

Reconstruction of the Brandenburg-Prussian Kunstammer using Semantic Web Technologies

Sarah Wagner¹

Hermann von Helmholtz-Zentrum für Kulturtechnik,
Zentralinstitut der Humboldt-Universität zu Berlin, Unter den Linden 6, 1099 Berlin

sarah.wagner.1@hu-berlin.de

Abstract. In early modern *Kunstammern*, objects of nature and art were collected and embedded in complex systems of meaning and reference. This historical form of collection is today regarded as the forerunner of modern museums and was found in the households of princes, clergy and scholars between the 16th and 19th centuries, especially north of the Alps. [1] [2] [3] Its most characteristic feature was its encyclopaedic inventory, which was intended to represent the world in miniature. Within this microcosm, multi-layered networks were created between domestic and non-European objects, reflecting the state of knowledge of the time and the individual interests and networks of the collector. In addition to aspects of material, applied technique, size, function or higher-level classification (*naturalia*, *artificialia*, *scientifica*), the objects were also related to each other through e.g. similarity in form or their origin. These relationships and systemizations were reflected in the arrangement and presentation of the objects in the collection space of the *Kunstammer* on the one hand and in their text-based documentation (e.g. inventories, descriptions) on the other. Through acquisition, relocation and removal of objects, the composition of the holdings and the location, arrangement and staging of the objects were characterised by a constant dynamic. This can also be observed in the example of the Brandenburg-Prussian *Kunstammer*, which existed between the end of the 16th and the end of the 19th century in the Berlin Palace and formed the basis of numerous Berlin museums and knowledge institutions. [4] [5]

In the project “A Window onto Nature and Art – A Historical Study of the Brandenburg-Prussian *Kunstammer*” (2018-2021) [6], which is funded by the German Research Foundation, the Staatliche Museen zu Berlin, the Humboldt-Universität zu Berlin and the Museum für Naturkunde Berlin are investigating the inventory and changes of this *Kunstammer* over time. Historical sources (inventories, travelogues, collection guides, historical museum files) and objects still preserved play the central role in this research. In a diachronic procedure, *Kunstammer*-objects are identified and analyzed: on the one hand, objects with *Kunstammer* provenance are researched based on the current inventory situation of the institutions. On the other hand, the objects and their movements up to the museums of today are researched using historical sources. Thus, ideally, the path of an object can be traced from its entrance to the *Kunstammer* to its current location (e.g. the Bode-Museum). In many cases, however, it is difficult to clearly identify objects based on the information received. In addition, objects have been lost over the centuries through war and damage. For this reason, the project does not only start from the objects that are still preserved and identified today, but also from those objects that are only handed down in the historical sources. In this context, the type of source must be considered, which, depending on its function, provides different contents for the collection or objects. An inventory for example can provide a list of the holdings and the allocation of the objects to a systematic (e.g. *naturalia*) at a certain point in time, in rare cases also information on the place of installation (so-called localization inventory). Travelogues, on

the other hand, reflect the individual interests of visitors to the Kunstkammer and provide a selective insight into the inventory, often with a focus on highlights, and thus convey a subjective impression of the collection and the way in which it was shown and communicated. The virtual research environment WissKI (Wissenschaftliche Kommunikationsinfrastruktur) [7] [8] is used to document and interlink the object information based on the heterogeneous source material. The basis for the data model is the CIDOC Conceptual Reference Model (ISO 21127) [9]. For the specific research question, an application ontology based on the Erlangen CRM [10] was developed. The main instances are physical sources (E22 Man-Made Object) and their contents (E73 Information Object), objects (E22 Man-Made Object), collections (E78 Curated Holding), persons (E21 Person), corporations (E40 Legal Body) and locations (E53 Place). The approach is to start from the content of the source to capture the object information. This includes: designation, presentation, mediation, material and immaterial properties, the origin of the objects as well as their classification in the collection system and their location. This connection between source content, object and its context information is done via feature-specific Attribute Assignments (E13 Attribute Assignment). Both the wording of the text and its interpretation can be linked to these feature-specific assignment activities. The object information obtained from the sources is subsequently mirrored in the object data set through WissKI-specific functionalities. In this way, a source-based object biography is created that goes beyond provenance research by including the history of meaning and interpretation as well as the collection-specific contextualization of the objects over time. [11] In addition, the properties assigned in the sources provide the basis for linking the objects together. Through the source-based documentation, the object and collection information contained in the sources is appropriately dated. The period of origin of a source (if known) can then be used to draw conclusions as to the time and regency under which the Kunstkammer was described, where it was currently located in the Berlin Palace and what objects it contained. In this way, shifts in the content of the holdings, paths of origin or changed practices of ordering can be made visible, thus making a contribution to provenance and collection research. It can already be observed, for example, that exotic objects were initially included in the category of natural objects (naturalia) and only later received their own section. Also the evaluation of travelogues so far shows that stories and anecdotes played a major role in the guided tours and formed a link between certain groups of objects.

By using the CIDOC CRM as a reference ontology, the heterogeneity and complexity of the subject area can be taken into account. The resulting data model is characterized by a graph or network structure in which objects, sources, literature, actors, collections, locations, etc. can be related to each other in a variety of ways, as it was already the case in the early modern period.

1. Impey, Oliver/MacGregor, Arthur (Ed.): The Origins of museums. The Cabinet of Curiosities in Sixteenth- and Seventeenth Century Europe. Oxford 1985.
2. Bredekamp, Horst: Antikensehnsucht und Maschinenglauben. Die Geschichte der Kunstkammer und die Zukunft der Kunstgeschichte. Berlin 1993.
3. Beßler, Gabriele Wunderkammern. Weltmodelle von der Renaissance bis zur Kunst der Gegenwart. Berlin 2012.
4. Theuerkauff, Christian: Anmerkungen zum Begriff der Kunstkammer im 16. und 17. Jahrhundert und zur Berliner Sammlung um 1700; Zum Forschungsstand; Zur Geschichte der Brandenburgisch-Preußischen Kunstkammer bis gegen 1800, in: Staatliche Museen Preußischer Kulturbesitz (Hg.): Die Brandenburgisch-preußische Kunstkammer. Eine Auswahl aus den alten Beständen. Berlin 1981, S. 9-33.
5. Dolezel, Eva: Der Traum vom Museum. Die Kunstkammer im Berliner Schloss um 1800 - eine museumsgeschichtliche Verortung. Berlin 2019.
6. Project Homepage:
<https://www.smb.museum/en/research/research-projects/window-nature-art/> [2020-08-12].

7. Fichtner, Mark: Von Drupal 8 zur virtuellen Forschungs Umgebung - Der WissKI-Ansatz. In: Vogeler, Georg. (Hg.): Digital Humanities im deutschsprachigen Raum 2018. Kritik der Digitalen Vernunft. Konferenzabstracts. Köln 2018, Pp. 493-494.
8. WissKI Homepage: <http://wiss-ki.eu/> [2020-08-12].
9. CIDOC CRM Homepage: <http://www.cidoc-crm.org/> [2020-08-12].
10. Erlangen-CRM Homepage: <http://erlangen-crm.org/> [2020-08-12].
11. Wagner, Sarah: Unsichtbares sichtbar machen. Semantische Modellierung interpretativer Vorgänge am Beispiel der historischen Bestandsaufnahme der Brandenburgisch-Preußischen Kunstammern, in: Schöch, Christof: DHd2020 Spielräume. Digital Humanities zwischen Modellierung und Interpretation. 7. Tagung des Verbands Digital Humanities im deutschsprachigen Raum e.V, Digital Humanities im deutschsprachigen Raum in Paderborn. Konferenzabstracts, Pp. 238-240.