitors the moment they enter the lobby. One thing that might seem odd is the fact that all arriving visitors are led into the lobby along a barrier and past a ticket booth which means that visitors often have to stand in line for some time. Especially the children find this difficult. Observations even showed children leaning up against the barrier as if they were falling a sleep, and as a result Experimentarium sometimes places one of the young employees in the lobby in order to entertain the waiting visitors with different experiments as well as to set the stage for what to expect from the visit.

6.2 Orientation

The orientation phase is about figuring out where things are and what courses of action are possible. Basically, where am I and what can I do here? Sometimes the orientation phase begins before entering the museum. For instance, when visitors arrive at Moesgaard, they arrive at a larger area with several buildings. Almost immediately, visitors start not only to look for the main entrance, but also to orient to the place and the different offers provided. This is supported by the museum with several outdoor maps. Similarly, museums with grand architectural designs such as Arken or big outdoor posters which is the case at the National Gallery of Denmark may prompt visitors to orient to the place and its offers before they physically enter the museum. In other cases, the orientation phase begins with the entering of the museum's front door (Mediemuseet, Experimentarium).

In any event, when visitors enter the museum they need to orient to the new surroundings and figure out where to go and what to do now. Relevant to that, is the enablements and constraints the museum's front hall makes available for any course of action. In other words, what scripts are performed by the front hall; what courses of action are facilitated. In some cases, the entering of the front door opens up very limited possibilities. For instance, when visitors enter Experimentarium, they are lead directly to the ticket counter. They might of course stop and pause or back out, but ultimately, there is just one thing to do: approach the counter and pay. In contrast, when visitors enter the front hall of the National Gallery of Denmark, they find themselves in a big and open space. This space leads either to the front desk on the left side, or to the museum shop at the right side, and, if walking straight ahead into the free exhibition area on the ground floor. In the middle of the room, there is also an elevator and a staircase leading both up and down, and a stand with information brochures. Consequently, visitors are left with a range of different possibilities of where to go and what to do. Our observations show that visitors sometimes find it difficult to decode what exactly to do when stepping into this lobby.

The question of orientation is not only about the range of different actions that the front hall provides for, but also about the order of things. Some front halls clearly lay out a "main route" for the visitors to follow, with ordered actions along the way. Part of the orientation phase is to locate where to begin with what, and for some visitors this equals locating the beginning of the main route. At Arken, the main route presents itself in a clear manner. When entering the front door, the architecture lay out a route that leads first to the front desk and then down to the coatroom in the basement. In this space, the visitor roughly just needs to follow a straight line and then at a certain point make a turn and descend a staircase. High visibility through the room

helps the visitor to read not only the beginning of the route, but also where it leads. Other museum halls present not only one, but several possible routes to follow (Mediemuseet) or no clear route at all which is seen at the National Gallery of Denmark. In this case, the visitor steps into a big, open and white hall and a more browsing-like approach is supported.

The orientation phase unfolds very differently for new and for old visitors. Recurring visitors are more or less familiar with the museum's space and they know something about its offers. Consequently, they do not spend much time familiarizing themselves to the place. They seem to have some idea of where they are and what they want, and they might not use a given main route. Instead, they orient to shortcuts or even deroutes. Not only seemingly recurring visitors act this strategic way in our data. Also visitors with a particular goal for their visit or visitors with particular needs might undertake a similar prioritized approach. For instance, we see visitors orient primarily to their pre-booked guided tour, e.g. where to meet up, visitors who seek the restrooms and visitors who would like to begin their visit with coffee.

As can be seen in the above, the visitors perform both *practical* and *strategic orientation*. *Practical orientation* represents the basic attempt of figuring out where things are placed and being able to read the "main route" as well as the "shortcuts" through the museum. Simply, it consist in the acts of finding the functions of the museum, such as where the galleries, café, toilets, cloakroom and ticket sale are placed. For instance at Moesgaard a smaller group of adults spend some time studying a map of the museums in order to be able to find their way into the museum. And in the National Gallery of Denmark a woman approach directly the staff at the front desk and asks whether there is a place for her to drink coffee.

Strategic orientation is a more prioritized approach to the museum visit that some visitors seem to take. These visitors do not only wish to orientate themselves in order to be able to find their way through the museum, but also wish to be able to put together a visit that fits their needs and the meaning they put into their museum visit. They might not want to go through the museum on a given "main route", but rather pick a few exhibitions or galleries to visit, and they might also prioritize to spend part of the visit in the childrens' area or by taking a guided tour or attending an event. For instance some visitors carefully study the information board at the Experimentarium, where they find the program of events for the day. A woman in Mediemuseet is seen to study both the informations screens in the lobby and the posters on exhibitions before approaching the front desk. And at Arken visitors having a debate on whether to go into the exhibition or to café first were observed. In this way *strategic orientation* represents the conscious decision making regarding how to spend the hours reserved for the visit at the museum. As part of prioritising, some visitors also wish to be oriented about the prices of different entry permits to the museum before they reach the ticket sale. This is seen in The National Gallery of Denmark where many visitors try to get as close to the counter as possible to get information on the prices without yet getting in contact with the front desk staff. They wish to be able to take their choice on an informed background, knowing a bit about the exhibitions and the prices before being confronted with having to buy a ticket.

The visitors who approach the museum in this strategic manner use signposts, screens, posters, brochures and to some extent the front desk staff to orientate, they especially make use of information about the current exhibitions and events to orient themselves and then secondly they need to orientate themselves regarding practical facilities (as café, children's space, toilets etc.).

6.3 Service

The orientation phase is typically followed by service, which normally takes place at the museum's front desk. However, the front desk is also often a place for information material like signs and posters and free brochures, and visitors might want to engage with that without having to deal with service at that point. A clear-cut example from our data plays out at SMK, where many visitors try to get as close to the counter as possible to get information on the prices without yet getting in contact with the front desk staff. We find that those visitors are still in the orientation phase. They gather information about the offers that the museum provides, like the exhibitions and the different prices, and they do not approach the front desk assistant. Instead, they carefully keep a safe distance until they are ready.

The service phase involves interaction between museum personnel and the visitor. From the visitor's point of view, the service phase is about getting things. From the museum's point of view, the service phase is about providing things. Things might be tickets, but not always (SMK). At the very least, information and information material are exchanged, typically a map of the museum and some interpretative material, ie. a written guide or a folder to a temporary exhibition. As one staff member puts it: "People like to get something. That way they feel informed, and they have something to bring home" (Moesgaard).

While the museum typically provide a broad range of information material several places in the front hall, e.g. at brochure stands, on walls, on table, on screens, the service phase facilitates a more targeted or personalized service. The front desk assistant and the visitor cooperate in matching the museum's offers and the visitor's needs. Some visitors know exactly what they want to get out of the service phase, as they have used the orientation phase *strategically*. Such as a girl at The National Gallery of Denmark who asks the front desk personnel whether this is the place to retrieve an Ipod (containing the museum app) and the tourist women approaching with her husband and three children asking whether there is an audioguide to the museum. Others arrive at the desk showing no knowledge about what services are available. In many cases, the front desk assistant will in the interaction with the visitor chose a selection of the available services. For instance, tourists from foreign countries will not get the museum club membership offer (SMK), and visitors who are members of the museum's club will not get a map of the museum unless they ask for it. At Arken the members simply swipe their membership card at the front desk before entering. It is only when they need to renew their membership the front desk personnel will interrupt these visitors before they continue into the museum. Or, elderly people might not be offered an Ipod loan (SMK). Reversely the offers of Ipod loan are met with very different reactions from the visitors. For instance, at the National Gallery of Denmark (SMK), a group of people around 30 accepts the offer after having searched the app-store for the app for a while. Another woman around 60 just immediately thanks no, and a man, also around 60, thanks no and adds that he has seen something about this app on the internet and that it seems very fancy. Some visitors immediately thanks yes. Thus, the service phase plays out with numerous variations, although some courses of actions are common, like ticket purchase.

A great constraint on the service phase is time. When time is limited, i.e. when visitors are queuing, service is limited. This means that especially front personnel operate within a continuum from basic service to expanded service. Methods of opening up an expanded service sequence are questions like "are you here for the first time?" (Moesgaard). If the visitor then

confirms, the front desk assistant launches a longer explanation of where to go and what to explore at the museum. Similarly, the front desk assistant might give an elaborated show and tell account of how to use the audio guide, or chose to simply hand it out if lots of visitors wait in line (SMK, Arken).

One pervasive aspect of the service phase is the queue. The arrangement of the front hall and particularly the front desk provide resources with which visitors can read an instruction for proper queuing. Some front halls are organized so as to 'funnel' visitors into a queue (Experimentarium). Others provide a more open space within which visitors can create a queue (Statens Museum for Kunst, Mediemuseet, and Arken). A queue might postpone the service phase longer than visitors wish for. Perhaps for this reason, museums put considerable effort into organizing the front hall and the service phase to reduce or ease visitors' waiting time. For instance, Arken has developed a fast line. Members of the Arken museum club can check in at the front desk using a self-service device, which reveals if their membership is active or not. Furthermore, the museum shop is placed just next to the front desk and make it possible for the waiting visitors to look at books while they wait for service. At Experimentarium, personnel perform shows at the busiest hours in the front hall so as to entertain visitors in line. At Statens Museum for Kunst, they have, for a trial period, experimented with museum staff being available for service in the middle of the hall, away from the service desk. Since entrance to the general exhibition is free, visitors can engage with this person without needing to visit the front desk. Finally, queues might prompt visitors to seek service elsewhere. In our data, we see guards being approached for service, like information on closing hours or how to use an audio guide (Statens Museum for Kunst).

6.4 Preparation

The preparation phase is the last and final phase before entering the exhibition area. It typically involves a visit to the coatroom and it might include use of the rest rooms. In all of our museums, cloak room and restrooms are right next to each other, suggesting a close relation between courses of actions in these amenities. In addition, these facilities are in some museums clearly presented as last stop on the "main route" before entering the exhibition area (Arken). At Arken the cloak room and restrooms are found at a lower level than the lobby. When finished in the coatroom, the visitors can either choose to walk up into the lobby or they can choose to take another flight of stairs and go straight into the front of the exhibition area. In others, they are more presented as an optional stop, like in Experimentarium, where coatroom and restrooms are placed at the right side of front hall, visible but not mandatory before entering the exhibition area straight up the stairs. In some museums, the facilities are a clearly disconnected from the exhibition area and seem to carry a lower status. For instance, visitors at Arken and Statens Museum for Kunst find the cloakroom and the rest rooms in the basement with low ceilings and no daylight.

In the preparation phase, we see visitors wait for each other and reconnect with their social group. This is particularly obvious in cases where they have split up earlier for some reason. But visitors in groups generally negotiate their readiness to enter the exhibition area. They might make use of maps and folders or other information material and talk about where to go first. School classes are given last minute instructions, like where to go and not to go, for how long and where to meet for lunch.

The preparation phase may involve special equipment. Equipment is sometimes being distributed manually, like at Moesgaard where pupils get a pen and an assignment on paper before entering the exhibition area. At other times, equipment are available on a serve yourself basis. For instance, at Statens Museum for Kunst, headphones are accessible for visitors who wish to use the museum's smartphone application on their own phone. Getting the right equipment is part of the preparation phase.

The preparation phase can also include different sorts of behavioural adjustments carried out among the visitors. For instance the school teacher in the cloakroom at the National Gallery of Denmark instructs her pupils. She tells them that the museum is a place where they should be quiet and listen to their guide, and they should not run or beat each other. In this way she tries to install a specific some sorts of bodily and social behaviour into her group of visitors which she finds appropriate for a museum visit.

The preparation phase is the last stage before entering the exhibition area and passing the borderline typically involves some kind of control or checking on the museum's part, normally by a museum guard. Is the visitor completely ready to enter the exhibition area, e.g. does he have a ticket?, has he left his bag in the locker room?, is he suitably equipped? The facilities and resources in the front hall support in different ways the visitor's preparations to pass the control. One very tangible resource is the bag measurer which is found both at Arken and the Media Museum. In the bag measurer, visitors can check if the size of their bag allows them to bring it into the exhibition area or not. Thus, the bag measurer helps visitors to get properly prepared.

Visitors in the preparation phase sometimes relapse to one of the earlier phases. For instance, visitors might find themselves in need of service during the preparation phase. At Statens Museum for Kunst, a visitor had to return to the service desk because he realized his bag was too big for the locker room. At Experimentarium, a visitor went back to get change for the locker room. A visitor will also be setback to an earlier stage if he does not pass the control at the entrance to the exhibition area.

7 Discussion

We started out by identifying the lobby or entrance hall as a pre-liminoid space. This entails that it acts as a space that separates the building from the outside, and that it supports transformations of people entering the lobby into visitors. Our hypothesis was that the functions of separation, connection and preparation can explain visitors interactions with the lobby and serve as a guideline to museums who want to work with the potentials of the lobby. On the background of our empirical observation data, we found four steps of transformation that visitors and museum together enact, we called these transformation steps: arrival, service, orientation and preparation. We found that these four steps closely relates to the properties of the pre-liminoid space: separation, connection and preparation. The arrival acts as a separation. The person leaves the public sphere behind and finds himself in the museum. This is often experienced through the different atmosphere of the lobby, e.g. as a large white hall. Often queuing is part of arrival and our study shows the importance of addressing the time spent in queues. Orientation is performed when the visitor tries to figure out what to do next. Some museums "funnel" the visitors through the lobby, while others give them free choice but then has

to provide signs. The service phase usually includes purchasing tickets and thus contact with the front-personnel. In the preparation visitors hang their coat and visit the restroom. At some museums the visitor may also have to borrow an audioguide or they are issued with quiz and pen.

By our analysis of the entrance hall as a pre-liminoid space we suggest that the “entrance hall in action/function” can serve to equip the visitor for the forthcoming visit by transforming the visitor through four steps. We suggest that visitors should transit all four stages before being well-equipped for the museum visit. On the background of this study we are not able to conclude that any specific chronology of these steps should exist. Although, we did observe few incidences were confusions and repetitions of these steps caused some difficulties for visitors and museum staff.

Unfortunately, we are not able to empirically describe the entrance hall as a post-liminoid space, as we did not focus on this aspect of the entrance hall during our observations. The model of the liminal (Turner, 1969, 1982) space presented in the beginning of this paper would suggest that a post-liminoid space including a transformation step of *resolution* should be present. In this step the experience/event of the liminal space is resumed and evaluated before the final separation from the liminal space occurs. For future research on the entrance hall we suggest that a focus on this transformation step of resolution would be of interest. This implies a study of how visitors are equipped to leave the museum when a visit is about to end.

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Reaffirming museum power: Locative media and the institutionalisation of space

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Abstract

This article inspects the transformative nature of the field/network of cultural production – mainly from the viewpoint of art museums and locative media art. A selection of locative media artworks by the art group Blast Theory is analysed in order to detect the communication pattern of the networked publics that are constituted within the works – and to place this within the institutional establishment of the art museum space. Available position-takings and space of possibles are constantly changing the field cultural production. While artworks that play more consciously on digital flows – for instance net art – move institutional power away from the museum, locative media art highlights spatiality, temporality, and physicality of the performance. By doing this, locative media art reaffirms the museum's power to constitute charged spaces.

Keywords

locative media art – art museums – blast theory – charged spaces – networked publics

Art museums are 'charged spaces' that inflict certain values on artworks contained within their location. These values are based on hierarchisation that emerges in a complex process between main stakeholders in the field of cultural production. Due to the network society's recombining characteristics, its scalability and flexibility, and its significance in redefining perceptions of space and time (Castells 2004) – the art museum faces new kinds of institutional transformations. Amongst these is the institutionalisation of space – i.e. the power to form and locate a process of value-based hierarchisation within a specific room, or a specific space.

Mobile and pervasive media have been an important factor in these transformations as smartphone technologies, cloud computing, and widely accessible wifi networks have altered the relations between the 'traditional' notion of the museum space and the kind of space networked publics inhabit and generate, both online and offline. These transformations affect the notion of production, consumption, audiences, content, and creators – and most importantly – the art museum as a 'locative' institution and how the notion of *space* has been institutionalised within its sphere.

Digitally mediated communication has provided channels for hybrid art forms that both challenge and reaffirm the institutional structures of art museums, the role of curators, the established role of museum spaces, artists and the work of art itself. One such hybrid is *locative media art*, and the aim of this paper is to:

Analyse the communication patterns of selected locative media artworks - in particular the resemblances between the 'locative nature' of such works and the institutional establishment of the art museum space.

It is my assumption that the transformations caused by the locative media artworks analysed in this paper reaffirm the power inherent in a 'charged space' like that of the museum – and this is mainly so because of their definite, closed character in terms of spatiality and temporality. Or put differently, the mixed spatial environments created by locative media artworks constitute museum users as *networked publics* – thereby creating a meta-world that resembles the museum space. In order to theorise these transformations, I will amongst others lean towards the writings of Manuel Castells, Axel Bruns, Ross Parry, and danah boyd. Furthermore, I will revisit the insightful writings of Pierre Bourdieu on the field of cultural production. Here the notions of

position-takings, space of possibles, the autonomous principle of hierarchisation and the heteronomous principle of hierarchisation are particularly valuable in order to account for power relations and dominant value positions that the museum space is traditionally infiltrated with – and how locative media affects, transforms, and reaffirms these value positions.

The examples I will take to frame the discussions are gathered from the artist group *Blast Theory* who are known for their use of interactive media, audience participation and their use of ‘mixed spaces’. As my focus is on locative media art, I will mainly look at their ‘mobile’ works such as ‘I like Frank’, ‘Uncle Roy all around you’, ‘Can you see me know?’, and ‘Rider spoke’.

Art museums as charged spaces

When I refer to art museums as *charged spaces*, I am tracing their historical significance in ensuring that certain values, knowledge and aesthetics are prioritized, packaged and thereby made available for the general public. Inherent in such prioritisation is power; or more accurately, the power to mould reigning discursive formations according to the will of ruling elites, and regimes of truth (Foucault 2002a, 2002b). Within museum studies, these charged spaces have been analysed from this viewpoint of knowledge making, authority, the disciplining of the public and the production of certain kinds of ideological structures (Bennett 1995; Duncan 1995; Eagleton 1990; Luke 2002). Seen from this perspective, the museum is not a neutral space, but on the contrary a charged space saturated with processes of power.

However, the museum can also be perceived as a closed physical space that provides the framework for different kinds of communication channels. These channels form a complex network between different stakeholders operating within that room – both human and non-human. Indeed, ‘[i]t is a network of relationships between objects and people’ (Henning 2005, p. 11). It is important to note that this network does reach out from the physical location of museums, as the construction of a museum is always anchored in a bigger frame set by a given cultural policy, local and national settings, laws and cultural traditions. The very nature of the museum in question obviously plays a role in this context as public art museums have different obligations in terms of for instance selection, preservation, dissemination, and research - than do private museums. To add to this mix, space is not just space of places, but space of flows – indicating that in the current network society characterised by informationalism,

museums as institutions are always enmeshed in a culture of real-virtuality (Castells 2000, 2004, 2009) – also referred to as real virtual worlds (Varnelis & Friedberg 2008).

However, whether we speak of space of places or space of flows – or both – the art museum space is a specific space that is characterised by certain institutional processes, heritage and history. It can be perceived from the viewpoint of the ‘sender’ as Hooper-Greenhill (1990) does in the form of primary spatialisation (collecting policies), secondary spatialisation (framing and articulation) and tertiary spatialisation (implications from cultural policy in terms of seeing the museum from the viewpoint of culture industries and experience economy). But it can also be perceived by the receiver as much of recent trends within museum research has focused on (Anderson 2004; Falk 2009; Hooper-Greenhill 2000; Simon 2010). These ‘participatory’ trends cannot be overlooked when looking at an ‘active’ museum space, as it is always constituted in the interactions of objects – and people.

These interactions are, however, enabled (or limited) by the *space of positions* and *space of position-takings* constituted by the field of cultural production as such. According to Bourdieu this space of artistic position-takings is ‘the structured set of the manifestations of the social agents involved in the field’ (1993, p. 30) including artistic works, political acts and pronouncements – and inseparable from artistic positions defined by the recognition, construction and distribution of capital. These position-takings are always defined in relation to the *space of possibles*. This relationship is problematic as potential position-takings receive its values in a negative relationship with other position-takings and are therefore determined and delimited by the coexistence of other position-takings. Therefore, Bourdieu maintains that position-takings automatically change ‘whenever there is change in the universe of options that are simultaneously offered for producers and consumers to choose from’ (1993, p. 30).

These options are constantly expanding, and developments in information technologies, mobile technologies and informational infrastructures have contributed to this expansion. This is interesting from the viewpoint of the art museum space as it adds to the complexity of the network it is encapsulated and formed within. In Bourdieu’s view, this field/network of cultural production is a field of struggles and a field of forces where the work of art only gets ascribed certain capital if it is socially instituted as such and received by spectators as such. This ‘acceptance’ is constituted in a complex network of senders, receivers, the material and symbolic production of the

work, the value it is given from established voices and of course, *established spaces*: ‘In short, it is a question of understanding works of art as a *manifestation* of the field as a whole, in which all the powers of the field, and all the determinisms inherent in its structure and functioning, are concentrated’ (1993, p. 37; italics in original).

The art museum takes on a central position within this manifestation of the field of cultural production as it is not only contained within the field of power, but is one of the main institutional forces to mould its dominant discursive formations. Furthermore, it is one of the most agile creators of the transformative axis which Bourdieu refers to as the *heteronomous principle of hierarchisation* and the *autonomous principle of hierarchisation*. This *double hierarchy* is one of the elements that contribute to the art museum as a *charged space* – as it constantly plays on different elements of *heteronomy* and *autonomy*. Indeed, it is a space infiltrated with political and economical elements – at the same time as it suspends the ordinary law prevailing in the field of power – generating processes of symbolic capital, rather than economic one.

The interesting question to ask from the viewpoint of this paper is how locative media artworks constitute networked publics and how these play on the axis of heteronomous and autonomous principles of hierarchisation.

Networked publics and locative media art

The charged space of any museum constitutes a space of certain affordances. This is so both in online and offline worlds. Users are simply pushed into certain directions which in terms of agency limits and enables their ‘user manoeuvre’ at the same time. This can be done with an architectural and spatial reshaping of the museum space (Psarra 2005, Leahy 2005), this can be done through the interplay and interactions between museum and computer (Parry 2007) – and this can be done by playing on the intersections of the virtual and the real – for instance with the locative media artworks that I will analyse in this piece. In all cases, the relationship between objects and people can be constructed as networked publics.

As boyd claims, networked publics are not just publics networked together, but ‘publics that have been transformed by networked media, its properties, and its potential’ (2011, p. 42). Networked media, in this case locative media artworks, have certain properties and potentials – but these are always to be seen in the intersection of people and practice. Indeed, as boyd would have it, networked publics are

simultaneously the *space* that is constructed by networked technologies, and the *imagined collective* that for instance locative media art forms in its interactions with people and practice. In short, networked publics are ‘simultaneously a space and a collection of people’ (2011, p. 41). In my view, it is important to note that these are not just online spaces – but offline as well. Indeed, as Habermas theorised in his later works, he applies the network metaphor to account for the relations between public spheres and different publics in modern complex societies – dividing publics into episodic, occasional and abstract, depending on the density of communication, organizational complexity and range (Habermas 1996). The inter-, and intra relations between publics are therefore networked by nature, and they always constitute a certain *space*, and a *collection of people*. This can be online, and this can be offline. But as is the case with the locative media artworks I will be analysing – these spaces can also be *mixed spaces*.

On more general terms, you can say that locative media artworks represent some of the challenges that for instance net art inflicted on the museum realm. These include authenticity and trust, the objectivity of information, spatiality and locality, fixity and authorship, control and power (Parry 2007). In his account of this *recoding of the museum*, Parry talks about the *media museum* which acquires more the properties of a computer (digital files, user-driven functions and distributed network presence) making it difficult to detect where the museum ends, and the computer begins (Parry 2007, p. 136.). Again, this is very much in line with online participatory cultures (Jenkins 2006) where the audience thrive in exchange-oriented cultures, as opposite to object-oriented cultures (Stalder 2005). Such processes play on the multi-modal and multi-channel nature of online networked communication constituting processes of mass self-communication (Castells 2009). In terms of users, this form for online communication has changed the agency they have grown accustomed to in their interaction with museums, as the value chain of consumption and production has been altered. In Bruns’ terms, this has given rise to the ‘produser’ (Bruns 2008) who interacts effortlessly with content, either as producer or user, tinkers with it and releases again – in a theoretically endless stream of content creation.

However, even though this is certainly true of much online communication, and can as well be witnessed in internet art, in vibrant remix environments such as ccMixer and trends in collaborative curation on Flickr – the mixed spatiality of locative media

artworks – where users interact online and offline at the same time – creates a different kind of ‘space of possibles’, and engage differently in the field/network of cultural production. The reason for this is the *charged spatiality* of museums – which, as opposed to Bruns’ and Jenkins’ understanding of participatory cultures does not necessarily enhance and support the ‘overall shift away from commercially driven media culture, and towards the rediscovery of a more vernacular culture of folk creativity’ (Bruns 2008, p. 255). Indeed when locative media art is compared to general trends within net art, they seem to position themselves differently on the axis of the *heteronomous principle of hierarchisation* and the *autonomous principle of hierarchisation*. As much net art placed it consciously on the autonomous end of the scale (Greene 2004) locative media artworks have been ‘accused’ of embracing the potentials of commercial application, and seem content to work both with industry and governments (Tuters & Varnelis 2008) – and most importantly, they play on the same mechanisms of power as the charged museum space does.

An important communication channel of much locative media art is maps and associated gadgets, such as PDA’s and smart phones. As can be seen in the artworks of Blast Theory, it is fundamental to the communication that takes place within the artworks that these will be addressed in as simple way as possible. Indeed, while much net art provokes the dominant discourses within the field of cultural production, eschewing the structured set of manifestation of social agents involved in the field (in terms of authorship, distribution, remediation, copyrights, cultural institutions, dissemination, knowledge and power) – locative media artworks seem to reinstall some of the norms that made the museum so powerful as a cultural institution in the first place. In stead of shredding established conventions, thereby placing itself on the autonomous side of the axis, locative media artworks and their use of the geospatial web and ubiquitous computing reinstall the notion of charged space – as already discussed in relations to museums.

Therefore, the people engaging in locative media artworks are constituted as more controlled networked publics, than for instance the kinds of networked publics that operate as producers in Bruns’ sense. Indeed, as is the case with the artworks of Blast Theory, the mobile audience enmeshed into the meta-world provided by the artists, is limited by the saturation of power generated by the game rules that are incorporated in the design of a given meta-world/artwork. It is important to note that ultimately, all

spaces are constructed, and thereby limited. The difference between the space provided by the locative media artworks in question and the space provided by for instance the net artist Mark Napier or Sebastian Luetgert – is based on a very actual physical constraints of the kinds of mixed spaces that Blast Theory works with; or to bring Bourdieu back into the game, the universe of options that are simultaneously offered for producers and consumers to choose from have again been reduced because of charged spatiality.

Locative media artworks – Blast Theory

Blast Theory is a well-known artist group led by Matt Adams, Ju Row Farr and Nick Tandavanitj. As their activities have grown, their capital has risen on all fronts – making them a collective consisting of a board, group of core artists, associate artists, and staff. As already mentioned in terms of much locative media art Blast Theory has always cherished the potentials of cooperating with business actors, as well as with actors from different university milieus. The group is an ‘institutionalised’ collective in terms of awards, cooperation with prominent businesses and cultural institutions. They have for instance been nominated for the BAFTA awards, won awards at Ars Electronica, the Maverick awards, and have showed their work at ICC in Tokyo, the Chicago Museum of Contemporary Art, Sydney Biennale, National Museum of Taiwan, Hebbel Theater in Berlin, Basel Art Fair, Sonar Festival in Barcelona – as well as participating in large research projects, seminars, master classes and lectures within academia. On the group’s webpage it says that they share an interest in how technology, and in particular mobile devices, create new cultural spaces which customises and personalises the experience of participants – scrutinizing the meaning and limitations of interactions in controlled spaces: ‘Who is invited to speak, under what conditions and what that is truly meaningful can be said?’ (Blast theory n.d.a).

As already mentioned, I will primarily look at the group’s ‘mobile’ works starting with a sequence of three works called ‘Can you see me now?’, ‘Uncle Roy all around you’, and ‘I like Frank’. All of these works are performed in the mixed spatiality of real virtual worlds, i.e. they happen simultaneously online and on the streets. In ‘Can you see me now?’ players play online in a virtual city against members of Blast Theory – which are tracked by satellites and appear online next to the virtual players on a map of the city. This meta-world allows 20 players to be online at the same time and the runners in the city are equipped with gps receivers and handheld computers connected to the game.

The runners then try to catch the online players, playing on the different affordances of the 'real world', the 'virtual world' – and the mixed world that emerges in their interactions. Ultimately, this work is about power in space, or what I have called a *charged space*, using the overlay of a real city and a virtual city to explore ideas of absence and presence: 'By sharing the same 'space', the players online and runners on the street enter into a relationship that is adversarial, playful and, ultimately filled with pathos' (Blast Theory n.d.b).

'Uncle Roy all around you' builds on 'Can you see me know?' as it plays on the interaction of offline and online players who have 60 minutes to locate this Uncle Roy. Street players use their handheld device to monitor after a map, where the online players can be detected as well. Depending on instructions from Roy and the progress in the game, different communication channels are used between online and offline players inspecting modes of communication, trust, cooperation, surveillance and authority. The same is the case with the work 'I like Frank'. Again, Blast Theory take advantage of the different affordances provided by different devices and interfaces in order to inspect distinct levels of connectivity through mixed spaces: 'Whether playing on the streets or logging from around the world, players built relationships, swapped information and tested the possibilities of a new hybrid space' (Blast Theory n.d.d).

The purpose of these locative media artworks is different and separately they highlight important issues that surface in the interaction of people, technology and space. It is therefore safe to say that Blast Theory is curious about the social changes that ubiquitous mobile devices bring along, and how persistent access to a network and location aware technologies play with our sense of time and space. However, in order to frame these investigations Blast Theory creates charged meta-worlds limited both in their spatiality and temporality – which either empowers or disempowers the users. In all cases, these artworks construct networked publics, constituting *space* and a *collection of people* at the same time. And as is the case with all networked publics, the affordances inherent in the different designs of these meta-worlds, grossly affect the user-manoeuvre and the communicative capabilities of the users. This is so in terms of space and time, or rather the limit of the same, and this is so in terms of the interface, and the communication channels made available for the users. Indeed, when the communication pattern of these artworks is scrutinised, it is remarkably limited and steered, simply because of the inherent affordances provided in the design of the

artworks. For instance, players are in all cases limited to certain offline spaces, and the same goes for the online virtual cityscapes. It is only a very particular part of Tokyo that players were allowed to investigate in 'Can you see me know?' and the same goes for allocated time and number of participants in the rest of the works. Indeed, there are rules, norms of behaviour, and a purpose with the overall design of the meta-worlds in question – just as with museums.

This is also true for the remaining works discussed in this article; particularly 'You get me' which again plays on the floating distinction between public and private in mixed spaces of this sort. The important distinction is however that in this work the online players are located within a prominent cultural institution – the Royal Opera House in London – putting the acts of listening, learning and understanding in a new context: 'The piece comments on the disparity between the culture of the Opera House and the wider London community in which it is situated; it bridges the existing divide while emphasising the limitations of attempts to do so using technology or culture' (Blast theory n.d.g). By situating the online players within the Opera, Blast Theory ascribe certain capital to the work of art as spectators socially institute it as such because of the historical and cultural connotations they associate with such a space. At the same time the artwork is 'enacted' in spaces of less prestige creating an interesting tension between two spaces separated by social divides.

'Ghostwriter' unveils the tension between *heteronomy* and *autonomy* and how objects get ascribed certain values, or *aura*, by being situated within the art museum space. This work is a commission for the Royal Albert Memorial Museum in Exeter, and with a relatively simple interactive phone call, it moves the listener back and forth on the transformative axis composed of the heteronomous principle of hierarchisation and the autonomous principle of hierarchisation:

Visitors ring in and hear a woman whose voice gently draws you into the museum. She describes her surroundings and they seem to match yours. She describes an object in front of her and talks about its role in her life. But this line between her surroundings and yours is unstable. At times she says things that suggest she is somewhere else looking at a different object. And you can interact with her, jumping in time and space or even making a recording of your own about an object that resonates in your life (Blast theory n.d.c).

This is a good example of how Blast Theory casts a critical light on the network of senders, receives, the material and symbolic production of objects placed within the art museum space, at the same time as they affirm the power and determinisms inherent in the museum as an institution. Indeed, in this case, the audience evade and reaffirm the museum as a charged space at the same time by constantly shifting the attention from heteronomy to autonomy.

Finally, I want to mention the artwork 'Rider spoke' which invites the audience to cycle through a city with a handheld computer mounted on a bike:

The piece continues Blast Theory's fascination with how games and new communication technologies are creating new hybrid social spaces in which the private and the public are intertwined. It poses further questions about where theatre may be sited and what form it may take. It invites the public to be co-authors for the piece and a visible manifestation of it as they cycle through the city.
(Blast Theory n.d.e)

Participants are given a question and an opportunity to find an appropriate location to record their answer on the attached device. The screen is a position system showing where the participant is located, and where other recorded hiding places are. Again, Blast Theory investigate the tension between physical location and electronic location, public and private – but more importantly, they create yet another meta-world that constitutes spaces that facilitates the interactions of networked publics.

Institutional transformations

The institutional transformation of art museums is a constant process. Indeed, these transformation processes lie in the very nature of art museums. The reason for this is that museums constitute a prominent node in the field/network of cultural production – but as all nodes in a network, they are dependent on connections and flows to other nodes. These nodes are composed of other social agents in the field, be it other artistic works, genres, a given cultural policy – and in Bourdieu's terms, recognition, construction and distribution of capital. The position-takings offered to the modern art museum is defined in relation to the space of possibles – and as these constantly present producers and consumers with different options to choose from the art museum cannot be perceived as an isolated node, but rather as deeply embedded in the transformation of the field as a whole. This 'whole' arises in a complex web of power relations – or better still – clashes between senders, receivers, the materiality of

artworks, their symbolic production and the value certain actors within this power field are given – and of course the *charged spaces* that materialise, or manifest this field of struggle.

I argue that the networked publics that are constituted in the locative media artworks of Blast Theory reaffirm the power of museums as charged spaces. The reason for this is that the artworks have limitations in terms of time and space – and the affordances of the meta-worlds/artworks in question. As opposed to net art, which often creates meta-worlds of space of flows and timeless time (Castells 2000, 2004, 2009), these works create meta-worlds of space of places and narrative time. Furthermore, they can be contextualised as performances (in temporality and spatiality) rather than as digital flows in exchange-oriented cultures. They follow certain conventions, rules, user patterns and user behaviour that is pre-programmed in its mixed spaces – just as is the case with the primary, secondary and tertiary spatiality of museums. Furthermore, the mixed spaces of Blast Theory are also physical places, and when this is combined to their spatiality and temporality – the power inherent in programming these spaces is reaffirmed, rather than the opposite.

In terms of the double hierarchy inscribed into museum spaces the locative media artworks analysed in this paper can be situated on either the heteronomous side of the axis, or the autonomous one. This is so because these artworks are enacted as performances – and as all performances these have elements of heteronomy and autonomy. That really depends on the individual experience of users engaged and enacting the artwork – but it certainly depends as well on the overarching values and purpose that is programmed into the temporality, spatiality and physicality of locative media artworks – and it is from this viewpoint that I maintain the art museum has reaffirmed its power within the field/network of cultural production.

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Living Lab Methodology in Museum Studies: An Exploration

Olga Van Oost

Abstract

We argue that in the context of a late modern digital society and the Internet of Things, the juxtaposition of audiences and collections that is often a distinguishing feature of a museum has become obsolete. We propose a 'liquid museum concept' as an alternative museum model that adjusts better to contemporary society. In this paper we will first clarify this concept. Second, we will explore to what extent Living Labs and Actor-Network-Theory (ANT) might be useful methodologies to translate the liquid museum concept into research and a daily museum practice.

Introduction

Approaches in museology or museum studies differ considerably, depending on sociological and (art) historical traditions, the geographical area or the theoretical/empirical position taken (Desvallées & Mairesse, 2010). Critical Anglo-Saxon museum studies, first embodied by Vergo's *New Museology* (1989), focus on a whole range of 'political' (power) aspects of a museum or gallery, tackling issues such as the representation of class, gender, ethnicity, sexuality and so on (Macdonald, 2006). In this line of thinking, the presence of different narratives and of a 'polysemic museum' with multiple meanings were acknowledged and audience research, education, learning became important branches in museum studies (Ross, 2004). For others, the museums' principal task is to be an object's warehouse or a shrine for sacred, autonomous works of art, supported by self-referential systems of (art) history and (art) critique. Despite of all the critical discourses (Bennett, 2005) trying to blend these different views together, the juxtaposition of audiences and objects remains pre-eminent in museums and galleries. Moreover, the challenge for museums seems to be to find a balance between audience-oriented and object-oriented perspectives.

However, we argue that in the context of late modern societies evolving into digitally, networked spheres, ubiquitous computing, emerging mobile technologies and the Internet of Things, museums will have to face another challenge altogether (Van Oost, 2012). Within this technological and societal framework, the division between audiences and collections becomes obsolete since the non-hierarchical network of tangible and intangible (immaterial) objects (heritage), people and institutions is characteristic for the Internet of Things (Gardner & Mars, 2011). This offers us the building blocks for a new museum approach that

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integrates the different viewpoints and we have called a 'liquid museum concept' (Van Oost, 2012).

In this paper we will first develop this perspective at a conceptual and theoretical level. Second, we will explore possible methodologies that might be able to help us translate the liquid museum concept into research methodologies that will enable museum studies researchers to put them into practice. The goal of this paper is to explore to what extent Living Lab Methodologies can be useful for museum studies and we will also explore the 'sociology of associations' or Actor-Network-Theory (ANT) as a possible methodology.

The museum problem: collections or audiences?

What meanings can a public museum or gallery have in the 21st century? What will the museum of the future look like? Is a museum still a relevant medium? Policy makers, creative industries, academics, museologists struggle with these questions and provide us with answers, all framed within their own self-referential frameworks. However, we argue that the answers generally do not suffice and the immediate cause seems to be that the museum itself is questioned insufficiently. Museums often appear to have a general accepted authority for which they fall back on their 18th and 19th century roots. In this period museums had firm and solid positions and gained authority through art history and the belief in sacred objects with inherent and transcendent values. They also approached collections in a 'modern' manner, applying strictly hierarchical taxonomic systems, depriving the object of its ambiguity and organic context (Biezunski, 2007 in Dalton, 2010; van den Heuvel et.al., 2010). Moreover, museums presented traditional, 'modern' values to their audiences and based their so-called authority on modern, white, elitist and male premises. This was critiqued in a 20th and 21st century framework, in which democratization and post-colonialism have made us aware of the importance of equality, cultural diversity and inclusion (Chambers & Curi, 1996). Against this backdrop, certain scholars have identified a shift from object-centered institutional approaches to more visitor-centered or experience-centered bottom-up heritage orientations. Education and learning as well as audiences, often redefined as participatory heritage communities (UNESCO, *Convention for the Safeguarding of the Intangible Cultural Heritage*, 2003), are seen as central to museums' missions (Hooper-Greenhill, 1994; Golding, 2009, Hein, 2000). However, for other scholars, the object-centered perspectives that attribute fixed hierarchically ascribed meanings to the sacred object remain valid.

At the surface, these discussions seem to slumber in our museums. However, they are still quite outspoken as we see them reflected in their organizational models based on the ICOM museum definition that clearly distinguishes objects/collections from audiences. Another problem following these discussions is that museums often tend to be quite inward looking, as was demonstrated in a PHD research study on the future of art museums in Flanders (Belgium) (Van Oost, 2009). For museums the challenge has always been to blend these different views together but the juxtaposition of audiences and objects has remained pre-eminent in museums and galleries as well as in museum studies.

An international museum definition such as the ICOM-definition still makes us believe that a museum consists of (dead) objects (collections) that have to be conserved, scientifically researched, and made accessible for audiences. Subsequently, our methodologies in museum studies also tend to reflect these 'classic' museum perspectives. We should wonder however, to what extent these views are still relevant in the 21st century? Especially when we take into account that contemporary society pre-eminently is a visual culture that is

digital and 'people-driven' (Parry, 2007, 2010). Sociologists of modernity have provided us with insights that can help us rethink the museum concept.

A 'liquid' museum concept in late modernity

To fully understand the role of a public museum in this day and age, we need to understand the period of time that we are living in for which the sociology of modernity provides us with significant insights (Berman, 1983). Traditional authoritative hierarchical systems and institutions that represent specific 'modern' power relationships are being questioned in late or 'liquid' modernity (Bauman, 2006), where uncertainty and doubt have begun to prevail. Influenced by internationalization and increasingly global capitalism, traditional ways of thinking in terms of boundaries are being abandoned (Gielen, 2010). This results in the questioning of the legitimacy of previously unambiguous concepts such as the nation state, parliamentary systems and individual institutions. This transition also has a profound influence on the position of museums in society (Prior, 2002).

Late or liquid modernity provides us with a framework that questions the legitimacy of a public museum as such and that also questions the boundaries between objects and audiences that exist within the museum. In this light we have pleaded for more hybrid or 'liquid' museums that do not make these stringent distinctions anymore and that try to approach all these elements in an integral, circular way. This is especially important in the context of our societies entering the digital age (Van Oost, 2009; 2011). In a digital, networked sphere, the distinction between objects and audiences is not that relevant anymore. Every person, thing or object is a bundle of data. This implies that the contribution of all actors can be equally valuable, at least in theory. This 'liquid' museum approach has been well received by some museums in Flanders while others are quite reluctant towards this kind of approach. A major point of critique on this 'liquid' museum concept is that it is preliminary and mainly a theoretical discourse since in daily museum practice these kinds of profound transitions are not taking place and a general feeling of status quo prevails. Moreover, many museums in Belgium and beyond still are not convinced that we are actually living in a ubiquitous digital and visual culture.

In the following part of this paper we will try to demonstrate that certain technological developments such as the Internet of Things have a large probability of becoming dominant in society and that this 'liquid' museum concept is far from an experimental exercise. Subsequently, we will explore possible methodologies that can underpin future research into this concept.

Modernity: from linearity to network in the Information Age

According to Manuel Castells' trilogy *The Information Age* (1996, 1997, 2000), we are living in a 'network society'. 'Network' has always been an important concept in social theory. Ongoing debates in classical sociologies of Marx, Tönnies, Weber, Durkheim and many others involved the relations between individuals, communities and systems in our modern era. Moreover, intellectuals throughout the 20th century studied concepts such as power, freedom and emancipation within this context. We might even be able to argue that sociological research is always research into networks to a certain extent (Inglis & Hughson, 2003).

However, there are differences between the more classical sociological approaches and the idea of a network society that became apparent in the nineties. One major difference is Castells' argument that the current model of a network society is defined by the emergence

of networks '*powered by new information technologies*' (Castells, 2000: 15 in Gane & Beer, 2008). Due to the domestication of technologies, the widespread use of home computers and the emergence of the Internet since the nineties, the image of a 'network society' started to transform. The information architecture of computer networks became a metaphor for our late modern digital society. The analogy is particularly apparent in the online world, in which users are literally linked to each other. The shift towards an idea of a network (or information) society led to optimistic views of which Daniel Bell's probably is the most known. According to him, '*technology transformed social relationships and our ways of looking at the world*' by which he meant that former stringent balances in power would diminish or even disappear (Bell, 1999: 188; cited in Laughey, 2007: 160). However, for Castells and many others the network society is basically a critique on late capitalist society in which the interests of powerful industries are reinforced (Gane & Beer, 2008). We refer to other publications on the Information Society for an overview of different perspectives (Lister, 2003; Laughey, 2007).

Our case in point is that views on a digital network society differ considerably and it is often a discussion of believers versus non-believers. Until today critics state that too much attention is paid to technologies and believers are considered to be technology determinist. Otherwise, in the last couple of years we notice that the work of Marshall McLuhan is reappraised (McLuhan & Zingrone, 1995). McLuhan firmly believed in technology's power to shape systems, human behavior and relations. 'Technology determinism' has a strong and rather negative connotation, as if people are not in control of their own thoughts and behaviors. On the one hand, we acknowledge the individual's strength to make reasonable decisions and to be emancipated but on the other hand we cannot deny that technology has an impact on our daily lives. Mars illustrates this very well with this example of software: '*Software is a socio-technical system in which computing technology meets social relationships, organizational politics, and personal agendas. Every time an organization starts to implement software it will need to restructure itself in order to accommodate new procedures, flows of information, social relations, corporate memory, monitoring, control, and demand to understand the new system as a whole. That process binds together, as Nathan Ensmenger writes, "machines, people, and processes in an inextricably interconnected and interdependent system" which never goes without "conflict, negotiation, disputes over professional authority, and the conflation of social, political, and technological agendas. Software is perhaps the ultimate heterogeneous technology. It exists simultaneously as an idea, language, technology, and practice*' (Gardner & Mars, 2011: 5).

Modernity and Innovation: The Internet of Things

Our current conception of the network society also reflects a particular view on innovation as it became increasingly pronounced in the nineties. 'Innovation' is a cornerstone in the construction of the Information Society and closely tied to the European Digital Agenda (Altec, 2009). We should be aware of the fact that this is a specific discourse and that 'innovation' can have many interpretations and meanings. When technologies that did not exist before come to the market they are 'new'. Whether they are 'innovative' is another question all together that technology specialists will be able to answer. Furthermore, in our modern society the emergence of technologies or media is a recurrent phenomenon and within this broader context 'newness' and 'innovation' risk to become obsolete concepts. For scientists of the humanities, and art sociologists in particular, what it means to 'renew' is an ever-recurring question (Graham & Cook, 2010). We merely have to raise concepts such

as avant-garde and modernism to make our point. Characteristic for modernity, every concept can be defined in different ways depending on the perspective and for every definition an alternative can be found.

In spite of these critical remarks, we do argue that within a contemporary new media ecology characterized by ubiquitous computing and 'everyware' technologies, traditional media-approaches are being challenged (Sterling, 2005; Greenfield, 2006). Especially a technological development such as the Internet of Things (IOT) is highly innovative from a humanities angle. Within computer sciences and from an industries perspective, the IOT is a very specific area covering a whole range of technologies, commonly referred to as 'smart technologies'. QR-codes and RFID-signs are examples that are already quite commonly used by commercial sectors in their advertising campaigns. At first sight these codes appear to be similar to the barcodes imprinted on everyday products, mainly used for the scanning of prizes. However, there are some major differences of which the most important one is that these objects are 'smart' meaning they are dynamic and constantly changing instead of being static codes. Each code has a unique identifier that in turn makes each object unique. These codes contain information that is stored in a database and that can be updated regularly. Furthermore sensors allow these objects to update 'themselves': for example, they can react to changes in temperature, humidity, and so on: *"As these new micro-devices become commonplace, museums will be able to easily monitor conditions in the gallery, in storage, and in real time. Smart object technology is becoming more integrated with mobile phones, and the ecommerce potential of near field communication will allow visitors to seamlessly make a purchase from the gift shop, and even have it shipped home with a click on their NFC-enabled mobiles"*. (New Media Consortium, 2011: 8-9).

The IOT can be of a practical use in museums and galleries but this technological perspective is far too limited. The idea that technology provides objects with agency is innovative as well as the blurring boundaries between the physical world and the Internet. Human users, as well as objects and spaces become active and dynamic and connected. Following Gardner this means that we gain *'an additional perspective, to see the human as equal of things, as an object amongst objects, a flat hierarchy, a democracy of objects.'* (Gardner & Mars, 2011: 13). In other words, in a digital context every object becomes an actor or an active agent and vice versa, every human actor becomes a digital object. 'Smart objects' as they are commonly becoming known, are penetrating our daily lives and according to researchers this trend is here to stay (New Media Consortium, 2011).

From a humanities point of view, this means we are at the verge of a new theoretical and methodological paradigm entailing challenging perspectives to observe, analyze and interpret late modern societies and that re-opens structure-agency debates: *'The internet of things is the world of real and virtual objects. Each object can have behaviors, characteristics, internal workings, external affects, particular methods or practices. Each object relates to other objects by hierarchy, affiliation, set, or sequence. Each object can mobilize other objects, move in clusters and swarms, reinforce their constellation and gain meaning and influence. This world view is classified as 'object-oriented' or as 'material-semiotic' webs or networks. Fields are springing up around these world views like object-oriented philosophy in terms of theorizing, object-oriented programming in terms of operating and Actor-Network-Theory in terms of analyzing'*. (Gardner & Mars, 2011: 13).

Within this context of the IOT, the liquid museum concept is not such a theoretical and incomprehensible idea anymore since the entire idea underpinning the concept is the

blurring of boundaries between collections and audiences. However, we need methodologies that enable us to translate this technological-theoretical paradigm into a research study and a daily practice. First we will explore what Living Lab Methodology might be able to contribute. Second we will have a look at Actor Network Theory.

How to study this new museum paradigm: an exploration of methodologies

Living Lab Methodology

Re-thinking boundaries within the organization is characteristic for the liquid museum concept. This museum proposition denounces the entrenched idea that a museum should be built on the poles 'object' and 'audience' as it is also dictated by the museum definition of the International Council of Museums (<http://icom.org>). Subsequently, this museum model has an entirely different starting point that has an impact on the museum's mission and the organizational model. For this means that a curator who formerly only focused on collections and literally worked in a separate department, will be asked to open up and also work together with other people in the organization. Likewise, audience developers or conservators will have to open up their viewpoints and practices as well. Currently, few museums actually dare to deviate from the ICOM museum definition. Furthermore, museum staff also works within the academic self-referential frameworks of art history, history or other sciences that reinforce the 'classical' museum approaches.

Digitization and long-term preservation of collections, the emergence of new media applications to involve and engage audiences and the Internet to say the least, and the Internet of Things in particular, render the liquid museum concept an increased plausibility. However, we need methods to scrutinize to what extent. 'Living labs' seems to be a very useful and appropriate platform to test these questions.

William Mitchell defined living labs as: "*Living Labs is a research methodology for sensing, prototyping, validating and refining complex solutions in multiple and evolving real life contexts*" (Mitchell, in Pierson & Lievens, 2005). The living lab has to be understood in the specific context of innovation and 'open innovation' paradigm as described elaborately by Henry Chesbrough (2003, 2006). The idea underpinning this is that new technologies should be developed, tested and validated in an iterative process that includes user involvement from the start. In other processes users are asked to test an application when it is fully developed. The central idea of innovation in a Living Lab context is that users, developers and creative industries co-create and that there is a willingness to share (Altec, 2009). The process involves a whole range of actors and is network-oriented (Chesbrough, 2003). To state the obvious, we emphasise that the aim of a Living Lab approach is to support the development of new technologies and applications and to test these applications on their market viability before actually entering the market.

Researchers from the Interdisciplinary Institute for Broadband Technology (IBBT) have developed a Living Lab research cycle in which quantitative and qualitative methodologies are combined. This research cycle consists of 4 phases: 1) contextualisation; 2) concretisation; 3) implementation and 4) feedback (Pierson & Lievens, 2005).

The Living Lab Methodology is still in a developmental phase. When taking a critical look at the Living Lab Research cycle, we might conclude that, for now, rather than an entire 'new' methodology, a Living Lab is a specific setting where existing quantitative and qualitative methods are deployed. An overview of museums functioning as living labs also leads us to this preliminary conclusion (<http://enoll.eu>). In the research project Apollon, the Museum of Contemporary Art in Antwerp (M HKA) was used as a living lab to test a mobile game application (Coenen, et al. 2011). In this project, the focus obviously lay on game development for which the input and feedback of museum staff as well as test users were imperative. However, the problem is that it basically remains a quite functional approach of a museum experience. Although user's behaviours are observed and analysed, the final goal remains the testing and implementation of a technology. A Living Lab approach holds major potential but the focus on instrumental 'user testing' appears to have limitations, especially if we want to establish a cross-over with the liquid museum concept. The framework of the Living Lab is very useful, but we need another methodology to overcome the shortcomings. In the next part of this paper, we will explore Actor Network Theory, that is basically an elaborate ethnographic research paradigm for which users as well as objects, technologies and space, are possible actors.

Actor Network Theory or the sociology of innovation/associations

We criticize the 'instrumental' and 'functional' method of user testing in Living Lab approaches. The main problem is that these methods have fixed frameworks and social realities as their starting-points, but as thinkers of reflexive modernity and of Actor-Network-Theory (ANT) have stated clearly, frames of reference are not fixed at all (Latour, 1993; Lash, 2003; Law, 2004). Clearly defined structures and systems are non-existent: *'Society is no more 'roughly' made of 'individuals', of 'cultures', of 'nation states' than Africa is 'roughly' a circle, France a hexagon or Cornwall a triangle. Why should sociology alone be forbidden to invent its own path and be requested to stick to the obvious'* (Latour, 2005: 24). Furthermore, this approach also gives a restricted view on the identities and backgrounds of users. Bruno Latour is very sharp on this 'sociology of the social' that also provides the researcher-analyst a central 'untouchable' role. According to him an observer always places his respondents within a 'social context' that offers him *'a full-blooded theory of what sort of sociology they should be treated with'* (Idem: 32), as if social sciences are established truths. Besides this, he also criticizes the distorted power relationship between the analyst and his research subjects. For critical sociologists *'actors do not see the whole picture but remain only 'informants'. This is why they have to be taught what is the context 'in which' they are situated and 'of which' they see only a tiny part, while the social scientist, floating above, sees 'the whole thing'* (Idem: 32).

We endorse this critique especially since these methodologies and the underpinning theories prevent us from having an open view that could help us break away from our fixed thinking patterns and 'modern' thoughts. Besides, these 'old' views also hamper the development of new societal concepts such as the liquid museum concept. It appears to be quite paradoxical to study innovation on the one hand and to fall back on rather 'classical' methodologies on the other hand. Therefore, the sociology of associations or Actor-Network-Theory is refreshing. When taking a bird's eye view on ANT, we notice that it is actually an anthropological methodology. A first characteristic of ANT is that *"we have to follow the actors themselves, that is try to catch up with their often wild innovations in order to learn from them what the collective existence has become in their hands, which methods*

they have elaborated to make it fit together, which accounts could best define the new associations that they have been forced to establish.” (Latour, 2005: 12; Cressman, 2009). Subsequently and as mentioned above this means that the researcher’s role is very low profile: he observes, describes and captures elaborately without making any judgments or suggesting answers. Third, the analyst will focus in his descriptions on interactions taking place and connections being made. Important, and this is the fourth characteristic – that distinguishes ANT profoundly from the user-testing in the Living Lab approach – in ANT the research area is not limited to humans or carefully designed user groups. In ANT every person, object, space is an ‘actant’ that can become an ‘actor’ when interaction occurs. The idea that every ‘thing’ can be an actor might have seemed quite strange a couple of years ago but currently, the Internet of Things illustrates this perspective perfectly.

A methodology for the liquid museum concept?

Actor-Network-Theory provides us with sparkling and innovative ideas that can be deployed in a Living Lab context and that might be a significant alternative for the aforementioned more functional user testing. However, a study on the plausibility and the feasibility of a liquid museum concept would undermine this methodology immediately because this model is a new ‘framework’ or ‘context’ that has been created by a social scientist. Although we would focus on the movements and the actions that appear and disappear between the different kinds of actors, describe them carefully and “re-assemble the museal”, this would not be a ‘pure’ implementation of ANT. Generally, social scientific researchers conclude their work with a list of recommendations. In our study we might want to make recommendations as well e.g. on altering the organizational model of a museum. Again, this is contradictory to an ANT approach where these ‘explanations’ cannot be made.

Subsequently, we cannot set up a research framework to study the liquid museum concept that is “solid ANT” or “solid Living Lab” for that matter. The Living Lab context and research cycle is appropriate as a setting and is an eye-opener concerning innovation but it’s focus on user research is too restricted. ANT provides us with a wonderful ethnographic alternative that focuses on narratives and the dynamic assemblages of actors (people, objects and spaces). The strength of ANT is its capacity to detract ourselves from a social reality (or at least it pretends to be capable of doing this) and subsequently to provide us with alternative realities. However, ANT does not allow us to frame these new realities and this is very confusing for a social scientist for who this is almost a mandatory practice. Our suggestion would be to develop a methodology that combines elements of the Living Lab setting and research cycle with the useful ANT components.

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The Hybrid Museum: Hybrid Economies of Meaning

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Abstract

Social media has created new ways of communicating and has brought about a new distinctive ethos. New literacies are not simply about new technology but also about this new ethos. Many museums are embracing this ethos by what is often called participatory practices. From a sociocultural perspective this article shows that there are two different museum mindsets where the second mindset leans towards participatory practices. It is shown how a museum can support a hybrid economy of meaning that builds on both a user generated economy of meaning and an institutional economy of meaning and adds value to both. Such a museum is referred to as a hybrid museum.

Keywords

Museology, social media, participatory culture, new literacies, negotiation of meaning, economies of meaning.

New modes of communication

When the world and the ways in which we communicate are changing, should museums and the way in which they communicate with people change accordingly? On one hand museums can be places of wonder offering a refuge from the busy daily lives in the 21st century. From that perspective it might be a good idea to offer ways of engaging with artifacts that are fundamentally different from the current trends in modes of communication. On the other hand museums is very much part of society and serve a broad range of users, including young users who might not be accustomed to nor interested in traditional ways in which museums communicate about the objects on display. From that perspective it might be a good idea to offer ways of engaging with artifacts that are based on popular, contemporary modes and platforms of communication.

I think that there is no right or wrong answer, but different modes of communication with users certainly have different consequences for user enjoyment, involvement and learning. Knowing more about the communicative relationship between institution and users gives museums a chance to provide for different ways of making meaning. Whether or not a museum decides to organize exhibitions on new or old modes of communication, or a combination of these, it is necessary to understand contemporary modes of communication, culture and even thought. Even if a museum decides to challenge contemporary cultures of communication it is necessary to know them. Today this primarily involves knowing social media.

Social media has created new ways of communicating, but social media in itself is not new anymore. In 2012 social media is now an established part of everyday life that museums cannot ignore. There are now more than 800 million active Facebook profiles, which is more than the number of cars in the world. YouTube has 490 million unique visitors per month (Feb 2011), which generates 92 billion page views. 35 hours of video is uploaded every minute which means that more video is uploaded to YouTube in 60 days than the three major US networks created in 60 years (Pring, 2012).

However social media is not about simply having a Facebook page or a YouTube channel. In order to understand the communicative properties of social media museums need to understand participation. There is an extensive body of literature about social media and participatory culture, and today we know that social media has not just provided new platforms for communication but also that social media has catalyzed the formation of new participatory cultures. A research team led by famous MIT media researcher Henry Jenkins states that such a participatory culture "shifts the focus of literacy from one of individual expression to community involvement" (Jenkins, Purushotma, Weigel, Clinton, & Robison, 2009, p. 4) . The new literacies involve social skills developed through collaboration and networking, and Jenkins identifies skills such as e.g. distributed cognition, collective intelligence, transmedia navigation, networking and negotiation (Jenkins et al., 2009).

It is clear that traditional museum exhibitions purely consisting of objects with labels neither draw on nor nurture such skills. I would however argue against seeing that as a problem in itself. Solitary activities such as reading a book, experiencing a painting or exploring a historic

display are indeed important. The point is not that one mode of communication or one set of skills is inherently better than another. The point is that they are different, and I will argue that they can indeed complement each other.

New literacies and museums

Educational researchers Colin Lankshear and Michele Knobel define literacies as “socially recognized ways of generating, communicating and negotiating meaningful content through the medium of encoded texts within contexts of participation in Discourses (or, as members of Discourses)” (Lankshear & Knobel, 2006a, p. 64). The definition draws upon social linguistics researcher James Paul Gee’s theory where he defines Discourses (with a big D) as “ways of combining and integrating language, actions, interactions, ways of thinking, believing, valuing and using various symbols, tools, and objects to enact a particular sort of socially recognizable identity” (Gee, 2011, p. 29).

From this sociocultural perspective literacies are not about simply being able to read and write. Instead literacies refer to the different practices involved in creating and negotiating meaning with texts which is strongly related to issues concerning identity. “Text” doesn’t just denote writing but includes all kinds of media texts including video, radio or even painting. Going to the museum certainly involves negotiating meaning with texts and museum users definitely participate in different Discourses. Highly “literate” museum users know just how to act, interpret and think in exhibitions whereas less “literate” museum users might be insecure about how to engage with an exhibition. Just as there are practices involved in being a “Trekkie” and engaging with Star Trek fiction, there are socially recognized practices involved with going to museums.

Some literacy practices such as blogging or podcasting can be seen as new literacies. They are “new” purely from a historical (as opposed to a temporal) perspective, and as Lankshear & Knobel writes: “As soon as Instant Messaging appears, email seems like an ‘old’ literacy” (Lankshear & Knobel, 2006b, p. 4).

New literacies evolved historically with the spread of digital media, and they are central in relation to social media. It is beyond the scope of this paper to explore the chronology further; what is important is to emphasize that from a sociocultural perspective new literacies are different than former literacies. They are different in that they involve phenomena related to new technologies and new norms, rules and ways of thinking. Lankshear & Knobel refer to these phenomena as “new technical stuff” and “new ethos stuff”.

One way of looking at “new technical stuff” would be through the lens of new media. New media scholar Lev Manovich has described new media in terms of five general principles or tendencies: Numerical representation, modularity, automation, variability and transcoding (Manovich, 2001). These principles set apart new media from former media and they offer new possibilities and challenges for communication. The “new ethos stuff” of new literacies describes not merely the principles of new technology itself but rather certain principles of thought and ascription of value. Lankshear & Knobel understand it as the emergence of a new

kind of mindset. It is possible to approach the contemporary world through what could be called a “physical-industrial” mindset or through a new “cyberspatial-postindustrial” mindset. The “new ethos stuff” reflects the second mindset. Lankshear & Knobel have put the two mindsets into a table as a heuristic device:

Mindset 1	Mindset 2
<p>The world basically operates on physical/material and industrial principles and logics. The world is “centered” and hierarchical.</p> <ul style="list-style-type: none"> • Value is a function of scarcity • Production is based on an “industrial” model <ul style="list-style-type: none"> ○ Products are material artifacts and commodities ○ Production is based on infrastructure and production units and centers (e.g., a firm or company) ○ Tools are mainly production tools • The individual person is the unit of production, competence, intelligence • Expertise and authority are “located” in individuals and institutions • Space is enclosed and purpose specific • Social relations of “bookspace” prevail; a stable “textual order” 	<p>The world increasingly operates on non-material (e.g., cyberspatial) and post-industrial principles and logics. The world is “decentered” and “flat.”</p> <ul style="list-style-type: none"> • Value is a function of dispersion • A “post-industrial” view of production <ul style="list-style-type: none"> ○ Products as enabling services. ○ A focus on leverage and non finite participation ○ Tools are increasingly tools of mediation and relationship technologies • The focus is increasingly on “collectives” as the unit of production, competence, intelligence • Expertise and authority are distributed and collective; hybrid experts • Space is open, continuous and fluid • Social relations of emerging “digital media space” are increasingly visible; texts in change

(Lankshear & Knobel, 2006a, p. 38)

Museum mindsets

Now, looking at these two mindsets from a museum perspective I claim that the first mindset is very similar to a “traditional” museum mindset. Within that mindset museums are, roughly speaking focused displaying the unique, the rare or the exotic. Artifacts in the form of cultural gems, traces of the past or great pieces of art are carefully selected and are at the center of attention. The museum personified in the curator is the authority that selects, combines and interprets the best and most unique artifacts from the museums’ collection. The artifacts are exhibited with great care and particularly unique items are placed centrally in the museum building. The building itself is an impressive monument and almost a shrine to the treasures that it contains and guards.

The second mindset however is more focused on the general, the virtual or the common. The widespread is seen as valuable and authority is a distributed and collective project where a diversity of meaning is important. My claim is that this mindset is very similar to many museums’ attempts of renewal since the beginning of the new millennium. This wave of renewal has been about user involvement, outreach and new design practices, but it has also been about museums and museologists trying to rethink and redefine museums as a whole. Danish museum researchers Holdgaard & Simonsen (2011) mention some examples of what this new type of museum has been labeled in recent literature, such as the *responsive museum* (Lang, Reeve, & Woollard, 2006), *reinvented museum* (Anderson, 2004), *engaging museum* (Black, 2005), *constructed museum* (Hein, 2005), *post-museum* (Hooper-Greenhill, 2000) and *participatory museum* (Simon, 2010). To the list one might add e.g. the *interactive museum* (Drotner, Weber, Larsen, & Løssing, 2011), *total museum* (Šola, 2010), *dialogic museum* (Tchen & Ševčenko, 2011), *transformative museum* (Drotner, 2010, 25/11) and possibly more.

I believe that both the first, “industrial”, mindset and the second, “postindustrial”, mindset can be found in contemporary museums, and unlike some researchers I believe that both serve a purpose and that neither is inherently better than the other. Eilean Hooper-Greenhill writes: “Until recently, museums could be described as repressive and authoritarian symbols of unchanging solid modernity and indeed there are still some museums that cling to this out-dated identity, but across the cultural field many others have moved with nimble flexibility and creative fluidity to respond to the conditions of post-modernity” (Hooper-Greenhill, 2007, p. 1). Hooper-Greenhill is inspired by Zygmunt Bauman’s analysis of the modern and the post-modern, but as it can be seen her distinction resembles my aforementioned distinction between a physical-industrial and a cyberspatial-postindustrial mindset. The difference between Hooper-Greenhill’s description and my descriptions is that Hooper-Greenhill believes that the new ethos should replace the old “repressive”, “authoritarian” and “out-dated” ethos.

I think that the cyberspatial-postindustrial ethos is indeed a new ethos, but I don’t think that it is better just as I don’t think that email is better than handwritten letters, or that video games are better than film. The mindsets are different but it is much too thoughtless to dismiss values as “out-dated” simply because new values enter the field. Instead I propose that we acknowledge that there are two fundamentally different mindsets and analyze these in relation to museums. As a heuristic theoretical device I have arranged the two different

mindsets in a table. The content is based on Lankshear & Knobel's descriptions as well as on the current museum literature and debates:

“Industrial” museum mindset	“Postindustrial” museum mindset
<p>The world of the museum is “centered” on the museum building. People come to the museum to see the unique objects on display.</p>	<p>The world of the museum is “decentered” and “flat”. The museum is part of society and people use the museum for a lot of different purposes.</p>
<ul style="list-style-type: none"> • People are “visitors” • Value is a function of scarcity, and the museum exists through its collections. • Exhibitions are based on a “industrial” model <ul style="list-style-type: none"> ○ The museum offers artifacts, information and interpretation ○ The museum produces exhibitions for visitors ○ Exhibitions are “finished” products • The museum and the curator are the most important authorities • Didactic view on learning • Exhibits are “hot” (McLuhan) and saturated with details • Content is unique • The museum is a place for experience and understanding • The museum connects objects and creates curated collections • Institutional economies of meaning are important • The museum is located in the museum building 	<ul style="list-style-type: none"> • People are “users” • Value is a function of dispersion, and the museum exists through its users • A “postindustrial” view of exhibition <ul style="list-style-type: none"> ○ The museum offer services, tools and facilities ○ Users participate and contribute to exhibitions ○ Exhibitions are dynamic and changing • Authority is distributed, and the users play important parts in curation and interpretation • Dialectic view on learning • Exhibits are “cool” (McLuhan) and users need to fill in details themselves • Content is sharable and may be remixed or user generated • The museum is a place for dialogue and creativity • The museum connects people and creates networks • User generated economies of meaning are important • The museum is located in society, also online

Into the hybrid

I wrote that one mindset is not inherently better than the other. There *is* however a current need for museums to consider including a postindustrial mindset. Museum researcher and designer Nina Simon (2010) points to five commonly-expressed forms of public dissatisfaction: That cultural institutions seem irrelevant, that the institutions never seem to change, that the authoritative voice of the institution doesn't include the view of the users, that the institution is not a creative place for expression and contribution, and that the institution is not a comfortable social place to talk about ideas with friends or strangers.

These forms of dissatisfaction are highly related to the first mindset and the industrial ethos, and Simon sees them as “reasons to pursue participation, whether on the scale of a single educational program or the entire visitor experience” (Simon, 2010, p. iv). Simon doesn't say that addressing these challenges means changing everything and as such her thoughts are compatible with my point that a collaborative postindustrial ethos does not need to overrule or replace a more individually oriented industrial ethos. In fact I claim that it is indeed possible and even rewarding to combine the two mindsets into a hybrid museum practice.

In order to understand what a hybrid museum or a hybrid exhibition entails, I want to turn the attention towards the Internet. American law professor and Creative Commons founder Lawrence Lessig coined the term *hybrid economies* to describe the successful business model on the Internet where commercial economies and sharing economies coexist and gain from each other (Lessig, 2008). Commercial economies are economies revolving around profit. Most Internet stores and dotcom companies are based on a commercial economy. The video rental company Netflix is arguably one of the first big commercial successes on the Internet. Sharing economies on the other hand are economies where the economy is not about money and profit. As Lessig explains: “All the category of ‘sharing economy’ requires is that the terms upon which the people participate in the economy are terms not centered on cash” (Lessig, 2008, p. 172). Wikipedia is probably the most prominent Internet sharing economy, and here people share, create and negotiate meaning independent of money. There certainly is money involved, and in 2011 Wikimedia Foundation Inc. raised more than \$20 million to cover their budget on \$28.3 million for Wikipedia server maintenance, staff etcetera (Fundraising 2011, 2012). But even though there might be large amounts of money involved in a sharing economy such as Wikipedia, the point is that people build Wikipedia and share knowledge independent of profit.

Between commercial economies and sharing economies there are hybrid economies. A hybrid economy is an economy that builds upon both the sharing and commercial economies and adds value to each. The hybrid economy is “either a commercial entity that aims to leverage value from a sharing economy, or it is a sharing economy that builds a commercial entity to better support its sharing aims” (Lessig, 2008, p. 177). An obvious example of an Internet hybrid economy would be YouTube, a commercially run site generating huge profit while at the same time it is based on a sharing economy where users create and share videos. Many social sites operate in that way, and they operate very well. Of course there are occasional disagreements between the participants in the sharing economy and the commercial entities behind the sites, e.g. over copyright issues and privacy issues. However most of the time both

the sharing economies and the commercial entities are satisfied and gain from their almost symbiotic link.

In the same way as commercial economies and sharing economies are able to enter into the hybrid economy, I suggest that the industrial and the postindustrial museum mindsets are able to be part of a hybrid where something is produced from the link. Instead of claiming that what is simply a traditional industrial mindset is “repressive”, “authoritarian” and “out-dated” or instead of ignoring the postindustrial mindset related to new literacies I propose to combine elements of the two into a synergistic hybrid mindset.

The currency of exhibitions

The differences between the two museum mindsets have nothing to do with money, so of course Lessigs notion of the hybrid economy should be seen as an analogy. For most museums money is a necessary evil and most museums don't exist in order to make profit. In fact many museums rely heavily on generous donations from foundations and individuals and could be seen as sharing economies in their own right.

In exhibitions value is not related to money, it is related to meaning. I claim that the product as well as the currency in exhibitions is meaning. From this perspective the industrial mindset can be seen as a mindset where the ownership of meaning is primarily held by the institution, whereas in the postindustrial mindset ownership of meaning is distributed.

Meaning is closely related to identity and from the sociocultural definition of literacies we learned that literacies involve negotiating meaningful content within Discourses, which involves combining and integrating e.g. language and actions “to enact a particular sort of socially recognizable identity (Gee, 2011, p. 29). Well known museum researcher John Falk also describes the link between identity and the construction of meaning, and he shows how identity-related motivations are woven together with meaning making (Falk, 2009). The link between identity and meaning is however even clearer in learning theorist Etienne Wengers social theory of learning in which identity is described in terms of the duality *identification-negotiability* (Wenger, 1998). The first of these identity components define which meanings matter to us while the second determine our ability to negotiate these meanings. While *identification* is defined with respect to *communities* and *forms of membership* in them *negotiability* “is defined with respect to social configurations and our positions within them” (Wenger, 1998, p. 197). Wenger describes these configurations as *economies of meaning*, and within these economies, negotiation of meaning is shaped by structural relations of *ownership of meaning*.

Looking back at the two museum mindsets from this perspective it is clear that the first, industrial, mindset is leaning towards favoring institutional economies of meaning whereas the second, postindustrial, mindset is leaning more towards favoring user generated economies of meaning. The industrial mindset favors professional negotiation of meaning in the communities of art historians, archeologists, biologists and other museum professionals, and users are offered meanings that are primarily based on the authority of these

professionally negotiated meanings. The postindustrial mindset on the other hand favors the nonprofessional negotiation of meaning in user groups as well as between user groups across society, and users are offered services and tools for these purposes. This is of course a simplified description, and the important thing is to understand that there are institutional economies of meaning and that it is also possible to allow for the foundation of user generated economies of meaning.

An economy of meaning that builds on both an institutional economy of meaning and a user generated economy of meaning and adds value to each is what I call a hybrid economy of meaning. *The hybrid museum* is a museum that aims at supporting and sustaining a hybrid economy of meaning. This can be achieved in a lot of different ways, and the ratio between the institutional and the user generated economy of meaning might be large or small. The user generated economy of meaning might be given its own separate space or it might accompany the institutional economy of meaning throughout the museum. There is no right way of creating the hybrid. The only imperative is that the two economies of meaning must add value to each other. A comment book that no one reads does not make a museum hybrid.

The hybrid museum

The hybrid museum can take on a lot of different shapes. Some hybrid museums might offer tools for tagging and creating folksonomies. Others might encourage users to remix and reinterpret works of art and put them in the exhibition next to the originals. Some might help users to build and curate entire exhibitions themselves. Still others might simply provide well designed tools for commenting and discussing the themes of an exhibition. The means for allowing the users to build a user generated economies of meaning that adds value to the institutional economies of meaning and vice versa are almost endless.

In relation to hybrid economies (of money) Lessig warns that the link “is sustained, however, only if the distinction between the two economies is preserved” (Lessig, 2008, p. 177). Lessig's point is that neither the professionals nor the users must forget that they are in fact professionals and users. The hybrid economy deteriorates if the users feel that they are just a tool for the professionals or if the professionals lose focus on their own professional agenda and begin to think of themselves as users. I strongly believe that maintaining a conceptual separation between economies of meaning is also a key to sustaining hybrid economies of meaning.

As Wenger (1998) points out, that an economy of meaning is in fact an economy. This entails that meanings have various degrees of currency, that participants can have various degrees of control over the meanings produced, and that negotiation of meaning involves bids for ownership and has a contestable character as an inherent feature. One of the typical worries about user generated content of any sort is that it might be unhelpful, amateurish or even plain wrong. And meanings certainly can be wrong.

The British media entrepreneur Andrew Keen has written a frequently quoted book in which he gives a harsh and dystopian critique of young peoples' Internet culture, social media and

user generated content (Keen, 2008). Keen criticizes social sites from Wikipedia to YouTube and expresses worries such as “the free, user-generated content spawned and extolled by the Web 2.0 revolution is decimating the ranks of our cultural gatekeeper, as professional critics, journalists, editors, musicians, moviemakers, and other purveyors of expert information are being replaced [...] by amateur bloggers, hack reviewers, homespun moviemakers, and attic recording artists” (Keen, 2008, p. 16). I strongly disagree with Keen's pessimistic media discourse where he claims that user generated content is killing our culture, and I think that he is wrong when he e.g. writes that “In the Web 2.0 the crowd has become the authority on what is true and what is not” (Keen, 2008, p. 92).

I believe however that it is important to take such criticism seriously and to avoid unwarranted optimism. Most of Keen's worries and criticism is actually addressed through a clear conceptual separation between economies of meaning. Keen's argument is essentially that user generated economies of meaning repress institutional economies of meaning even though he articulates it in another way. However, a hybrid model does not seek repression at all but seek to create synergy between the two economies of meaning. To support user generated economies of meaning does not mean that institutional economies of meaning are devalued. On the contrary with a hybrid approach they are respected and necessary.

Conclusion

The notion of the hybrid museum offers a way of thinking about economies of meaning in the museum. There are countless ways of organizing the hybrid, and a museum might choose to only involve hybrid economies of meaning in a single exhibition, or it might choose to think about the museum as a hybrid altogether. This short article offers only few guidelines as to how a successful hybrid economy of meaning may be brought about. However one of the keys to success involves a conceptual separation between economies of meaning. Users are users and museum professionals are museum professionals. Their economies of meaning should add value to each other, but the two economies of meaning should never be confused. It is also important to understand that neither an industrial nor a postindustrial museum mindset is inherently better than the other. While the first leans towards favoring institutional economies of meaning and the second mindset leans towards favoring user generated economies of meaning, they are both relevant and indeed able to coexist in the hybrid museum. Current museum literature is abundant with new postindustrial ways of thinking about museums and there is a clear trend towards a more postindustrial museum mindset. That doesn't mean that the traditional industrial mindset should be scorned or forgotten. The hybrid museum is an attempt at underlining this point.

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Communities of Practice as a method to develop literacies - an example based on educational practice at ARKEN Museum of Modern Art

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Abstract:

At ARKEN Museum we are interested in examining why visitor participation is important and how it can be practiced as an everyday activity for all visitors. In this paper we will present the educational project called 'Kickstart' as an example of how visitors' participation has led to the development of both individual and organizational literacies by working systematically with Communities of Practice as a methodology.

Communities of Practice as a method to develop literacies

– An example based on educational practice at ARKEN Museum of Modern Art

Introduction:

With this paper we want to offer a proposal for how museums can in practice, through a focus on participation, strengthen both the visitors' and the museum staff's literacies. On the basis of an illustrative educational programme we would like to show, from a relational perspective, how participation in communities of practice can strengthen competence development in the participating partners. In conclusion, the discussion is put into perspective with a look at how the focus on literacy development and communities of practice has developed the museum.

Background:

“Over the last decade, the overall tendency, then, has been for the museums to try to establish an even more intense dialogue with visitors and thus form ever closer bonds with the society around them” (Gether: *Utopic Curating*, 2010).

This is how the director of ARKEN, Christian Gether, describes the relational change that is emerging in the museum world as viewed from a museum of modern art; a development that is supported by research in museology spanning many years now, where researchers and practitioners have turned the focus on how museums can play a central role in society (Vergo 1989, Bennett 1995, Hein 1998, Sandell 2002, Ingemann & Hejlskov 2005, Simon 2010). At ARKEN Museum of Modern Art we are greatly preoccupied by these issues. This has resulted in among other things a conference and a report where the museum, with support from the Danish Ministry of Culture, has investigated how the museum institution can secure a central position as an active player in the cultural landscape of the future, with a special focus on the art museums (Gether et al. 2010). Over the past few years the museum has also initiated and participated in other similar projects and collaborations lasting several years with a focus on developing the art museum as a relevant societal institution – for example the research and exhibition project *Utopia* (2009 – 2011), where ARKEN examined how the strategies of contemporary art can be used to develop the museum institution (Gether et al, 2010, Gether et al, 2011); as a partner in the research consortium *DREAM* (2008 – 2014), investigating how museum institutions use digital media viewed from the perspective of young users (www.dream.dk); and in the inter-museum development project *Museums and Cultural Institutions as Spaces for Citizenship* (2010-2014), where the role of the museum as a creator of cultural citizenship is the centre of attention (www.arken.dk).

The question of how the museum can play a central role in society can be answered in many ways. From the exhibition perspective, it may mean placing art in a context that has a meaning for the general public, but it may also mean showing the directions in which various artistic tendencies are moving. From the educational perspective it may mean how we convey the messages that are present in the exhibition so that the encounter between the public and the works is opened up in new ways, for example through lectures on or interpretations of other arts. The various answers to the question are however all coloured by the sender/receiver-oriented approach to the experience of art as something transferred from the museum to the visitor, and which does not impact back on the sender – the museum. In education theory, this is the classic ‘banking model’, where learning is perceived as something that happens when knowledge from one individual is transferred to another; in art-history terms it is the modernist approach where the essence of the work is considered as something that can be found *in* the work (Illeris & Christensen, 2009).

At ARKEN we want to challenge our communicative practice with inspiration from Bourriaud’s ‘relational aesthetics’ and a socially constructionist approach where meanings are seen as something created in relations (Gergen, 1994). With Bourriaud’s relational aesthetics, the formation of meaning is relocated from the work out to the relation between work and viewer. “*The aura of art no longer lies in the hinter-world represented by the work, nor in form itself, but in front of it [the work]*” (Bourriaud 2005), an understanding of art to which Christian Gether also subscribes and which he clarifies as follows: “*It is also – in my view – only when the statement of the work about life enters into dialogue with – so to speak overlaps with – the viewer’s experience of life, that the true dimension of art arises*” (Weirup, 2011)

With relational aesthetics as the starting point, the task of the museum becomes to create the setting for the *dialogue* between viewer and work; a setting where the visitors actively create meaning in the encounter with the work. This is why a concept like ‘participation’ has become pivotal to ARKEN’s educational practice.

In the educational department we have long been interested in how we could crack the code so that visitors, whether schools and institutions or families and adults – practically all the guests of the museum – could use their visit as more than a break from everyday life (an excursion); but rather, as part of a lifelong learning curve, as literacy development.

We work with a notion of literacy that takes its cue from Professor Knud Illeris’ research in educational theory. Illeris emphasizes the importance of framing competences as situation-related and action-oriented:

“Literacies are situation-related precisely because they are about the ability to handle certain types of situations. Literacies are action-oriented; they come to expression through the actions with which one reacts in a situation. The criterion is that literacy should be capable of conversion into actions that are relevant and appropriate” (Illeris, 2011),

In relation to schools, the practice of the museum, as in many other cultural institutions, was to offer processes lasting one to three hours. In this way the schools purchased a product that the museum had produced (sender – receiver). The museum educators often observed that the teachers did not know what role they should assume in the processes (perhaps because they were out of their element) and it was thus the experience of the museum educators that the learning potentials that arose in the processes would not be taken further outside the museum.

With a point of departure in relational aesthetics and a relational approach to knowledge, the museum educators have experimented over the past three years with the development of new longer-lasting educational processes taking place both in the school and at the museum, which are developed, implemented and evaluated in collaboration with the teachers at the school. The special feature of the processes is that the pupils not only visit the museum with their teachers; the museum educators also go out to the schools. This creates a reciprocity where both parties try to be each other’s visitors and participate in each other’s reality. Typically the museum’s instructors go out to the school to launch the processes together with the teachers, after which the pupils come to the museum twice – all in the course of the same week. Between the visits the pupils work with tasks set by the teachers and museum educators jointly.

The goal of these processes is to develop, in collaboration with the teachers, educational processes that strengthen the pupils’ literacies. The experience from the 22 educational programmes we have implemented so far is that they have great potential, because the teachers are active participants in their development, implementation and evaluation. In this way teachers and their pupils are stakeholders to a greater extent than if it had been a ready-made project tailored by the museum. All parties are active participants in the process. One could say that they are members of a ‘community of practice’, which entails that situations that were once normal, where the teacher had no role in the process, are no longer relevant.

Another interesting consequence of the focus on how we enhance the pupils’ literacies is that it is not only the literacy development of the pupils that is stimulated but also that of the teachers and

museum educators, a discussion to which we will return, since it is central to the overall theme of the conference: the transformative museum.

What we are creating with the new processes is a ‘community of practice’ with the teachers. And we have thereby altered our approach to the teachers; where they were once recipients, we now see them as active participants and partners.

Communities of practice:

According to the learning theorist Etienne Wenger, everyone has a relationship with communities of practice. They are an integral part of our everyday life. Although the term may be new, the experience is not. Wenger’s intention is to hone the concept and thus make it useful as a tool. He views learning as a social practice that takes place in conjunction with our lived experiences, with participation in the world (communities of practice). (Wenger, 2004)

In the following we will concentrate on our communities of practice with schools, in what we call Kickstart processes. Since our goal is the development of the pupils’ literacies, we have been very conscious of the fact that, since the pupils’ visits to the museum were to form the basis for literacy development – not only interesting experiences – it was important that the museum educators was integrated in the school; and therefore important to collaborate with the schools, and especially with the teachers. The starting point was thus to strengthen the collaboration with the teachers, in order to strengthen the development of the pupils’ literacies. Specifically, we have focused on how these Kickstart processes could enhance the pupils’ literacy with special reference to Professor Helene Illeris’ notion of visual literacy. Visual literacy can be understood as the ability for “reflected application of visual qualifications, seen as strategic approaches to visual complexity” (Illeris, 2008). With ‘visual qualifications’ Illeris suggests that the pupils are to know about different *strategies* for respectively visual attention (‘visual strategies’), visual production (‘production strategies’) and analysis (‘analysis strategies’) (Illeris 2009). Put simply, visual literacy means mastering these three qualifications so well that one can use them in a reflected manner in many different types of situations. Helene Illeris has functioned several times as a follow-up researcher at ARKEN, most recently in a study of how a specific Kickstart process stimulated the pupils’ situational qualifications and literacies (Illeris and Sattrup, 2011).

Kickstart

We want to present an example here of a ‘community of practice’ – a specific Kickstart process that Art Educator Lise Sattrup and the museum educator Jane Bendix developed, implemented and

evaluated in collaboration with two Danish teachers and a fifth grade class from Ishøj School. The process was based on a special exhibition, HANS SCHERFIG: WELCOME TO THE JUNGLE.

Hans Scherfig (1905-1979) is a highly respected Danish artist, both as a painter and as a novelist. As museum educators we take our point of departure in the works and the school classes when we develop processes, but since this process was developed in a ‘community of practice’ with the teachers, this was changed so that we took our starting point in the works, one specific fifth-grade class from Ishøj School and the Danish teachers. So that the process would be meaningful for the teachers, the visual art subject matter was to be related to the Danish subject matter, such that the aim became to strengthen both visual and verbal skills through a focus on synergies. The key concepts for the process were developed jointly as Observation drawing/Faction, Imagination drawing/ Fiction, Gaze/Point of View.

Taking our cue from the key concepts and Helene Illeris’ notion of visual literacy, we developed the process so that it involved the following three qualifications: visual analysis, visual production and visual strategies. In this context it is important that all three qualifications were based on both the verbal and the visual.

Process:

Monday	Tuesday	Wednesday	Thursday	Friday
Intro with practice Imagination drawing/Faction Observation/Facts CL: Word round: - Give one - Get one	Description type: Imagination - observation Focus on nuances, characteristics, composition CL: Corners: Give one - Get one	Digital analysis workshop Comic strips in Comic Life Focus on nuances, characteristics, composition	Narratives Set the Scene Imaginative drawings and cue words (Nuances, characteristics)	Write the beginning of a story on the basis of imaginative drawings and cue words.

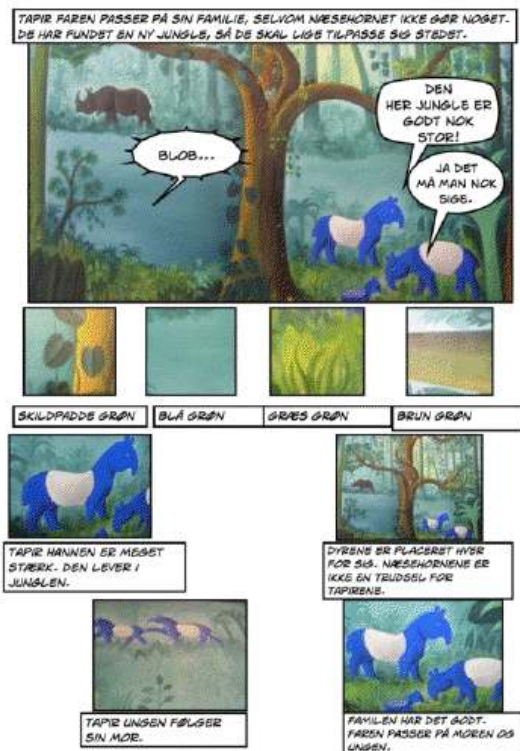
Many of the exercises in the process were inspired by Cooperative Learning (Kagan and Stenlev, 2009); this supported the idea that the process was to function as a community of practice where the learning took place in relations among the pupils. For example in the first exercise, where the pupils were presented with a ‘drawing dictation’, they were to draw what the museum educator said and then exchange details with one another on the principle of ‘Give one – Get one’. Give a detail and get a detail from your classmates.

“The corridor

It was late in the evening. It was rainy and windy. You could hear knocking sounds. I saw a long corridor. Down the corridor you could hear a muffled noise. I went further down the corridor. It got colder and colder. There were four doors, but he took the one at the end of the passage. When he got closer he could hear a thin scream. Some red liquid goo came out from under a small crack under the old caramel-brown door. He could hear a scream again, but this time it was much deeper. In the end he was all the way up at the door. He didn't know if he dared open the door. But he had to find out. In one and the same move he took hold of the shiny cold door handle. But at that very moment he hesitated, he opened the door and got a huge SHOCK, it was as if time stood still... Made by: EMIL”

Visual/ verbal analysis

The pupils worked with visual analyses through a focus on the concepts of nuances, characteristics and composition. The concepts were introduced in a series of small exercises in the exhibition, then the pupils were to transform their analyses into a comic strip in a digital workshop. To do this they worked with the program ‘Comic Life’. See the example in Figure 3.



Figur 3: Comic strip

Visual/ verbal attention

Attention to the gaze/points of view was present throughout the three examples above. In the drawing and writing exercises the pupils used two different, deliberately constructed visual strategies: Observation/Facts and Imagination/Fiction. In the exercise involving the production of the comic strip and the work with visual analyses, the pupils gave the animals voices: the tapirs talked to each other (the pupils had used fiction). At the same time the pupils also described their analysis of the picture in the comic strip: “The animals are kept apart. The rhinos are not a threat to the tapirs” (the pupils used observation and facts). In this way the pupils played with various visual strategies and developed a feeling for the way different gazes create different meanings. The potential in this process is that the pupils, if the qualifications are further practiced, can develop literacies that can be used in other situations and thus other contexts.

The afterlife of the process

With the Kickstart process the pupils had all three qualifications stimulated: analysis, production and visual strategies. But if these qualifications are to develop into literacy further work needs to be done with the qualifications.

In the subsequent evaluation the teachers said that the establishment of the ‘community of practice’ and the development of the process had been a highly relevant supplement to their teaching, and the key concepts from the process, Observational drawing/Faction, Imaginative drawing/Fiction, and Gaze/viewpoints, had become “pegs” on which the teachers and the pupils could regularly hang their everyday work. In this way the collaboration with the museum had brought about a change for the participating members of the community of practice.

The teachers stated that this community of practice with the museum educators had “provided a perspective on the subject Danish” and they emphasized the importance of the fact that the pupils now felt that ‘Danish’ was not something that only took place in the classroom, but was something that could be used in other contexts, in other situations outside the school.

From the point of view of the museum, this observation was incredibly interesting, because it expressed how the teachers experienced the community of practice as an upgrading of their literacies in the subject Danish, and thus as a further qualification as teachers of their subjects. In this way the community of practice can be seen as a method whereby the encounters and the exchanges of various qualifications can strengthen the competence development of all the participants. Our point is therefore that although the goal of the development of the Kickstart process was primarily to strengthen the development of the pupils’ literacies, the work with communities of practice as a method also afforded

opportunities for literacy development among the teachers and museum educators (we will come back to the literacy development of the museum educators).

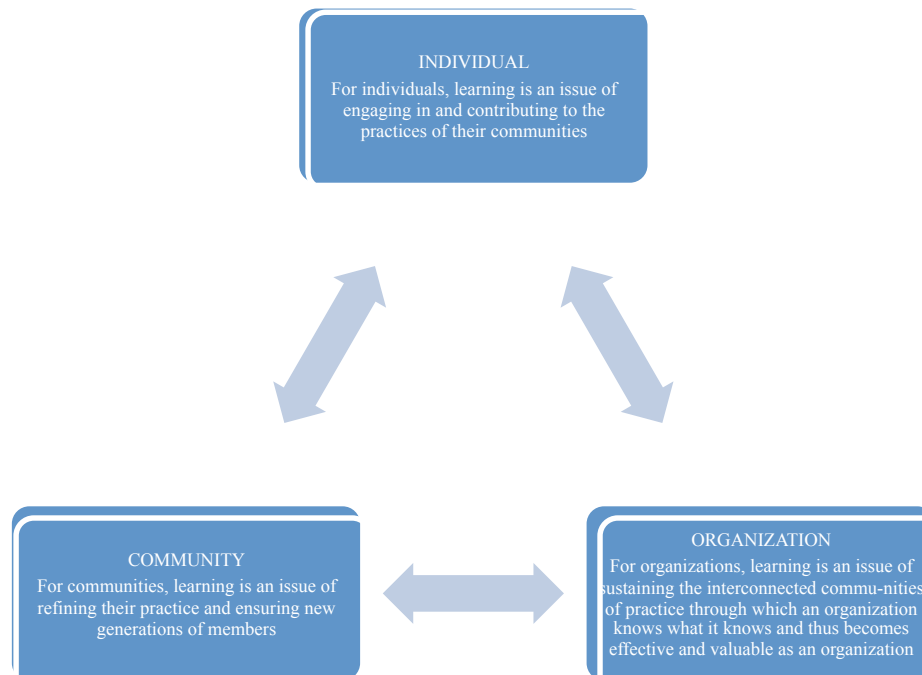
In the work of designing educational processes as communities of practice it has become clear that the active participation and stakeholding of the members was crucial to the creation of potential for competence development.

Participation – from individual to organization

To return to our theoretical position, Wenger emphasizes that participation has wide-ranging consequences for what is required to understand and support learning. One of the interesting consequences of conceiving learning as a social process is that learning and literacy development take place at several levels: individual, community and organization (Wenger, 2004).

From the original starting point where ARKEN's aim was to enhance literacy development in the visitors, it is now our experience that this can only be done through the organization's own literacy and learning development, precisely because literacy development emerges from the relationship between the institution (the museum educators) and the visitors (the teachers and the pupils), not in a transfer from the institution to the visitors.

This relational point is quite central, as it is a lesson that we as a museum can apply to the rest of our educational practice. In this way we can say that in our everyday life we experience an important link between learning potentials at all levels: the individual, the community and the organization (see the model showing how participation is important at various related levels):



To return to the Kickstart process with Ishøj School, it meant at the individual level that the teachers would work on with the strengthening of the pupils' visual and verbal qualifications in class; at the community level; that the teachers took this with them into other classes and thus expanded the community; and at the organizational level it meant that Ishøj School has given priority to ensuring that all fifth and seventh grades will participate in a Kickstart programme in order to strengthen the link between the visual and verbal field and the development of literacy of both the pupils and the teachers.

For ARKEN the participation at the individual level meant that the museum educators developed an eye for how the museum may help to strengthen other disciplines, while at the same time the educators' own literacies were enhanced, because they had to involve others in the development of processes. At the community-oriented level, ARKEN involved the Danish subject matter as well as new methods from the Kickstart programme in the many short processes (one to three hours) and thus attempted to strengthen the collaboration with the schools in these short processes too. At the organizational level it has meant that we see the museum as a context for subject-learning and thus as a relevant partner for an extended group of subject-teachers.

Transforming museums through participation in communities of practice

The Kickstart process with Ishøj School was just one example of how we work as a museum with communities of practice. The experience from this type of process and the focus on learning as a relational practice has meant that in many of our activities we work with communities of practice as a method. This may take place in the museum's four-year talent course for young people, developed in a

community of practice with artists and the participating young people. Another example is Family Sundays, where families can come and work creatively and practically as an extension of their experiences in the exhibitions. Whereas the museum earlier offered guided family tours, the families now walk around themselves and work on exercises in the exhibitions, after which they work on in the workshop with a starting point in the experiences and observations they have recorded. The families participate actively in pursuing the learning points that are important to them, and which they can thus use in the development of literacy.

“We must also remember that our institutions are designs and that our designs are hostage to our understanding, perspectives, and theories. In this sense, our theories are very practical because they frame not just the ways we act, but also – and perhaps most importantly when design involves social systems – the ways we justify our actions to ourselves and to each other. In an institutional context, it is difficult to act without justifying your actions in the discourse of the institution” (Wenger, 2004)

As the quotation from Wenger makes clear, we must change our practice as a museum if it does not match our goals, for example if we want to be an institution which furthers lifelong learning and literacy development, and which for that reason among others must be said to be extremely socially relevant. On the basis of our changed practice, we view the method of participation in communities of practice as a fruitful path to choose in developing ways in which the museum can design processes and situations where the visitors themselves create meanings in the encounter with the works and take these experiences out with them into other contexts as literacy.

For ARKEN the change in practice has meant that we are now in a situation where it is no longer only we who are reaching out for partners. Teachers, pre-school teachers, teacher training colleges, universities, NGOs and municipalities are now also approaching us, proposing that we enter into communities of practice that they initiate. This is creating a picture where, with our new practice, we are a museum conceived by others as a relevant co-player. Or in Wenger’s terminology, the museum is an important member of the communities of practice that are constantly being established in the society surrounding us.

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