Culture Unbound
Journal of Current Cultural Research

Digital Media and the Order of Ethnography:
On Modes of Digitization in the Museum of World Culture

By Andreas Henriksson

Abstract

The article applies and elaborates an Actor-Network Theory approach to digitization. Defining digitization as the determining of relations between new digital media and old materials within local networks, the article attempts to investigate locally engendered ambiguities of such processes.

The model is applied in a case study of the Swedish Museum of World Culture and its attempt at renewing old ethnographic objects through the use of digital media. The study is comprised of several interviews, observations and extensive document analysis.

The article concludes by underlining the contingency and ambiguity involved in introducing digital media into the networks of old objects. It also addresses the cohesive and stabilizing roles played by computer programs and museum objects respectively.

Keywords: Actor-Network Theory, digital media, information systems, digitization, the Museum of World Culture, John Law, ethnography.

Henriksson, Andreas: "Digital Media and the Order of Ethnography: On Modes of Digitization in the Museum of World Culture", *Culture Unbound*, Volume 1, 2009: 205–226. Hosted by Linköping University Electronic Press: http://www.cultureunbound.ep.liu.se

Introduction

As of late, theorists have suggested that ethnographic museums in the West are becoming exponents of post-colonialist notions and ideas (Chakrabarty 2002; Fiskesjö 2007; Macdonald 2005; Riegel 1996; not all agree, see Saunders 2001).[1] This change is coupled with changes in exhibition forms. In the wake of public downsizing and new democratic ideals, the authoritative and formal voice of earlier years, stating "facts" and prescribing interpretations of displayed objects, has given way to irony, reflexivity, criticism, and to the invitation of visitor interpretations.

In this way, ethnographic museums have entered a less certain era, where there is much debate about definitions of success and/or failure. In this context, digitization and digital information systems have been introduced as tools in working out new ways to present old ethnographic objects (Cameron & Kenderdine 2007).

There are studies investigating large-scale digitization projects of long-standing museum institutions, as well as discussions about tensions between digital media and museums in general. Few though, have sought to map the less clear-cut cases, where different digital media have been introduced in the midst of already existing debates around museum identity and the future of ethnography. In these latter cases, digitization could be expected to take various forms and have several competing purposes, as it is employed by proponents of differing views of ethnography. In this article, I have sought to map the digitization project of a Swedish state museum in Gothenburg that was expressly created in order to deal with the heritage left by the ethnographic museum in the same city. The new and much debated museum was named the *Museum of World Culture* (MWC). I argue that digital media has been assigned multiple and contradictory functions and meanings in the MWC. This allows a more nuanced and detailed account of how digital media interacts with other materials in local organizations.

In investigating the use of digital media in the MWC, I have utilized concepts and tenets found in the texts of *Actor-Network Theory* (ANT). Although many ANT-scholars in recent years have ventured to investigate the construction of information technologies, it is only with some reluctance that they sporadically take on the specifics of digital media (Adams & Berg 2004; Marres 2004). ANT has come to be associated with a focus on local arrangements, as opposed to general phenomena and concepts (Law 2004). Prone as many theorists of digitization are to investigate digital media as displaying universal differences to analogue media (Hayles 2005), ANT scholars are bound to be skeptical of the field. I wish to work out approaches that lessen those tensions and create bridges between ANT and digital media studies.

Information Artifacts and Digital Objects

Digital media is not the same as information systems. ANT theorists have, so far, mainly focused on information systems, without much pondering upon the specifics of digital media. (Adams & Berg 2004; Hanseth, Monteiro, & Hatling 1996; Star, Bowker, & Neumann 2003; Tatnall 2002; Tatnall 2005). I would argue that digitization as such, describing relations between digital media and other technologies, could and should be integrated into ANT studies of more recent information systems developments.

Investigators of information systems have adopted the concept of *information artifacts* to describe the assemblages – e.g. information-sharing communities, common taxonomies or common practices – that are brought about by artifacts such as databases, shared nomenclatures and interactive websites. *Digital objects* could very well work as information artifacts – digital databases and Internet sites are the obvious examples. Nevertheless, one should distinguish the one from the other on the grounds that digital objects are commonly said to be inherently bound with an analogue counterpart, bonds that are not a necessary characteristic of information artifacts (Cameron 2007). The concept of digital object seems inscribed in the analogue/digital divide, a divide that continues to exert itself even after the most elaborate attempts at abolishing its hold on the concept.

I would argue that it is precisely this presupposition of the analogue/digital divide, seemingly inherent in the concept of digital objects that makes ANT theorists suspicious. Shunning any presupposed divisions, ANT rather seeks to demonstrate how such boundaries are the effects of specific semiotic and material networks. For the same reason, the concept of information artifacts, which avoids such distinctions, is suited quite well to ANT research.

In my view, digital objects do not necessarily point us to any given distinction, but may denote a process of negotiation and ever-shifting meaning of the relationship between digital media and other material parts of an organization, such as objects, buildings and events. Thus, we may treat digitizing as the contingent working out of an analogue/digital divide and determining procedures for crossing the same divide.

My approach, which places the processes and ambiguities of digital objects at the centre of focus, does not challenge information artifact-centered projects. With the concept of digital objects, nevertheless, we focus our attention on the working-out of analogue/digital divisions and relations by presupposing *some version* of the analogue/digital divide. The versions that are worked out in local settings – complex interdependencies or simple dichotomies (cf. Hayles 2005; Parry 2007: 69) – are then something for empirical investigation and interpretation to work out.

Hence, the aim of this article is to elaborate an ANT approach to digitization as the determining of relations between digital media and other materials within organizations. The model, presented under the title *modes of digitization*, is applied

to the Museum of World Culture.[2] I will ask how modes of digitization are arranged in the context of the renewed ethnographic museum, both separately and within the museum as a whole, and how they determine both information artifacts and the renovation of ethnographic objects.

The Museum

The Museum of World Culture, MWC was designated early on to become one of the more experimental museums among the *National Museums of World Culture* (NMWC) (Rogestam et al. 1998: 41). The NMWC is a national authority that has the status of a "state-administered and funded" museum in Sweden, which gives it the money and responsibility to incorporate international museum trends as well as maintain a well-travelled staff. The MWC case was thus potentially both part of a larger flow of museum arrangements as well as a place for re-envisioning exhibitions, a fertile ground for ANT studies.

The MWC opened for the first time in December 2004. It had taken over both the collections and some staff from its predecessor, Gothenburg's Ethnographic Museum – an institution that had closed down four years earlier.

The museum was created concurrent with the National Museums of World Culture, or the NMWC, under which it is currently placed. The authority is centrally located in the Gothenburg museum building, but is also responsible for three other Stockholm-based museums.[3]

In the year 2000, the NMWC authority took over from the preparatory committee that had published its summary report the year before. That report was, according to many, the most detailed instruction to the new authority and its museums written to date, and some have recently argued that it has carried too much influence upon the MWC through the years (KPMG 2008; Lundahl 2008).

The report puts a great deal of hope in new technology to pave the way for an experimental museum with little room for the gaze of the rational, disembodied and disinterested visitor.

> It is obvious that the demands on exhibitions have increased when it comes to external shape and active implementation of technology, but also concerning topicality, ideas and relevance more broadly. […] The idea to focus the Gothenburg museum on experimental forms of exhibition has been brought up. […] Furthermore, it has been pointed out that a bolder and less conventional perspective on objects can promote for example artistic and interdisciplinary approaches, and that technology, object, and personal contacts constitute a both/and [sic] and can never really replace each other. (Rogestam et al. 1998: 40-41. My translation)

The idea, it seems, is to integrate information technology into the museum in order to meet the growing demands on exhibitions, both from the public and from other museums. Consistent with this, the report goes on to maintain the importance of displayed objects, not because the objects are examples of abstract categories, but because of their "entirely unique ability to create a sense of something concrete and near". (Rogestam et al. 1998: 30. My translation)

To be sure, a re-enchanted museum is being described, where objects and spaces come to life to tell their stories and entice the audience. Even if technology is not the only means of re-enchanting, it certainly is described as one tool among several for re-envisioning exhibition forms.

The Problem

Håkan Thörn, who was one of the first employees to develop the content of the exhibition, points out that in a museum where experimentation is the norm, old ethnographic objects are, although a necessary problem, not always a welcome one:

> At the same time, the museum's aspiration for change comes with an array of contradictions that, as far as I can tell, will always mark its activities. Not least, these contradictions arise from the collection of hundreds of thousands of objects that the museum inherited from its predecessor, Gothenburg's Ethnographical Museum. In spite of its focus on contemporary problems, one of the tasks of the museum is to administer this collection and display parts of it to the public. (Thörn 2005: 47. My translation)

This dual task of experimenting and preserving, come together in the project of re-envisioning the objects and giving them new meaning. This is in fact seen as a central task for the new museum. Perhaps best summed up by the Head of Museum Collections when I interviewed him, this attitude emerges:

> We must start seeing the objects in a new light. […] It is perhaps also something of a general trend in the West. I mean, most museums here have gone through some sort of transformation. So it was only timely that the old Ethnographic Museum disappeared and became the Museum of World Culture. Now, Sweden has not had any colonies, but in many countries, like Holland, there has been a significant process dealing with their colonial past. (2008-05-19. My translation)

In other words, the objects constitute a problem for the MWC, connected to the demise of colonialism and the imperative to rework the museum. This problem is maintained as a problem throughout the organization.

Of course, it could be argued that the problem is not one of objects, but one of *interpreting* the objects. There is always some truth in saying that interpretation is a human, not an object activity. Nevertheless, there are numerous and venerable arguments for highlighting the surprisingly complex role and agency of objects in interpretative processes (see e.g. Latour's discussion on the "Third Source of Uncertainty" in Latour 2005). For example, objects tend to gather interpretations; they tend to provoke new interpretations, and tie together different ones together. It is precisely this agency of objects that ANT seeks to unravel. Therefore, digitization is a solution insofar as it is able to reshape the objects and redraw their relationships. This is, I will proceed to show, precisely how digitization is employed in the MWC.

Digitization in ANT – Problems and Possibilities

Many of the questions, theories, and empirical results that surround digital media today, can be called *media materialist*. The concept is close to Katharine Hayles' notion of New Materialism, the idea that the medium in which texts are represented goes a long way to making sense of their content – a variation on an argument that has been made within various schools of thought; Hayles mentions, among others, thinkers such as Walter Ong, Jacques Derrida and Oliver Sacks (Hayles 2005: 40-41, 142). Digitization thus presupposes, according to the media materialists, a process of translation: it is not only a transportation of certain content to a new medium, the content itself must change when the medium changes. Hence, there are issues of interpretation to be tackled within that process.

Media materialism is different from relational materialism – the notion that Law has adopted to describe the ontological position of ANT (Law 1994). Media materialists focus the inherent qualities of different media when the interpenetration of content and medium is discussed. To relational materialists, on the other hand, this argument is off the mark, as media cannot have any qualities that they do not acquire as part of local networks.

While siding with ANT on the importance of local networks, I do maintain that we can construct concepts that downplay the opposition between relational and media materialism and that help us understand the specifics of digital media. This is done by seeing digital media as a new material that must be instated and made intrinsic to the local contexts where it is introduced. In this way, we neither deny that the new medium is always enacted locally, nor do we deny that the medium has a pseudo-universal character, namely its newness, that creates a need for adapting and accommodating within the local contexts where it is introduced.

Introducing Modes of Digitization

I would like to begin by introducing a concept of digital media that foregoes *a priori* distinctions. In a vein closely related to Actor-Network Theory, I will decenter the concept of media, making the possible specific character of digital media not a question of inherent or formal makeup, but of local networks and arrangements.

Bruno Latour seems to suggest that the local always has a network character that surpasses its limits and connects it to other locales (Latour 2005). For him, the locale, such as for example a meeting in a specific building, is always a collection of many different objects, each with their own local history and purpose. The "local situation" is thus always a specific configuration of many different situations, which ties together in specific networks and with specific effects. I will use the word local network to denote this idea of the distributed local situation, where disparate objects are assembled from multiple places and times.

In an article on medical Internet sites, Samantha Adams and Marc Berg touch on the debate between media and relational materialism (Adams & Berg 2004). Arguing from the point of view of ANT, they show that concerns raised about new, digital media are the same as those raised about printed texts in the 15th century. Their point, to repeat the argument made by relational materialists generally, is that different media have no inherent qualities, but play similar roles in the relational networks into which they are introduced.

Importantly, however, Adams and Berg's article is evidence that Actor-Network Theorists are prepared to accept that the introduction of new media into old networks, at least temporarily, opens the latter for debate and re-arrangements. Their argument resonates with Bruno Latour's concept of black-boxing; according to Latour, the development of a new technology involves a myriad of concerns that are black-boxed once the technology is deemed usable and "retailable" (Latour 1987). However, under specific circumstances – as when a group questions the safety of the new technology – the black box is re-opened, and its bits and pieces once again are available to reassess and rearrange. Adams and Berg's article, then, can be said to demonstrate the capacity of new media to reopen the black boxes of the local networks where they are introduced.

Finally, then, combining the innovatory effects of new media (Adams & Berg 2004), Latour's black-boxing, I propose *modes of digitization as a concept for the rearranging processes opened up by the introduction of digital media, processes that, through defining the analogue/digital divide and the procedures of making digital, determine the position of new technologies within local networks. These processes are also central to retaining, challenging, and changing organization identity, knowledge, and reflexivity*.

Take, for example, decisions on how many digital photos are to be taken of every object in a museum collection, before an entire inventory can be said to have been digitized. This is in every sense a question of how to define analogue objects, their digital counterparts and their future functions (is the computerized version only to be a guide to the analogue collection, or will 3-D exhibits replace existing exhibits, etc.), concurrent with the working out of procedures for converting analogue to digital (namely, in said example, through deciding on the number of digital photos to be taken).

Two central points to be made after this definition are: (1) there may be multiple modes of digitization arranging one local network and (2) the investigation of any mode of digitization must be pursued empirically. These points do not follow from, but are implicit in the definition above, as the concept is modelled on the theoretical and methodological points made by Law when he introduces the concept *modes of ordering* (Law 1994: 106-107).[4]

Law wishes to introduce a way of thinking into Actor-Network Theory that looks for patterns, rather than questions any claim to meaning and overall connection whatsoever. He claims that his concept is unusually "bold" for the poststruc-

turalist camp, in that it allows for imputing large patterns to empirical data. It is nevertheless to this camp that he wishes to belong. The argument Law proposes for his "boldness" is that there must be room to describe those relative and contingent orders within which, according to the standard poststructuralist account, subjectivity and agency are materialized. His argument is that such patterns, for example the order of bureaucracy or enterprise, are self-perpetuating and do, themselves, supply the rules by which they are evaluated. Thus, these orderings are the basis for local meaningfulness. However, as Law nevertheless adheres to the poststructuralist principle that universal meaningfulness is impossible, it follows that modes of ordering, and as a consequence modes of digitization, must necessarily be *multiple*. As there are no universal principles or patterns upon which all meaningfulness can be modelled, it also follows that every mode of ordering or digitizing must be investigated empirically, not theoretically. These two points, multiplicity and the necessity of empirical investigation, are at the core of the concept of contingency. Thus, as it derives from Law's concept, the notion *modes of digitization* must be read as simultaneously bold and contingent.

Modes of Digitization as Performed Arrangements

From its very start, ANT has been associated with constructivism; different qualities such as stability, change, materiality, and agency, have all had to be explained by arrangements of networks. The theory has come to maintain that there is, in principle, no distinction between human and object within these networks – again, that distinction must be explained through arrangements.

One important finding in ANT studies is that *stable* artifacts, as outcomes of heterogeneous and painstaking construction, are important in keeping some people together while creating borders between others. I make a similar point when discussing information artifacts above. In short, artifacts play important roles in organizing work, but are also the outcome of such organization. For example, spoken words can only go so far, but lines drawn upon a map, once they have attained legitimacy, can be pivotal in keeping whole nations together and others apart.

Consequently, modes of digitization are not actual structures, nor are they mere concepts. They are relations between humans and materials that are "performed" contingently. By performed, I mean that they exist only through performance; that their logic and aims, which do indeed exist, are not those of the performing individuals, but belong to emerging patterns of relational orderings. By contingently, I mean that they are the outcome of a range of different localities, times and different ways of arrangement. They are also contingent upon always having relations to other modes, to which they develop material and performative interfaces, relations that also characterize them. Furthermore, these performances are only possible through the information artifacts that hold them together and which they, in turn, shape.

Two Competing Modes of Digitization

My investigation of the MWC led me to distinguish between two modes of digitization: *mediating digitization* and *object digitization*.

I look at these modes of digitization as both performed and materialized contingently. This will become evident in the layout of the following presentations of the two modes of digitization found within the MWC. I will present each of the modes in three stages. First, I wish to point out the features that mark mediating and object digitization as modes of digitization. Second, I will show which information artifact hold the modes together internally. Third, true to my theoretical admonition that modes of digitization are performed contingently and lack an isolated, systematic kernel, I will demonstrate how each mode varies and becomes more or less vague when forced to negotiate with other modes of ordering.

Performativity and materialization are also at the centre of the concluding passage as well, where I will not only look at how the modes are performed, but also examine the artifacts – software programs, museum objects, buildings, etc. – that are central to holding both the modes of digitization and the museum as a whole together.

Mediating

Mediating as a Mode of Digitization

Solutions are often found when problems are reworked. For the MWC Director of Marketing and Information, the problem of ethnographic objects should be reworked to become one of visitor experience.

> The purpose [of the museum] is not to display objects. The purpose is, of course, to give people a substantial experience in their everyday lives, something that connects their everyday lives with bigger, global events. That is our purpose. And then we use exhibitions and objects as methods. […] That is something you could possibly also get from exciting documentaries on television and, to a lesser extent, from newspapers. (2008-05-28. My translation)

Here, the Director of Marketing and Information explains the role of objects and exhibitions: they are means of gaining experiences that carry messages. Hence, objects and the cultures they represent are no longer the starting point of the ethnographic museum and its exhibits. Rather, the MWC first chooses messages or themes independent of its collections (e.g. "Trafficking," "AIDS," or "Modern day Africa"), and then picks appropriate objects – a practice that has required many external procurements.

This shift from object to experience – which has many parallels in the museum world at large (Hein 2000) – is not without consequence for digital media. If objects are only a means of creating experiences, a point implied in the interview cited above, then there can be several other means that may work equally well.

Indeed, the same experience can be created and mediated by parallel means, so that museum visitors can come in contact with the intended message in different places and in different forms.

> I don't say, "We are working on an exhibition." I want to work on a "project". And there are many different ways of creating the appropriate experience. Trafficking is a great example of this. There is an exhibition. We have had many happenings around it. We have a series of seminars with different researchers. We have produced a supplement that was published and distributed with Göteborgs-Posten [local newspaper]. We are involved in an international cooperation with fifteen different institutions that work to change laws. We have a campaign site that will accompany the exhibition when it starts to move around to different museums. (2008-05-28. My translation)

The campaign sites are digital exhibitions, accessible on the museum website. They serve the dual purpose of giving far-away visitors a good portion of the actual exhibition experience, as well as attracting others to the museum building.

At this point, I argue that mediating is a mode of digitization. Indeed, in shifting the focus from object to message and experience, objects and websites become synonymous for their roles as mediators of messages. Hence, mediating is a rearrangement that makes digital media an important resource in the new museum. This is not to say anything relative to causality, however, such as implying that mediating could only have been adopted as a mode of ordering after the introduction of digital media.[5] Nevertheless, as a specific way of thinking about and organizing the resources of the museum, mediating puts digital media on a par with objects in terms of their ability to generate experiences. Mediating clearly plays the role of instigating digitization of experience within the MWC.[6]

Information Artifacts

While mediating emerges out of the rearrangement of objects and messages, it is also discernable in new software applications commissioned by the MWC. Reproducing the difference between stable messages and experiences on the one hand, and shifting media on the other, the Marketing and Information staff has chosen to commission a consultant to develop a new and unique application for each new exhibition.

This is done using Flash, computer software optimized for the free, non-standardized tailoring of multimedia presentations. Freedom from standards does however mean that Flash users are ultimately responsible for all layout and graphics details themselves, so that the application development process requires expertise and artistry. Ultimately, the form that mediating has taken within the MWC, developing new Flash presentations for each exhibition, has become costly.[7]

Digital exhibitions built within Flash are also part of defining objects as media since they are designed with the specific concept of objects in mind. Indeed, when digital exhibits have been developed, objects are allowed to play a part only inso-

far as they can be made intrinsic to the experience the application intends to generate.

Ambiguities

It is important to notice that a mode of digitization is not driven by any kernel of thought. It is simply a performative pattern that is discernable within local situations. As such, it can be more or less unitary, more or less noticeable, more or less clear. In order to emphasize this, let me now turn to some vague points about mediating.

After having completed a first interpretation of the interviews I conducted at the MWC, I sent all interviewees a copy of interviews and solicited comments. One the interviewees called and argued quite forcefully that I had exaggerated the way in which digital media had been allowed to replace ethnographic objects. Certainly, this interviewee admitted, the objects are media utilized for the mediation of specific experiences and messages; nevertheless, they are *unique* media, underpinning *unique* experiences – the digital exhibitions that the MWC offers on their campaign sites can consequently only be approximations of the actual exhibits. According to this interviewee, she and her colleagues had a deep and passionate interest in ethnographic objects and the unique experiences that can be created using these peculiar media.

This additional information did, however, not convince me that objects were still the centre of mediating, especially since that view was belied by statements in earlier interviews, arguing for the primacy of experience over objects. And so, even if mediating focuses on *unique*, rather than generic experiences, such unique experiences can also be elicited by digital media. This is true even if those latter experiences are other than those mediated by unique objects. Consequently, even if unique experiences are substituted for generic ones, the centrality of objects is contested in mediating, and the rhetoric of mediating remains a valid asset in the process of adopting digital media as an important museum resource.

Whereas "mediating" from the standpoint of the earlier interviews could be interpreted as saying that objects could be substituted by any medium that gives the same experience, the talk of "unique objects" denies any such substitution. This latter talk of uniqueness, however, opens the possibility of equally unique digital presentations, the value of which only becomes evident when their link to objects is denied. In other words, digital presentations become objects in their own right with this latter move to uniqueness.

Looking back at earlier interviews, in addition to interpreting the museum website in the light of this ambiguity, I recognize that the MWC uses two kinds of digital media. One of these mimics the exhibitions and tries to replicate the museum experience on the Internet. I will call this *mimicking medium*. The other one is presented as a museum object in its own right, and brackets relations to analogue mediums. I will call this latter version *pure medium*.

It may be helpful to point out that mimicking mediums do not necessarily mimic objects. In the case of mediating, they seek to replicate *experiences* in digital form, while treating museum objects as other mimicking media. Thus, the differences between mimicking and pure media are not entirely parallel to historian Parry Ross' distinctions of "digital surrogate" and "born digital" (Parry 2007: 69). Above all, Ross restricts the concept of analogue to museum objects. Leaving such definitions to my interviewees, I suggest that the distinction between mimicking and pure media have entirely to do with rules of evaluation. Whereas mimicking media are evaluated on the basis of some relation (e.g. to the experience created by analogue exhibits in their role as media), pure media are evaluated on the basis of rules pertinent to the medium as such.

When discussing the museum website, the staff and the commissioned consultant did not seem eager to have it mediate anything other than itself: its pages were supposed to attract new visitors to the museum by being *different* and *up-to-date*. When the consultant who had developed the website described how he and his colleagues had philosophized about web design, he thus emphasized *difference* and *topicality*:

> [We] built up navigation and what we call pushing links, so you can immediately show the visitor the most recent news, instead of having some dreary navigation up in the left corner, because that doesn't build up any image, well, there is not much going on there, it's rather boring. [… I]f they wanted a website to attract visitors to the [museum] building, then they really had to have a site that visually attracted people, well, and those other pages just don't do that. (2008-07-01. My translation)

As is evident from this passage, difference and topicality should be understood as qualities of web design. First of all, *topicality*, or "up-to-dateness," is accomplished through pushing links as opposed to traditional, unchanging website menus containing general categories (e.g. About us, Contact information, Collections). These link directly to current events and thus must be changed as new events replace old.

Secondly, what the consultant means by the MWC site being *different* from other Internet sites soon evolved to become "'different from the websites of the other museums organized under the NMWC." Thus, difference had mainly been accomplished by reworking the Content Management System (CMS), used by all the NMWC museums, and that determined the appearance of their sites. It had also involved defending those changes against the subsequent onslaught from the NMWC, which was eager to sustain the graphic consistency of its museums.

The ambiguities of mediating can be summarized as pertaining to the concept of medium. When objects and digital media are put on par with one another, they are both discussed in terms of their ability to convey messages or experiences. By contrast, topicality and difference are qualities ascribed directly to media as such, not to any message or experience that those media are supposed to convey. In

short, the meanings of mimicking media lie in messages and experiences; the meanings of pure media lie in the setup of the medium itself.

I wish to avoid the notion that mediating is an ideology that promotes digital media to the detriment of other materials within the museum. Rather, as a mode of digitization, mediating is a particular way of doing things and speaking about what is done. Specifically, mediating is a way of doing and speaking about media. It does so with other modes of ordering. Indeed, I would suggest that ambiguities pertaining to the concept of medium have to do with the relative autonomy that the Marketing personnel enjoys in changing the website, versus the need to negotiate with others when it comes to the arrangement of both analogue and digital exhibitions.

Digitization of Objects

Historically, an ethnographic object was a piece of evidence, evidence perhaps not foremost of its culture of origin, but of supremacy of the West and its allegedly unsurpassed ability to systematize and build knowledge of the world. Today, these fairytale-like narratives underpinning the importance of the objects are gone; what is left is often no more than dusty piles of worthless shards.

Perhaps it is within the realm of storage, more than anywhere else, that the absence of that bygone magic is most evident; where disenchanted objects of no particular interest cry out for something to be done with them. As the Director of Collections told me, "then, of course, there are collections without the remotest interest to anyone. I mean, we have thousands of potsherds, and no one cares about them" (2008-05-19. My translation).

As I will show, digitizing objects is a process initiated to save objects from this utter meaninglessness, to replace objects' old relations to each other and to humans with new relations. Their future usefulness must be guaranteed, and so ethnography must be problematized and replaced by something new. Slowly, there is a digitalized order emerging, one that prepares objects for future, unimagined uses – a forward thinking plan for a journey to places where no ethnographic object has gone before.

Object Digitization as a Mode of Digitization

Digitizing objects is about planning ahead. When I talked to the recently employed digitization coordinator for the NMWC, it soon became obvious that he has future, perhaps unconventional users in mind. At least, this is one reason why he has drawn up guidelines for object digitization in all museums, and why he has put so much effort into convincing photographers to include a stick with a color scale on all digital photos:

> "I have wanted to include a color scale from the start, but there was so much resistance to it; many thought it didn't serve any purpose. So, in my current proposition, we will continue without the color scale, but make some tests with the scale during

> the coming year. After all, it is the color scale that will guarantee that colors are correct if, for example, someone from Greece in ten years time wants to check out the coloring of a particular object." (2008-06-04. My translation)

There is, however, one particular future usage for the catalogue that the coordinator prioritizes:

> "Most important is the location, that we know where in the collection we can find the object. That is how I think about the future, that each object should have a position and a searchable word, that we should be able to do searches. [...] The idea is that we, before an upcoming exhibition for example, can get a quick overview of which of the objects in the collection can be used. […] And that we can serve researchers more efficiently at the object secretariat. We should quickly be able to get a list of all the things we have and show images. And regarding the images, it is a stated aim that we shouldn't have to go down in the storage rooms and bring out every object." (2008-06-04. My translation)

As in the case of mediating, I am reluctant to handle causal order here. Certain central elements of object digitization are tightly connected to cataloguing, which clearly emerged before the advent of digital media. Cataloguing of objects has three priorities: (1) that objects can be easily found in collections, (2) that the collection catalogue can be searched with words, and (3) that objects can be substituted with digital images and texts as long as the actual objects are not required. In contrast, ethnography was about categorizing objects correctly; placing them not in the context of the specific museum catalogue, but in the taxonomic context of a scientifically ordered world of "primitive cultures." Returning to catalogue categories, they are above all used as indexes for finding objects by means of searches. Thus, challenging ethnographic ordering is not something new that arises out of digital media, but comes about even when the catalogue is made a central concern.

That said, however, increasing the quality of the catalogue is a specific way of engaging digital media in the museum; so object digitization is a mode of digitization. Also, as we will see, while principles of cataloguing are central to this project, object digitization is not the same as catalogue digitization. With digitization, the search-centered approach is accentuated and the order of ethnography further undermined; simply making the old catalogue digitally available is not enough for the concerned museum staff. Thus, ideally, cataloguing the whole collection should start afresh, and the old analogue catalogue should be discarded. In the end, meaning should be provided primarily by the individual users who come to the digital catalogue with specific search words, who in turn create the temporal order of results. The meaning of an object can no longer be limited to a card; words in a database enable users to create meaningful search results.

In a continuation of this ordering of things, we see a possibility that would have struck many old ethnographers as absurd, namely letting users themselves provide the words used to describe objects in the database. While this possibility has been realized in radical ways in some museums around the world, it is only discussed

within the MWC, and then only in terms of expanding, not replacing the existing catalogue.

> "We could also more easily expand our knowledge about our own objects. Objects we know nothing about, there are individuals in this society that know a hell of a lot about them. If they could come and tell us what they know about the objects, that would be invaluable." (2008-05-28. My translation)

Nevertheless, even if the MWC does not follow up on the more radical implications of its new digital order, its new database does not have stable taxonomies, but does, ideally, create new taxonomies from the words furnished by the users and then orders objects accordingly. Through digitization, *the very order of objects* is broken up and made malleable and thus applicable to varying tasks.

Order, then, has moved closer to and has centered upon the individual user of the catalogue. While scientific order centered on the learned scholar who was able to interpret and order the world to a homogeneous whole, and while catalogue order hinged upon the able cataloguer, searchable order purports to begin with any individual, recreating itself according to individual interests.

Information Artifacts

Contrary to mediating that has tended to develop new, non-standardized software applications for each new exhibit, object digitization is a standardizing practice. Indeed, speaking with museum personnel who work with storage and with the digitization coordinator, I soon discovered that the development of standardized software and search engines was not only a project connecting different members of the MWC staff, but was a project that surpassed each museum to include coordination of projects on the national, European and even global levels. Thus, whereas the museum had newly adopted digitization software that had been developed by a group of Swedish public museums, some members of staff were also active in international networks, discussing technological ways of bypassing locally differing standards in order to facilitate common search engines.

Thus, while mediating supports difference and change, object digitization defends common standards. In other words, the software being developed by the two different modes of digitization mirror their respective ideas of a future for ethnographic objects.

Ambiguities

If we interpret object digitization as a certain way of compiling digital databases, not as an ideology or a system of thought, we must realize that struggles over mundane questions such as whether or not to include a color scale on photos, penetrates to the heart of such issues as where to draw a line between digital and analogue. For example, is it accurate to call the database digital if it has exactly the same use as the paper-based catalogue? Which uses must the database facilitate, in order to merit the name digital? Are color scales a necessary feature?

This lack of clarity becomes even more evident when turning to the procedures by which the museum collection has hitherto been entered into the computer-based database. As digitization of objects was emphasized in the 1999 report that characterized much of the work in the MWC since its inception, this type of digitization was one of the first activities initiated.

In the MWC, young employees were put to the task of entering the entire old catalogue, word by word, into computers by use of keyboards. As the digitization coordinator can establish today, however, there is a not-so-subtle difference between digitizing old catalogues and digitizing objects:

> Then they [the users] really just have the information from the cards in digital form, not knowledge about whether the object exists or not, or in which condition it is. The card could be from the 1920s and the object could have disappeared, been destroyed or registered incorrectly, for example. So you could ask yourself whether it is a digitization of the catalogue cards we want or a digitization of the objects. (2008-06-04. My translation)

This distinction, as made by the coordinator, seems to testify to the relative strength of ethnographic discourse during those first years of the museum, and the relative weakness of object digitization. I do not argue that the choice to register the old catalogue constitutes some planned coup on the part of the ethnographers. However, it does point to a lack of critical distance to the paper-based catalogue.

Object digitization, then, is bound up with several ambiguities born out of its practices. As I have shown, both photographing objects and entering text into the computer-based database, involves choices where object digitization, in its role of a mode of digitization, has not yet succeeded in seizing the initiative for itself. Rather, as of yet, its attempts at standardized procedures have been challenged by local practices and limitations.

Conflicting Modes of Digitization

Mediating and object digitization are not mutually exclusive. Nevertheless, they clash in terms of how certain things are to be done within the museum. The Head of Marketing and Information was, for example, quite critical of how the object digitization process had been implemented:

> Just because you take that text and that image and put it out there [on the Internet], it doesn't get more interesting. That which makes an object interesting, and which really means applying the concept of accessibility, is formulating the information so that it becomes interesting. (2008-05-28. My translation)

This interview segment questions unmediated objects and their place in object digitization. Again, mediating focuses on the experience that objects generate; object digitization focuses on ascertaining the future uses of the objects. In this respect they clash.

I interviewed the photographer, recruited from the old ethnographic museum, who was stationed in the storage building. His opinion of the current museum exhibitions illustrates what the "object people" thought about mediating:

> I think we must have a collection and a permanent exhibition that represents the collection, or else we are not a museum. Today, the building has become a place where different objects and ideas come and go. / Henriksson: *So what is it then, if not a museum?/* A community centre. But we do still call ourselves the *Museum* of World Culture. So if we are to present ourselves, we must present what we have, namely our collections. What else should we display on the website, if not our collections? (2008-05-14. My translation)

One could read this as a questioning of the monopoly that the Marketing and Information personnel maintains over the website at present. However, the primary argument concerns the objects. Whereas mediating chooses themes and messages for the exhibitions quite independently of museum collections and procures needed objects from other museums, object digitization starts with actual objects. Again, this is a topic upon which the two modes of digitization clash.

It is worth noting that the two modes of digitization do not share any common computer software, but that computer software nevertheless is an important factor in binding together each of the separate modes of digitization. Thus, while mediating accomplishes difference through the reworking of the CMS software and invests a great deal of money in the development of Flash applications, and while object digitization finds an important project in the development of common programs and search engines – these modes of digitization have little or no interest in one another's software programs. When it comes to the general cohesion of the museum, we must refer to artifacts other than the information artifacts – the computer programs – of each respective digitization project.

The results of this study suggest that modes of digitization are discernable through their respective system of software applications. The development of these programs, though not necessarily a process of standardization, serves as a hub for the digitization process. Hence the programs are products of the imagined future order of materials within the organization that each mode of digitization is actualizing, or failing to actualize, through its ongoing work of organizing.

Whereas the development of computer programs holds each mode of digitization together, conditions for the integrity of the museum as a whole must be sought elsewhere, such as the museum locations and their relations. The geographical division of the MWC, where object storage is kept separate from the museum building, is a conspicuous feature of the museum. My interviews demonstrate that the staff of the storage building and the staff of the museum building seldom met. The members of the staff that were interviewed also held to different views of the objects depending upon the building in which they worked. I do not wish to speculate on whether the division is the reason behind, or an effect of different practices within the museum. Officially, it is explained by the inability of the museum building to adequately house object collections. Nevertheless, I

would argue that the current unity of the museum presupposes the geographical separation of the different modes of ordering and digitization that the bifurcation of the museum accomplishes.

However, the museum and the storage building are not the only locations that are counted as part of the MWC. An equally important place is the website, entirely dominated at present by the Marketing and Information staff. I would argue that the monopoly that these staff members wield over the content of the website, is an important factor in keeping the two modes of digitization apart. Whether this monopoly will remain, or whether, for example, adherents of object digitization will demand that their database is published on the website, is anyone's guess -- as are the consequences of those alternatives for the museum's future unity.

Finally, I argue that objects are a common problem for mediating and object digitization. This problem is not peripheral, nor is it a temporary nuisance. Rather, objects are the common ground upon which the two different modes of digitization come together and act.

I believe it possible to claim that it is exactly the post-colonial questioning of ethnographic objects that opens up the museum as a space where novel exhibition strategies can meet. Indeed, I argue that it is only as long as these strategies sustain the problematic status of these objects, that the unity of the museum will remain intact.

Conclusions

In this article, I have tried to show that the introduction of digital media not only requires the configuration of devices, but also necessitates an entire battery of rearrangements – modes of digitization – that include many different materials and living beings. Specifically, I have suggested that software programs may be important for the internal cohesion of modes of digitization, whereas relations between different modes of digitization are sustained by other materials. I have also tried to show that as these modes of digitization meet and clash with other modes of ordering, stability and clear-cut distinctions are not the obvious end of the process. Rather, central concepts such as medium and even pivotal distinctions such as digital/analogue may need to remain undecided in order to sustain local networks.

My suggestion is that digital media should be treated as a newcomer to local situations, where its novelty requires the rearrangements of networks. Needless to say, this implies that rearrangements in the face of new media are modes of digitization, i.e. contingent arrangements that become general standards only by virtue of dissemination.

These assertions lead to new problems that open the door for future study: (1) what other modes of digitization can be discerned? (2) what are their histories, i.e. in what types of organizations have they originated and why? and (3) how do dif-

ferent modes of digitization travel from one kind of organization to another and what changes do these travels entail?

In this article, I have shown that post-colonialist museums may currently be important sites for the adaptation and change of modes of digitization. Though I have emphasized the dependency that mediating and object digitization have on the local arrangements of the MWC, these two modes of digitization may also be adopted elsewhere. Indeed, I have already hinted at this conclusion by referring to the different styles whereby mediating and object digitization seem to disseminate or fail to disseminate; whereas object digitization already forms global networks around the development of computer databases and search engines, mediating employs costly consultants, and establishes the necessary contacts for those transactions.

On a more theoretical note, I hope to have demonstrated the pertinence of the digitization concept in pointing to instances where the relationship between digital media and other materials is being determined. I would argue that digital media, by introducing new materials into organizations, should become a distinct object of ANT studies on information systems. Indeed, it is in the face of these new technologies that renewal is required and where utopian reordering of objects becomes possible.

Andreas Henriksson is a Ph.D. student of sociology at Karlstad University. Current fields of study are digitization processes, on-line intimacy and the links between technology and courtship. E-mail: Andreas.Henriksson@kau.se.

Notes

1 This article is based on the results of my master thesis, (Henriksson 2008), submitted to the Department of Sociology at Gothenburg University. I am indebted to those who kindly agreed to be interviewed for that thesis – without them my efforts would have come to naught. I also wish to thank Mark Elam and Hans Glimell, Gothenburg University; Åsa Wettergren, Stefan Karlsson and the participants of the article seminar, Karlstad University. Many thanks to my friend Thomas Jacobsson for engaging discussions. Lastly, let me give thanks to the two anonymous referees for *Culture Unbound*, whose comments I could not have been without.

2 A case study often comprises different semi-structured samples – mine also. I chose to interview thirteen persons. These I selected in three different ways. First, I interviewed persons who worked closely with the digitization process: the photographer, the chief of information and marketing, and an information technician. Secondly, I chose to interview two former employees who I hoped could furnish an independent perspective on the museum. Thirdly, I asked all of the first five interviewees to give me names of other persons they thought I should interview, which led me to seven other interviewees. It should be noted that not all of the interviews are cited within this article; for a more extensive analysis of the material, see (Henriksson 2008).I also read all Swedish newspaper and magazine articles that contained the words

"Världskulturmuseet," "Världskulturmuseum," or "Världskultur" (i.e. "The Museum of World culture," "Museum of World Culture," or "World Culture") – all in all 130 articles. Lastly, I read the Government proposition on Information Technology that inspired the report initiating the process that became the MWC, a report that I also read.

3 The Stockholm museums are: The Museum of Ethnography, The Museum of Mediterranean and Near Eastern Antiquities, and Östasiatiska museet (or The East-Asian Museum, which lacks an official English name).

4 Law in his turn models "modes of ordering" on Foucault's concept of discourses. Consequently, there are some important similarities between modes of ordering/digitization and discourses – however, there are also differences. Law argues that the concepts mainly overlap when it comes to their methodological role: both teach us to impute larger patterns onto our empirical data. They are also both about assuming the existence of non-subjective strategies, i.e. that we discern logics and aims in our empirical data without ascribing them to individuals. These logics and aims are discernable because of the internal and contingent meaningfulness that is accomplished through ordering, but not because of any universal and external point of reference that would work to reveal all underlying logics and aims – a fact pointing us methodologically in the direction of participatory observations. Discourses and modes of ordering/digitization also share in a problematization of the concept of agency; the logics and aims discerned are said to animate and to emerge through local practices – hence, adherents of these concepts typically argue that agency and individuality must be explained as outcomes or emergent qualities of these larger patterns. However, Law is critical of Foucault when it comes to the hegemonic character that the latter writer tends to accredit to discourses. In contrast to discourses, then, modes of ordering/digitization are enacted locally and tend to develop interfaces with other modes – contingent interfaces that over time, and to the extent that the modes are accomplished in local orderings, must necessarily characterize each mode. Law also draws on ANT when he suggests that concepts of discourses tend to be reductionist (e.g. claiming linguistics to be the most revelatory analytical tool), whereas modes of ordering are relational materialist, thus implying that the patterns discerned are acted out in many different materials, governed by many different sets of rules (linguistic, psychological, mathematical, chemical, etc.).

5 I am not interested in investigating such causal links in this article – though, needless to say, the causal import of digital media on mediating as a mode of ordering museums is a pertinent subject for future research. Digital media has indeed been mentioned elsewhere as a cause of the shift from objects to experience within museums (Hein 2000: 9-12; Parry 2007: 81). Nevertheless, Hilde Hein, who has thus contributed to this hypothesis, also includes many other historical causes in her nuanced account of recent museum trends. Ross Parry also conditions his position by pointing out that there were curator "traditions" inherently friendly to digital media before digital media was even introduced into any museum.

6 I wish to thank the referee of *Culture Unbound* for making me aware that the work of John H. Falk and Lynn D. Dierking on museum experience undermines any claim to correctly mimicking the museum experience digitally. These authors argue that museum experience results from an interaction between several levels where the actual visit to exhibitions, a level that could possibly be copied digitally, is only one (Falk & Dierking 1992). Other levels have to do with personal expectations of the museum, personal agendas for the museum visit as well as the interaction with other visitors and with the museum staff. Falk and Dierking argue that all of these levels together form the resulting experiences and the messages that visitors are able to extract from the exhibits. This clearly speaks against the possibility of accurately copying the museum experience in digital form. In the sense that this talk of interacting levels is not well captured by mediating and other modes of digitization, Falk and Dierking's account perhaps helps us trace the borders of mediating.

7 So far, the development of Flash applications has been made by external consultants. Due to recent cutbacks of museum funding, however, commissioning consultants is now a thing of the past. (By the way, this is an excellent example of how diverse sites are assembled in local net-

works; the mediating mode of ordering objects calls for individual digital solutions for each new exhibition; the computer program Flash calls for commissioned consultants; the shortened flow of money makes that solution impossible. Will this cause mediating's concept of objects to change and/or are there alternative routes in the dense jungle of software programs and economical assets?)

References

Interviews

2008-05-14: Interview with a photographer.
2008-05-19: Interview with the Head of storage.
2008-05-28: Interview with the Head of information and marketing.
2008-06-04: Interview with the coordinator for the object digitization project.
2008-07-01: Interview with a consultant formerly commissioned to develop the museum website.

Literature

Adams, Samantha, & Marc Berg (2004): "The nature of the Net: constructing reliability of health information on the Web", *Information Technology and People, 17*(2), 150-170.

Cameron, Fiona (2007): "Beyond the Cult of the Replicant: Museums and Historical Digital Objects - Traditional Concerns, New Discourses", F. Cameron, & S. Kenderdine (eds.), *Theorizing Digital Cultural Heritage. A Critical Discourse* (pp. 49). Cambridge: The MIT Press.

Cameron, Fiona, & Sarah Kenderdine (2007): "Introduction", F. Cameron, & S. Kenderdine (eds.), *Theorizing Digital Cultural Heritage. A Critical Discourse* (pp. 1-15). London: The MIT Press.

Chakrabarty, Dipesh (2002): "Museums in Late Democracies. Two Models of Democracy", *Humanities Research, 9*(1), 5-12.

Falk, John H., & Lynn D. Dierking (1992): *The Museum Experience*. Washington: Whalesback Books.

Fiskesjö, Magnus (2007): "The trouble with world culture. Recent museum developments in Sweden", *Anthropology Today, 23*(5), 6-11.

Hanseth, Ole, Erik Monteiro & Morten Hatling (1996): "Developing Information Infrastructure: The Tension between Standardization and Flexibility", *Science, Technology, & Human Values, 21*(4), 407.

Hayles, Nancy K. (2005): *My Mother Was a Computer. Digital Subjects and Literary Texts*. Chicago: The University of Chicago Press.

Hein, Hilde S. (2000): *The Museum in Transition. A Philosophical Perspective*. Washington: Smithsonian Books.

Henriksson, Andreas (2008): *Digitalizing World Culture. Modes of Digitalization within the Museum of World Culture*. (Master Thesis, Department of Sociology, Gothenburg University).

KPMG. (2008): *Översyn - Världskulturmuseet* Retrieved from http://www.regeringen.se/content/1/c6/10/43/93/67b7a59d.pdf.

Latour, Bruno (1987): *Science in Action.How to follow scientists and engineers through society*. Cambridge: Harvard University Press.

Latour, Bruno (2005): *Reassembling the Social. An Introduction to Actor-Network-Theory*. Oxford: Oxford University Press.

Law, John (1994): *Organizing Modernity*. Oxford & Cambridge: Blackwell Publishers.

Law, John (2004): *After Method. Mess in social science research*. London: Routledge.

Lundahl, Mats (2008): *Kommentarer till KPMGs rapport* [Comments on KPMG's report]. Gothenburg: Museion, Göteborgs Universitet.

Macdonald, Sharon (2005): "Enchantment and its Dilemmas: the Museum as a Ritual Site", M. Bouquet, & N. Porto (eds.), *Science, Magic and Religion - The Ritual Processes of Museum Magic* (pp. 209-228). New York: Berghahn Books.

Marres, Noortje (2004): "Tracing the trajectories of issues, and their democratic deficits, on the Web. The case of the Development Gateway and its doubles", *Information Technology and People, 17*(2), 124.

Parry, Ross (2007): *Recoding the Museum. Digital Heritage and the Technologies of Change*. London & New York: Routledge.

Riegel, Henrietta (1996): "Into the heart of irony: ethnographic exhibitions and the politics of difference", S. Macdonald, & G. Fyfe (eds.), *Theorizing Museums* (pp. 83-104). Cambridge: Blackwell Publishers.

Rogestam, C.,A. Nilsson, A. Persson, S. Lindström, M. Fregidou-Malama, & L. Gidlöf (1998): *Statens museer för världskultur*. Stockholm:

Saunders, Barbara (2001): "The photological apparatus and the desiring machine. Unexpected congruences between the Koninklijk Museum, Tervuren and the U'mistà Centre, Alert Bay", M. Bouquet (ed.), *Academic Anthropology and the Museum. Back to the Future* (Second Edition ed., pp. 18). New York: Berghahn Books.

Star, Susan L., Geoffrey C. Bowker & Laura J. Neumann (2003): "Transparency beyond the Individual Level of Scale: Convergence between Information Artifacts and Communities of Practice", A. Peterson Bishop, N. A. Van House & B. P. Buttenfield (eds.), *Digital Library Use. Social Practice in Design and Evaluation* (pp. 241). Cambridge: The MIT Press.

Tatnall, Arthur (2002): "Actor-Network Theory as a Socio-Technical Approach to Information Systems Research", S. Clarke, E. Coakes, M. G. Hunter & A. Wenn (eds.), *Socio-Technical and Human Cognition Elements of Information Systems* (pp. 266). Hershey: Information Science Publishing.

Tatnall, Arthur (2005): "Actor-Network Theory in Information Systems Research", M. Khowrow-Pour (ed.), *Encyclopedia of Information Science* (pp. 42). Hershey: Information Science Publishing.

Thörn, Håkan (2005), "Har du förståelse för att andra inte har förståelse för dig?", *Arena*, , 46-48.