I want to respond to the question: Are the ways we document collections in museums today still very much the same as our predecessors did fifty or a hundred years ago?

The Swedish context of documentation of collections is: ‘We do as we always have been told and we do not want to change the way of describing.’ The explanation from registrars is: If we change the praxis, we have to update everything – from the beginning. That is understood as not possible in the documentation systems of today.

One can, from another angle, follow the changes over time and see the pattern of related aspects. I have in my research recognised strong links between the three aspects (1) what is collected, (2) what metadata is written down and (3) the structure of the catalogues. This is from an information perspective not surprising, but it is never explained, neither in the catalogues, nor in handbooks or other supporting systems. A metaphor is that the three aspects are nodes in a network of contemporary causes. ‘Contemporary’ relates to changes caused by external factors like scientific changes but also technical or methodological changes. The links between aspects appear when one aspect changes, the other two seem quite often to be influenced. My understanding is that you have to know this, if you want to understand what you read in the catalogues.

Collecting
The reasons for museum acquisition are mainly two: For research and for exhibition. What the research and the exhibitions address depend on impacts from the society: What is possible to exhibit and what is possible in a scientific context to undertake at a certain time or period. There was an era of new perspectives in the end of the 1800s and start of the following century in Sweden. Many regional or local museums started as a tool for school teaching. For that aim they collected objects from all over the world to the end of the 19th century. Captains and shipmasters brought souvenirs. Items from Egypt, Greece or other Mediterranean countries become museum objects to display the ancient history of the world. But the years around 1900 there was a shift and many of the cultural history museums in Sweden changed their focus from display of the Western society’s antique history to a focus on the local history and heritage, maybe the dissolving of the union with Norway and the strong nationalistic movement influenced. The regional museum (where I work today) started to re-catalogue (in a chronological ‘accession catalogue’) the collection with a start in archaeological objects from the stone-age in the region. The Egyptian figurines, Greek vases and Inca objects ended up the catalogue as object from ‘övriga länder’ – ‘Other Countries’. In the annual report for 1906–07 the board described the situation of the collection and exhibition like this:
[...] particular showcases store all small items, as well as some ethnographic objects from different countries, which, strictly speaking, do not belong to a county museum, whose main purpose it is to safeguard such items, which could be of interest for the knowledge of the county's cultural history [...].

**Metadata & structure**

The metadata and the structure of the new catalogue supported also the contemporary research interests like detailed geographical information; the place where the objects were found or excavated are described in almost every record, but not always who had brought it or who had used the objects in the time before the acquisition. The geographical origin becomes a permanent and central field or table in the catalogues from this period until today. Together with fields for information like: date for acquisition, inventory number, description, donor and price, site of the find, stays as the important metadata.

During the 1910s a new kind of supporting catalogues was introduced. Card-catalogues were recommended and were used in many museums; in the beginning only one card-catalogue, ordered by type of objects. From the middle of the century, influenced by library practice, three catalogues turned out to be standard: often one ordered by object type or category, one ordered by geography and one ordered by name of donor.

The accession catalogues and card-catalogues remained like this for more or less the whole century. But a mayor change started in the 1960s when the Nordic Museum, the Swedish national museum for cultural history, started to use computers in collections management. The idea was to facilitate searches of the huge collection. The method was to split up the information in units where every important aspect got its own field in the database. From catalogues with about five to ten aspects, the museum catalogues used over 60 fields of metadata.

<table>
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<th>Catalogue</th>
<th>Type</th>
<th>Form/ datatype</th>
<th>No of datafields</th>
<th>Period of use</th>
<th>No of new accession numb.</th>
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<td>Bound book</td>
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<td>1907 – 1914(?)</td>
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<td>Form</td>
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<td>Form</td>
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<td>1989 – 1997</td>
<td>2 000</td>
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<td>Database</td>
<td>Form</td>
<td>66</td>
<td>ca 1997 -</td>
<td></td>
</tr>
</tbody>
</table>

Table describing the different accession catalogues in Västernorrland County Museum, Swedenii
**Impact from scientific disciplines**

The dominant academic disciplines in Swedish cultural history museums are archaeology and ethnology. In the same period as the first computers showed up, the theory of ethnology made fundamental changes. From focus on the oldest objects and most rare items, the attention turned to contemporary culture and anthropological perspectives. Under the influence from American functionalistic cultural anthropology, the objects function turned out to be one of the most important aspects. To respond to this interest a new classification system was introduced to the Swedish museums. It was the classification system Outline of Cultural Materials, constructed for Cross-Cultural Survey at Yale University, by a group of ethnologists.

The professionals had discussed needs for a common classification system for 50 years, but in just a decade Outline of Cultural Materials was introduced and accepted in almost every museum with cultural history collections in Sweden.

**Content**

What and how much have registrars and curators written in the catalogues? As I described earlier, the research interests during different paradigms have been quite influential. To value the meaning of the information, the users need to be familiar with the history of the single disciplines, which is of course impossible requirements, but it helps.

From a quantitative viewpoint there are even here traces to observe.

There is of course not information in all fields. In the database of Västernorrland County Museum, the eight most frequent metadata are:

- Object Number (100 %),
- Object Name (97 %),
- Classification 1 (94 %),
- Current location note (88 %),
- Number of objects/parts (87 %),
- Material component/name 1 (80 %),
Brief description (80 %) and Name of associated person (75 %).

Other aspects like dimensions/size (66 %), Function (10 %), ethnicity or connections to collections are more infrequent. One explanation in this case is the inconsequent cataloguing due to scientific changes and the lack of organised and well described praxis. But if we look at the history of this catalogue, from 1880 to 1981, when 80 % of the collection was catalogued, they used catalogues with about 10 tables, not 50 as in the modern database.

A key must anyway be object names. Or are they? Most of the objects have object names. Object names seems also have been important during the years of cataloguing (the name is in some senses part in the classification). But there are no common vocabularies or thesauri in Swedish, even if some influential curators asked for things like that. The consequences have been variations in naming, mainly depending on from where the object originates, but also depending on where the object is found in the museum. But there is a certain logic in, for example, the naming of objects.

As expected, the information in different fields or tables corresponds with different parts of the collections, but this corresponds also with the idea of the purpose of the single object. An example can illustrate: something can be understood as a piece of art or an image. What I want to trace: Art has a context of the artist; the artists training in its time, the technique used to create the piece of art etcetera. The context of an image is the motif, the image content. Depending of the attribution, the cataloguing is not the same and the important information about the object will fit in different fields. This means that, to use the museologist Peter van Mensch word, the musealisation of things from the real world to the museum collection is a delicate thing to handle. The musealisation – the transformation of things from everyday use or interesting pieces of decoration etc. to be museum objects – implies at least two things: It is not in use anymore and it is adopted as heritage. Obviously it has become heritage, but you may not find anything about the former use of the object if you examine the catalogue.

Another thing curators do is to classify the museum objects. But what have I seen so far? I was involved in a survey 1998-99 made by the European project European Museums Information Institute, where we scanned the use of classification tools in Europe. At the time only one tool was used in more than one country, it was the American previously mentioned Outline of Cultural Materials (OCM), used in Norway, Sweden and Finland. A couple of years ago I asked a colleague to compare the use of OCM on different collections. I wanted a second opinion. Her conclusion was that the tool was used differently in different collections. More or less a standardised tool used in a nonstandard way.

It is also a known fact that there is an absence of semantic guidelines for cataloguing in many countries. Even if there is interesting research about translation of object descriptions between languages, between most of the languages this is not possible today.

To condense this, we do not often know the reason why the objects happen to be in the collection, but that is not really important. What is important is, however, how the cataloguing has been done – that depends on the reason for the accession. It is maybe unreasonable to say that Swedish museum cataloguing is not standardised according to both semantics and lexical aspects, but there are no standards given or ontologies defined. And an interesting fact is that quite a few have asked for standards. I have from my research found that museum cataloguing
often needs to handle information connected to particular scientific interests more than to common interests. If you discuss the work with ‘registrars’ in museums or in libraries, they have quite different approaches to the objective of cataloguing. What this leads to in the museums catalogues is easy to understand.

An interesting theoretical question is why this has become interesting in some milieus? I think we can detect answers in two directions: New needs depending on new technical methods. But the digital worlds needs for secure and sharp data is not a new question. That was important also in the era of punched tape as data storage. The other direction relates to scientific paradigms. During most of the last century logical positivism has influenced scientific work on many levels. Cornerstones in that theory are verification and empirical answers. It is also a certain approach to knowledge. You could make a diagram with a cloud of dots and in that mix of this and that draw a line and say: that is a graph and it is an average value. The pre-digital answers were 30 years ago quite sharp depending on data and experience. Today you have to take care of a lot of aspects and impacts in your data. You must also relate your data to its scientific context. I think that explain some of the problems we observe today.

What am I looking for in this context? What I have tried to exemplify is the lack of possible parameters to use if anyone has an interest in connecting different museum databases. You can’t use computers to decode in what paradigm a record is made, as I know we have not yet computer programs to decode what data is missing or would be expected, with the purpose to add the missing facts in the databases. My opinion is also that we need to know more about the relations between the collection situations, the metadata and the structure of the CMS if we want to understand what content the CMS’s store.

As an end of my time here I will present an idea. I think the museum sector needs to start in a new direction. The old catalogues are vital and valuable, but of limited use. If we want transparent catalogues and documentation of the collections we have to look at for example the library sector. In those catalogues every physical object relates to others of the same kind. Some museums have introduced presentations of collections and single object types, often related to significant parts of the collections. Wikipedia is a service from the other corner, with a lot of information about everything, but often few links to museum collections – at least in relation to what is possible. If we could build and communicate collective object information structures we could form a new step in the direction of linked open data.

1 Wittgren, Bengt, Katalogen – nyckeln till museernas kunskap? Om dokumentation och kunskapskultur i museer (Umeå University, Sweden, 2013), p 81-. Link: http://urn.kb.se/resolve?urn=urn:nbn:se:umu:diva-80093.
2 Annual report 1906-07, June 1907, B2:1, Archive of Västernorrlands läns museum, Västernorrland County Museum.
3 Wittgren 2013, p 85.
4 Wittgren 2013, p 105.
5 Danélls, Dana, Multilingual text generation from structured formal representations (Gothenburg University, Sweden, 2013). Link: http://hdl.handle.net/2077/31856.