

Chapter 13

A Critical Reflection on Three Paradigms in Museum Experience Design

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Abstract This chapter identifies and describes three technological paradigms in museum experience design, all positioned within an overarching visitor-centredness frame: (1) User-centred experience design, which emphasises modelling experience design in response to visitor views and interests, through methods adapted from or inspired by user-centred approaches in Human–Computer Interaction; (2) Participatory experience design, which shifts the emphasis from the product to the process of design and invites the visitor to become partner in the design of experiences; and (3) Agile experience design, in which the main preoccupation is with being constantly responsive to evolving visitor aims and needs, and innovating the experiential offer on an ongoing basis. In the context of museum experience design, each of these paradigms represents a systematic way of delivering value to the public through meaningfully designed experiences. The chapter contributes a critical reflection on the importance of acknowledging the existence and endorsement of these paradigms, which can impact museum practice beyond single design projects. In particular, I will discuss to what extent working within a certain paradigm can be transformative for the way museums function, how they are organised and how they engage with their public.

13.1 Introduction

Two influential articles, written at about the same time, approach from different angles the question of paradigmatic shifts in the field of Human–Computer Interaction (HCI). In her 2006 paper ‘When second wave HCI meets third wave challenges’, Susan Bødker argues that the field of HCI was transitioning from a second to a third wave (or paradigmatic model of research and design). She identifies the first wave in HCI as model-driven, informed by cognitive science and concerned with information processing. In first wave approaches, we speak about

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'human factors'; the human is a subject whose involvement in the design process is as a tester gauging the quality of interaction. Second wave HCI shifted, as Liam Bannon (1986) evocatively wrote, 'from human factors to human actors', thus placing human experience centre stage and making technology instrumental to people-defined requirements in situated contexts. The centrality of people led to the formulation of methodologies that encouraged user participation in the design process, such as participatory design and contextual inquiry. The third wave broke away with the rationality and instrumentality of HCI, which supported mostly work-related practices, and brought to the foreground experience and subjective meaning making in a sociocultural context. Where the second wave focused on context and situatedness, third wave HCI amplifies the spectrum of human experience considering continuities between work, leisure and daily routines, and puts central stage concepts such as experience, culture and emotions. Bødker (2006) argues that the transition from the second to the third wave surfaced new questions and challenges, as research was confronted with third wave questions, but still inheriting theories, methodologies and techniques from second wave HCI. In the paper 'The three paradigms of HCI' Harrison et al. (2007) aim for a more systematic and consistent treatment of HCI waves into paradigms that frame the research and design of human-machine interaction. Their paper problematises and debates whether we can speak of paradigms in HCI and the implications for future HCI research and design.

There are echoes from the three waves of HCI to be found in museum experience design, an area which has grown and developed under significant influence from HCI work. Starting from similar premises, in this chapter I ask the question: Can we identify as well such paradigmatic design waves, orientations or paradigms in museum experience design? And if so, what are the implications of working within one or another of these design paradigms for museum practice?

As a starting point, the chapter identifies and describes three paradigms in museum experience design, all working within an overarching visitor-centredness frame. I use the notion of *design paradigm* in a sense similar to that of *wave* (Bødker 2006) or *paradigm* in the field of HCI (Harrison et al. 2007) with reference to the families of theories, methodologies and procedures endorsed by a community of researchers and practitioners in a design discipline. A more nuanced understanding of paradigms in social science and design disciplines is provided later in the chapter. The three paradigms described are:

1. User-centred experience design, the first orientation to have historically broken with functional models in museum management and public communication, by bringing together the focus on experience together with the centrality of visitor views, interests and personal meanings.
2. Participatory experience design, which comes up with a new value statement, shifting the stress from the product to the process of design, and emphasising the value of direct user participation in the design process.
3. Agile experience design, characterised by a preoccupation with offering experiences that meet visitor interests and are constantly innovated and improved

through a swift, iterative design process conducted by cross-disciplinary teams with flattened hierarchies. Thus, the visitor is treated like a valued customer with dynamic and evolving tastes and interests to which the museum aims to respond promptly, drawing on Lean and Agile methodologies adapted from software design, business and manufacturing.

These museum experience design paradigms share a common purpose vector in that they are all preoccupied with delivering value to their public and recognise the public itself as the arbiter of quality. In other words, they are all visitor-centred. Yet, there are differences between them concerning the valid ways of going about delivering on that value. The chapter outlines the axiological and epistemological considerations associated with each design paradigm, and the patterns of relations between museums and visitors instantiated in each. On this basis, the second part of the chapter raises some questions with respect to the implications of endorsing a design paradigm over the long term. In particular, it reflects on how enduring work within a certain design paradigm may have ripple effects in changing organisational structures and relations with visitors.

13.2 Delivering Value in the Visitor-Centred Museum: Three Design Paradigms

Visitor-centredness is now an undisputed central aspect of the mission of many museums. As Samis and Michaelson (2017) point out, visitor-centredness is an overarching paradigm within which the curatorial, interpretive, managerial and communicative practices of museums are configured, putting the importance of the visitor on equal footing with that of museum collections. Drawing on this perspective, this chapter examines museum experience design within a visitor-centred overarching frame as a key practice through which museums deliver value to their visitors and to society as a whole. Museum experiences are some of the fundamental means through which museums link to and communicate with their audiences. Their design, thereafter, is the generative space within which such experiences are crafted, attentive to considerations of quality, meaningfulness, relevance and value.

There are countless ways to organise design so as to make such experiences meaningful, but the concern in these pages is to understand which of these approaches are systematic, so that they can be easily understood, employed, transferred, improved and thus inspire future museum practice. I refer to these systematic assemblages of conceptions, understandings and approaches in a field of practice or research discipline as ‘paradigm’. The most established meaning of ‘paradigm’ comes from the sociology of science, and finds expression in Thomas Kuhn’s theory about the structure of scientific revolutions and paradigm shifts. For Kuhn (1996), paradigms are models of reality that define the problems and questions to be asked, the methods to go about studying reality and the ways of drawing

valid conclusions in a specific scientific discipline. A paradigm shift indicates a turnaround where the base model of reality is questioned and a new model comes to replace it. The classical example is the shift from Newtonian mechanics to Einstein's relativism in physics, within which the traditional questions, theories and methods for studying physical phenomena fundamentally changed.

However, Kuhn's assertions are focused on natural sciences, and some scholars (Kuhn included) argue that in the social sciences the same understanding of paradigms does not apply (Dogan 2001). Parallel concepts in the social sciences are worldviews, research traditions (Laudan 1977) or social paradigms (Handa 1986), where the primary principles or assumptions cannot ultimately be proven right or disproved by scientific experiments. The criteria for validity and recognition rather lie in the degree to which sets of assumptions about the nature of being, knowledge or social life enjoy acceptance by communities of researchers in a social science discipline.

In this chapter, I focus on *design* paradigms, referring to the sets of assumptions, theories, perspectives and established methods and procedures that are adhered to by design communities, and from which criteria for design validity are sourced. The approach aligns with two of Kuhn's arguments. First, that paradigms are specific to a certain discipline, they are 'what the members of a scientific community, and they alone, share' (Kuhn 1977: 294). Second, that a paradigm contains accepted theories, methodologies and tried out practices that 'define the *legitimate* problems and methods of a research field for succeeding generations of practitioners'. (Kuhn 1996: 10, my *emphasis*). Thus, the nature of design paradigms in museum experience design is dictated by concerns and aims that are specific for the community of museum experience design practitioners and researchers, and their legitimacy is as well sanctioned by the same community. While museum experience design cannot be considered a discipline in its own right, we can nonetheless define it as an interdisciplinary area at the crossroads between museum studies, visitor studies and design. Its boundaries, though porous and flexible, are defined by the central pre-occupation of field professionals and researchers who take a central interest in the design and development of experiences for museum stakeholders.

The central preoccupation of museum experience design regards the nature of the museum experience, and the valid ways of going about designing museum experiences. A design paradigm is characterised by a range of considerations that systematise the design process towards this goal:

- Value statement: Values and aims that validate the design process and generate criteria for assessing the quality of the designed product or service
- Knowledge production: The valid ways of producing knowledge to inform the design process and enhance the quality of the experience delivered
- Relation with beneficiaries in the design process: how are the views of beneficiaries (museum patrons, users or visitors) integrated in the process of design, and what patterns of relatedness between designers and beneficiaries are instantiated
- Methodologies and procedures for designing and assessing experiences.

Table 13.1 Characteristic features of three paradigms in museum experience design

Design paradigm	Value statement	Knowledge production	Relation with beneficiaries in design	Design methodologies
User-centred experience design	Satisfactory user experience, usefulness in context	Designer-led, user-informed knowledge production	Visitor as user and informant involved in key design stages as consultant (mediated design involvement)	Forms of user-centred design
Participatory experience design	Visitor participation in design has intrinsic value	Participatory knowledge production; designers and users co-create knowledge	Visitor as design partner (direct design involvement)	Participatory design, contextual inquiry, some forms of crowd sourcing
Agile experience design	Fast responsiveness to change and to evolution of visitor tastes and interests; maximum value with efficient investment of resources and minimum waste	Designer-led, user-informed knowledge production in continuous cycles	Visitor as customer and informant, involved in continuous cyclic design processes (continuous mediated design involvement)	Agile and Lean methodologies such as Scrum

Further in this section, these considerations are outlined for each of the three design paradigms introduced—user-centred experience design, participatory experience design and Agile experience design (also summed up in Table 13.1).

13.2.1 *User-Centred Experience Design*

User-centred design (UCD) refers to a framework and underlying design philosophy which emphasises the importance of users and of creating meaningful products and services for them, by considering their needs and interests during the design and development process. In museum experience design, user-centred approaches started emerging at a moment when museums were transitioning from functional models focused on collection management and preservation to an increased attention to visitor views, voices and interests. This shift is well-documented in museum and visitor studies. For example, a decade ago, Hooper-Greenhill called attention to the emergence of the ‘interpretative paradigm’, which implied a transition from ‘thinking about visitors as an undifferentiated mass public to beginning to accept visitors as active interpreters and performers of meaning-making practices within complex cultural sites’ (2006, p. 362). This shift is about acknowledging the active role of visitors in constructing personal meanings, understandings and

experiences. It follows upon a transactional view of the museum visit, based on transfer of information from museum experts as authoritative sources to visitors, seen as passive recipients. Thus, in this first design orientation the quality of an experience is assessed on virtue of its capacity to engage visitors and support attainment of context-specific goals, from learning to entertainment.

Value statement UCD approaches to museum experience design emphasise the centrality of visitor views and the importance of offering experiences that are judged meaningful from their own point of view. This is an important point for understanding why UCD approaches in museum experience design mark a break from earlier stances in exhibition design and museum communication. Exhibition design in the 1970s and the 1980s were also concerned with visitors, but within a different framework, influenced by models in communication sciences cherished at the time: museum experts created messages to be transmitted to visitors, and their effectiveness was judged according to the degree to which visitors were able to decipher, understand and retain these messages (Hooper-Greenhill 1994). Foregrounding the concept of *experience* breaks away with this model, by acknowledging visitors' own interpretive capacities and their abilities to build understandings and construct meanings from museum experiences from their own point of view (Ibid.).

Knowledge production In UCD, the visitor is the ultimate arbiter of the quality of the experience designed for them. Thus, knowledge about the visitor has crucial importance in this space: What are their interests and preferences? How do they tend to behave in museums? What are they looking for? How much do they know and what approaches are best to engage them? How likely are they to prefer some over other modalities of engagement? And so on. Knowledge about or views from visitors are fed within the design space through various means: tools such as surveys and interviews can be employed in the preliminary phases of design, midway early prototypes are tested with users, and the quality of fully-fledged experiences can be assessed through observation of interaction, interviews and surveys.

Relation with beneficiaries in design Users' involvement in the design process can be described as mediated design involvement: UCD gathers users' views and feedbacks, interprets them in design teams and consequently shapes the design to fit their needs and interests. Users, thereafter, fill the role of testers and informants. This role is nonetheless important and can be considered a form of user participation. Drawing on Nina Simon's typology of public participation patterns in cultural institutions,¹ user involvement in UCD is akin to the category of

¹Nina Simon (2010) proposes a typology of forms of public participation in cultural institutions which spans: (1) contributory projects, in which visitors input ideas, comments or objects in processes ideated and controlled by the institutions; (2) collaborative projects, which invite visitors to take part in the ideation and creation of projects, which are thereafter developed and managed by institutions; (3) co-creative projects, in which members of institutions work side by side with the public or community members to ideate, design and run programmes that are aligned to the interests of the latter; and (4) hosted projects, in which ideas and design come from the public and are hosted in cultural institutions, which offer spaces and resources.

contributory projects, in which ideas, content or comments are sourced from the public and integrated in programmes, thereafter managed by institutions.

Methodologies There are manifold methodologies that can be used convergently in user-centred museum experience design, from visitor surveys and interviews before or in early stages of design to observation of users in galleries and tests of early prototypes. Methods follow the design continuum, which is often iterative, with appropriate user tests and consultation at each point and can, for instance, include: personas and scenarios sketching for illustrating model users and experiential pathways; qualitative and quantitative research to gauge user tastes and interests in early design stages; mock-ups and prototypes for user tests during design, and final evaluation through, for example, observation, interviews or surveys when experiences are deployed.

13.2.2 *Participatory Experience Design*

The beginnings of participatory design (PD) are found in Scandinavia in the 1970s, and represent the pinnacle of a fundamental rethinking of values and processes in the design and development of products and services, from top-down to bottom-up approaches with the direct involvement of end users. Perhaps one of the most significant shifts associated with participatory and cooperative forms of design is an increased concern with the *process* of design itself (Gronbaek et al. 1993). Whereas earlier HCI work was rather concerned with the end product, PD reconsiders these premises and claims that to design better fitted products and services, we need to focus attention on the design process: How is the work process defined? Who participates? What criteria are adopted for linking features of end products with desirability and usefulness from the viewpoint of end users?

Given this process (over product) focus, the appropriation of participatory design approaches in museums represent a quality change from user-centred approaches. As Taxén (2004, 2005) argues: UCD approaches in museum experience design emphasise the importance of incorporating user views and feedbacks in the design process and for the evaluation of the final outcome, without however inviting them to become part of the design team. A step further from UCD, many of the PD initiatives in museums are explicitly concerned with enabling visitors to bring their own views and interpretations in the design process and to forge more enduring, horizontal relationships of exchange and cooperation between museums and visitors (Taxén 2004).

Value statement The focus on the process of design (Gronbaek et al. 1993) generates a first principle of values and quality criteria for PD, namely that user participation in design increases efficiency and quality of products and services. Apart from this, PD is also a democratic practice, and in some contexts user participation in design is a value in and of itself. As Suchman (1993) states, the two sets of considerations are interrelated: PD enables users to become part of the

design and development process, which enables horizontal relationships and exchanges and enhances a more thorough understanding of user needs and usage scenarios. This, in turn, will lead to designing products and services that are more relevant and appropriate for users. In original Scandinavian approaches, the democratic value of PD went even further, and contributed in some cases to rethinking practices and processes in the workplace (Gronbaek et al. 1993).

Knowledge production The criteria for producing valid knowledge to inform design give weight to involving the users in the design process. Visitor knowledge is validated and brought to equal status with that of designers, wherefrom it follows that visitor views are to be incorporated all throughout the design process in an unmediated way. Thus, PD brings with it the democratisation of knowledge production in museum experience design. Even further, visitor views matter not only as a means to an end but also in and of themselves. For example, in some museum contexts participatory approaches are used not only to make experience design more efficient but also to give voice to visitors in the museum space. Watkins (2007) reports on a participatory social media experiment at the Australian Museum which was specifically set up to enable ‘the Museum to act as a social media hub for external communities of interest to co-create their own narrative-based interpretations of the Museum’s content’ (p. 161).

Relation with beneficiaries in design The production of valid knowledge and visitor engagement in design are closely connected in PD. It is not only that visitors’ knowledge and views matter but also that their value comes forth when they are the ones to express them by direct involvement in the design process. Thus, in PD visitors are brought inside the design space, on equal footing with content experts and designers. From casual informant, in participatory design approaches the visitor becomes design partner. Reflecting again on Nina Simon’s (2010) typology of public participation in cultural institutions, user involvement in PD can fall into collaborative or co-creative patterns, depending on the share of control and decision-making that is conferred upon users.

Methodologies Whilst there is a rich array of PD approaches, methods and techniques (see Muller 2003; Muller et al. 1993), the understanding in many contexts is that the value of user participation overrides ready-made participation procedures to be followed. The involvement of certain groups such as children, or communities in diverse sociocultural contexts asks for the delineation of new methods, often defined in interaction between designers and the beneficiary user groups (Sabiescu et al. 2014). Thus, several methodological approaches are documented in museum experience design projects, many of them adapted to context and to user categories. For example, the project KidStory aimed to adapt PD approaches from the HCI to the museum field, and with this to seek ways to foster higher engagement of museum visitors (Taxén 2004). This project also placed under scrutiny the question of methods in museum PD, and argued that established HCI methods could not be merely adopted but had to be reconfigured for engaging museum visitors. Hall and Bannon (2005) report on a cooperative design project at the Hunt Museum,

Limerick, Ireland within the European project SHAPE. One of the aims was to understand how cooperative design could spur interaction, but also enhance children's interpretive experiences and abilities in museums, which asked for participatory methods to be crafted in context.

13.2.3 Agile Experience Design

The origins of Agile and Lean methodologies are found in work done in the 70s and 80s in software development on the one hand, and management and organisation studies on the other. In 1970, Winston Royce's article 'Managing the Development of Large Software Systems' put forth a critique of sequential development models in software development. He argued that these were flawed due to lack of communication between teams responsible with each phase and inability to define all requirements in advance. Similar considerations were advanced in management studies by Hirotaka Takeuchi and Ikujiro Nonaka, in their (1986) article 'The New New Product Development Game'. The article criticises the traditional model of product development, where specialised teams complete a portion of the product and then hand it over to the next team of specialists in the chain. The model was based on specialisation and segmentation, and each team was only aware of their limited part in the overall process to be completed. They proposed a new approach, based on iterative experimentation conducted by cross-disciplinary teams, all being involved together in the development process from beginning till the end. Museums have been experimenting with Agile at least since 2008 (see Ellis et al. 2008), and since then it has been adopted both for experience design (e.g. Mannion et al. 2015; Sabiescu and Charatzopoulou, this volume) as well as for rethinking organisational practices (e.g. Hegley et al. 2016).

Value statement Agile approaches embrace values related to responsiveness to change, fast innovation, and delivering maximum value with efficient investment of resources and minimum waste. Similar to participatory design, they also stress values related to the work process, such as collaboration in cross-disciplinary teams, autonomy and accountability over hierarchical structures controlled from the top-down. However, different from PD, these decentralised and hierarchical structures do not include the user directly in design processes and decisions, thereafter in most instances the user steps back in the role of informant, as in UCD.

Knowledge production The central tenet of Takeuchi and Nonaka's (1986) theory is that the new products developed by organisations are direct reflections of new knowledge produced or converted in organisation teams, through their interaction during the work process. Thus, product development teams can be configured to best afford the creation of new knowledge, and this is further reflected in the design and development of novel products and services. For example, cross-disciplinary teams afford a type of interaction which can lead to new ideas, concepts and designs that would not come out in teams specialised in an area.

Like in PD, the focus is on the design process, and attention is on how the design space is configured to afford production of new knowledge and innovation.

Relation with beneficiaries in design In Agile approaches, the visitor steps back to a position of sporadic informant in the design process, in ways similar to UCD. Here as well, the visitor is the arbiter of the quality of the experience designed for them, their views are gathered and information about their preferences and behaviour is tracked and interpreted by design teams to inform new iterations of design. However, in reality there are some subtle differences. Agile has a central concern with delivering quality in a continuous fashion and with efficient investment of resources, in response to a changing context and to evolving visitor tastes and interests (some of which the museum itself may help to evolve). Each iteration/sprint/phase/step releases an advanced prototype of a potentially future and perfected offer. The keyword differentiator here is continuity: in a sense design never stops, it continues as ready to experience but somehow always unfinished products and services hit the market—in this case on site or digital museum spaces. And whilst experiences are staged, they continue to be tested and inform new design processes from which new experiences will come forth. The experience in use is an event but also a test bed. And the visitor who experiences it is at the same time a tester. Thus, in time, we are witnessing the development of a continuous relationship in which the museum is interested in the evolution of visitor tastes, innovates accordingly and helps to develop these tastes.

Methodologies When it comes to methodology, for many Agile is rather a movement or a broad framework of principles, and does not come with ready-to-use design and development methods. The Agile manifesto (2001) is widely cited, however it does not provide concrete steps but rather a series of principles, such as the importance of interaction in teams, delivering working products rather than thoroughly documenting them, and responsiveness to change over keeping tied to a predefined plan. Several Agile methodologies were developed that put these principles in practice, the most well-known of these being Scrum. In their 1986 article, Nonaka and Takeuchi sketched key methodological principles that were later disseminated as Scrum by Sutherland and Schwaber (see Schwaber 1997; Sutherland 2001; Sutherland et al. 2007): iterative design and development, cross-disciplinary teams working together all throughout the development process, collaboration during work doubled by autonomy and a sense of purpose by each and all team members.

As a sum, Agile methodologies advocate designing in incremental and iterative stages, punctuated by user feedback. Work is done in teams dedicated to advancing the project through collaborative but autonomous work. Rather than being controlled, the Agile team is led by a manager, but is also autonomous and goal-driven: each member is accountable for their part and for the success of the whole project. Each stage in the iteration leads to producing a minimum viable product (MVP—a product that meets the minimum requests/needs of customers, but released to gather user feedback for future improvement), or a product increment. In a sense, a product is always perfectible, this is why users are fundamental for gauging quality and

relevance, and their feedback can push a marketed product back to the design stage where a new product increment is planned.

The thin literature on Agile practices in museums reveals a concern with adapting methodologies and making the Agile work process fit for the museum context. Adaptation is often times done ad hoc, borrowing from methods and approaches used in business, manufacturing and software development to serve the needs of a particular project. In the long run, and as museums gain experience in running Agile projects, new, field-specific methods are emerging. The key methodological aspects emphasised in existing literature include cross-disciplinary team work, decentralisation, iterative design process and continuous testing with users (Hegley et al. 2016; Sabiescu and Charatzopoulou 2015; Mannion et al. 2015).

13.3 Critical Reflection

After having reviewed the three experience design paradigms, in this section, I look at the implications of thinking of and embracing these families of approaches and methodologies as paradigms for museum practice, drawing attention to four consequential aspects. The first is a reflection on purpose and means in visitor-centred design approaches, and the relations established between the design paradigms introduced. The next two have to do with the implications of embracing a certain design paradigm for museum practice, and discuss links to change—in organisational structures and in relations with visitors. The fourth calls for more awareness to the premises underpinning our design choices, and particularly the question of epistemology and knowledge production.

13.3.1 *Nested Paradigms in a Visitor-Centredness Frame*

The three design paradigms described are closely interconnected. In particular, they all share a unique purpose, in that the end aim and value that underpins valid design is the quality of the museum experience. They also agree on the ultimate criterion for quality assessment, which stands in visitor satisfaction. This central value is already well-represented in UCD, and we speak about being user-centred or visitor-centred when it comes to describing the overall orientation to experience design embraced by a museum that places visitor interests at the centre. Historically, it was also UCD that broke with a tradition of design that separated rigidly between experts (who controlled the design process) and users (for whom the product or service was intended, but whose ideas were hardly considered during design). Thus, in a way PD and Agile approaches can be considered nested within, variations of, or building upon user-centred design. Despite this common vector, there are reasons for positioning UCD, PD and Agile as distinctive experience

design paradigms, chiefly because they approach differently questions of knowledge production, methods and relations with users in design. Furthermore, and as I argue further in this section, these reasons have to do as well with the ripple effects that consistent long-term adoption of a certain design paradigm is likely to cause. The next two sections examine the kind of changes that are likely triggered by systematic adoption of a design paradigm.

13.3.2 *Design Paradigms and Organisational Change*

Museum activities—from curatorial to communicative—are interlinked, and a concern with delivering public value (Falk and Dierking 2013) permeates them, asking for concerted efforts that are often at odds with traditional, hierarchical and rigid organisational structures. Thus, many museums that are transitioning towards visitor-centred practices come to realise that this transition may require deep organisational change (Samis and Michaelson 2017). As this chapter is being written, there are already published studies that associate models of museum functioning with a certain design paradigm. The most well-known is Nina Simon's *The participatory museum* (2010). A more recent paper for the Museums and the Web conference titled *The Agile museum* (Hegley et al. 2016) describes how Agile-inspired practices and models can completely reconfigure the way museums are organised and how they deliver value to their public. But to what extent can we speak of the user-centred museum, the participatory museum, or the Agile museum? In practice, many museums are selective and opportunistic in employing a certain design approach and often there is not a perfect fit between an orientation embraced at institutional level, and that adopted in design projects. Several design approaches can be encountered in the same museum at the same time, and they can be applied opportunistically to long-term programmes, short-term exhibit environments or (in some cases) come to characterise the work approach of a department. Thus, rather than pure forms, I suggest that at the moment what we are seeing in practice are *interweaving design orientations* guided by experimental approaches. For instance, the British Museum launched in 2014 a new user-centred digital strategy, but within, it has since been experimenting with Lean and Agile methodologies for the redesign of its multimedia guide (Mannion et al. 2015) and for its digital learning programmes (Sabiescu and Charatzopoulou 2015 and this volume).

Significant and enduring organisational change is rather associated with long-term and museum-wide endorsement of principles and practices that converge in visitor-centredness. The UCD, PD or Agile work of a digital media or education department for single projects is less likely to reverberate in wider organisational change on its own. In themselves, those processes may ask for certain expertise and disciplinary orientations to be covered in a team, or the enactment of values and attitudes with respect to public participation that will leave a trace—such as patterns for cross-disciplinary team configurations for delivering on certain types of projects.

But for wider organisational change to occur, there needs to surface an understanding of how visitor-centred principles and approaches enable a museum to deliver better on its mission, and the kind of work configurations and practices these may require.

Samis and Michaelson (2017) point to different ways that museum organisational structures may change in relation to embracing a visitor-centred approach: the emergence of new, cross-disciplinary teams, often within altered hierarchies with more horizontal orientations; emergence of new roles such as experience designers; team leadership positions filled by diverse roles—educators, interpretive specialists or experience designers; and streamlined and simplified work processes crossing disciplinary areas. Some of these changes are effected top-down, by visionary museum directors; some others are the result of long-term work in a participatory vein, moving from ad hoc project-focused configurations to formalisation of new structures.

Going back to the design paradigms introduced, the aspect to bear in mind is, to what extent does the type of paradigm embraced reverberate in diverse vectors of change? The examples above can all be associated broadly with visitor-centredness, but on close inspection we can think about nuanced impacts associated with endorsement of principles and practices within a design paradigm. For instance, UCD puts emphasis on understanding and meeting visitor interests, by gathering information and then interpreting it in design teams. This sits well with the idea of cross-disciplinary teams where curators, educators, experience designers and interpretive specialists bring together their expertise for the creation of meaningful experiences for visitors. Co-creation and participatory design paradigms, with their array of methodologies that allow the visitor to step inside the creative process, may lead up to changes in relation to decentralisation of work and decision-making. Quite paradoxically, even if Agile does not adhere to participatory principles such as those embraced in PD, it does contribute to the same shift nurtured by PD practices: more decentralised structures. Given its focus on collaborative, yet autonomous work in iterative cycles, Agile engenders a move away from top-down and hierarchical to horizontal, decentralised and fluid workflows and structures. In time, this may reverberate in decentralisation and flattened hierarchies at institutional level.

13.3.3 Changing Relations with Visitors

Each design philosophy and methodology endorses and enacts (implicitly or explicitly) a certain philosophy of how knowledge is or should be produced to benefit the primary aim of design. It further unpacks this philosophy in a family of methodologies and methods to materialise this knowledge in the products and services delivered. This is visible in the way the design space is instantiated, who participates and how this influences the shape of the product or service designed. For example, a museum that embraces a position as the unique holder of knowledge

and authority over its production will design spaces and artefacts based on expert curatorial knowledge, and give very little weight if at all to asking visitors' opinions. By way of contrast, museums that embrace visitor-centred value propositions will go to great lengths to find ways to constantly elicit user views, interests and appreciation of museum engagements, so that they can make their future experiences more user-relevant.

Thus, there is a very powerful relation between what are considered valid ways of knowledge production and the instantiation of the design space. In here, the relation between museum staff, designers and patrons is of particular importance, and also who is involved in the design process, to what extent, and how. Each of the three paradigms introduced above approaches differently the definition of the design space and the involvement of design beneficiaries in this space. Whilst all paradigms are visitor-centred, in UCD approaches the visitor is rather an informant, in a consultative role. In PD approaches, it becomes a partner, on equal grounds and sharing authority with museum staff and designers. In Agile approaches, the visitor falls back to being an informant, but as different from UCD, their involvement in the design process is less fragmented and more continuous, as in a sense a museum experience never ceases to be work in progress. Thus, by encouraging practices inspired or driven by these paradigms, in the long term there is the possibility for museums to plant the seeds of changing relationships with their audiences.

13.3.4 The Question of Epistemology

I have, thus far argued that embracing a certain design paradigm has the potential to trigger or ask for organisational change in museums, and changing patterns of relationships with visitors. Further, I suggested that at least to some extent, these changes can be traced back to the question of knowledge production, in particular the recognition of which knowledge is valid and useful for informing design. The additional aspect I want to emphasise is that it is important for museum staff to cultivate awareness about their position regarding knowledge production, ways of producing and sharing it, and its links to experience design. As Nina Simon (2010) suggests, the difference between traditional and participatory design approaches is simply in the way information flows between users and a cultural institution. Underpinning this claim is an acknowledgement of how knowledge and information are pivotal in museum functionings and activities. Museums are places for knowledge production, circulation and exchange. Some of this knowledge is explicit, and makes its way in varied forms and representations to audiences, for example, through interpretive panels, audio guide content and exhibition guides. Some of it is implicit, and embedded in the museum staff, workflows, artefacts and processes that characterise the day-to-day functioning of the museum. A cross-section of this knowledge stands at the basis of the new products and services that the museum offers. The design of new products, services, and visitor experiences, are all materialisations of this implicit and explicit knowledge that

covers a broad range of areas, from collection-related to visitor behaviour and appropriate technologies. What are considered valid ways of knowledge production and how they are infused in design are matters that reverberate more broadly in the internal workings of museum, and further affect the relations with audiences.

In sum, epistemological aspects—what can be known and how we can go about knowing it—can prove to be fundamental for the way museums develop as institutions. In the three paradigms described, epistemological aspects can be inferred, but are rarely directly treated in museum literatures. For example, because UCD advocates user-focused design, but not direct user involvement in affecting design decisions, it can be inferred that knowledge is something that can be elicited in a context (such as a user test) and transmitted in another context (an iteration of the design process, where it is interpreted by design specialists), maintaining a kind of validity and substantiality that evoke positivistic undertones. The often times implicit rather than explicit epistemological premises of PD are that knowledge is a product of interaction, it comes out in processes and practices through the communication and exchange of different parties. Thus, to produce new products and services that are useful for end users, it is not sufficient to merely collect their views, and then test products with users at different stages, as was the case in UCD. Rather, to make certain that the products designed meet user needs, it is necessary for user views to be included directly and in an unmediated manner in the design process. This is similar to the epistemological premises of Agile approaches sketched by Nonaka, Takeuchi, Konno and colleagues in several articles, by which knowledge creation is a participatory process, it is not produced in individual minds but stems from collective interplay and interaction, thereafter it can be enhanced by specific team configurations (see for instance Nonaka and Konno 1998, p. 40).

What these examples show is that there is a strong relation between the underlying assumptions about knowledge creation and the way a design space is configured—who can participate, whose views are valid, whose views do not matter or whose views may matter but need to be interpreted to make them valid. The more we are aware of these underlying assumptions, the more we become aware as well of the implications of our design choices, as each design choice is not neutral, but value-laden. Even more importantly, awareness can enable us to give fruitful directions to these choices. For instance, a museum that started working with PD in small projects may be more inclined to expand participatory approaches to broader museum activities if the assumptions regarding visitor involvement in PD are explicated, and their value acknowledged and disseminated across the museum.

13.4 Concluding Thoughts

Samis and Michaelson (2017) argue that 'an audience-centered paradigm is here to stay'. The three design paradigms introduced thus far can be considered three facets of visitor-centredness as a major frame that characterises museum functioning in the contemporary era. They are all, in a sense, answers to the *How* question, when it

comes to delivering satisfactory, meaningful experiences to visitors. Yet, the main argument put forth in this chapter is that embracing one or another of these paradigms has implications that go beyond the type and quality of the experience designed and developed through a certain methodological approach. Serious and long-term engagement with a certain way of working has the potential to spur and sustain deeper change in museum practice. I have suggested that two changes are fundamental: First, endorsing a design paradigm over the long term and allowing it to reverberate in wider museum operations may bring about changes in the organisational structure: in how departments work together, leadership patterns or the addition of new roles and departments. This depends on whether a paradigm is embraced as a philosophy to guide long-term museum practice, or just as a methodology in stand-alone design projects. Second, working within one paradigm can contribute to changing relations with visitors. In here as well, the potential for change depends on the extent to which design approaches are embraced as philosophies guiding museum practice, or merely as methods in projects of limited scale. The most telling example is that of PD and participatory approaches. A small-scale PD project will not change relations with visitors in the long term. But enduring participatory practices, such as those described by Nina Simon in *The Art of Relevance* (2016) and *The participatory museum* (2010), will.

This is why in the latter part of the chapter, I drew attention to the question of epistemology. Being aware of the epistemological premises of our design engagements in museums, of how we produce and circulate knowledge and who has the right to be involved is fundamental for understanding (and ultimately better guiding) design processes and the consequences of our design choices for broader museum practice.

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