

# The Conceptual Reference Model Revealed

Quality contextual data for research and engagement: A British Museum case study

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ResearchSpace

Find all objects with images created/modifed by Rembrandt and date interval 1606 - 1669 and created/modifed by Rijksmuseum

500 Results

Object Type: 1 album, 3 book-illustration, 4 counterproof, 182 drawing, 1 forgery, ...

Creator: 9 Abraham Fumarlus, 3 Abraham van Dijk, 2 Anonymous, 2 Antoinie van Borssom, 3 Anthony de Haen, ...

Places: 76 Europe, 75 Gaul, 75 France, 75 Ille-de-France département, 75 Paris France

Created: 1 1600-01-01, 1 1625-12-31, 3 1626-01-01, 13 1628-01-01, 1 1629, ...

Technique: 1 aquatint, 182 drawn, 90 drypoint

URI: id:thesauri/authority/E

Label: Eponym

URI: id:thesauri/authority/G

Label: Govenor

URI: id:thesauri/authority/I

Label: Issuer

URI: id:thesauri/authority/K

Label: Ruler

URI: id:thesauri/authority/Y

Label: Magistrate

URI: id:thesauri/acquisition/L

Label: Loan

URI: id:thesauri/acquisition/C

Label: With Contribution

URI: id:thesauri/acquisition/EU

Label: European Union

URI: id:thesauri/acquisition/S

Label: Sponsored

URI: id:thesauri/acquisition/iH

Label: In Honour

URI: id:thesauri/acquisition/iM

Label: In Memory

URI: id:thesauri/find/C

Label: Collected

URI: id:thesauri/find/A

Label: Found/Acquired

URI: id:thesauri/find/M

Label: Mint

URI: id:thesauri/production/SC

Label: Scribe

URI: id:thesauri/production/WR

Label: Written

URI: id:thesauri/production/Z

Label: Published

URI: id:thesauri/production/MO

Label: Moneyer

URI: id:thesauri/production/mv

Label: Mint

The screenshot shows a search interface for 'Rembrandt' within a date range of 1606-1669, with the Rijksmuseum as the destination. The results page displays 500 items, primarily paintings, arranged in a grid. Each result includes a thumbnail image, the object ID (e.g., PDO10606), the title (e.g., 'A young woman sleeping (Hendrickje Stoffels)'), and a brief description. On the left, there are filters for Object Type, Creator, Places, Created, and Technique. On the right, there are additional filters for URI and Label, such as 'Eponym' and 'Ruler'. The interface is clean and modern, designed for easy navigation through large datasets.

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## Foreword

In 2010 I attended my first Semantic Web conference and came away slightly confused about exactly how all the obvious enthusiasm and activity generated by the prospect of a Web of Data would actually manifest itself. It was clear that two distinct groups had emerged with different approaches to making data available and open. On the one hand a linked data community strongly advocated data publication in whatever form was practical and quick. In their view the development and use of ontologies and taxonomies would slow the more practical and political objectives of open data strategies. The community could organise the data once it was made available. The other group, the ontologists, warned of an impending mess. Effective post-engineering of data would be very difficult, and without some consideration for contextual frameworks the application of the Semantic Web, in terms of significant general use, would be superficial, limited and difficult to develop.

The linked data community has been more dominant but linked data has so far failed to deliver the ‘killer’ applications promised by the original vision. This feels particularly true in the cultural heritage sector. The British Museum’s digitisation programme enthusiastically continues after an initial 30 years of effort, and until now the data has not been computer reusable. Other museums have been proactive and created public (but proprietary) APIs, but these have failed to generate significant interest. While they have opened up what were previously data silos they are only useful for basic information and engagement activities. Also, access to individual collections, while useful, has less interest in a Google dominated digital world where there is a basic expectation for bringing information and knowledge together. The more interesting and engaging questions are addressed when data is harmonised so that we can join together pieces of a global puzzle and use the Internet as the network of knowledge as it was designed to function.

When talking about the Digital Humanities in his paper, ‘What is Humanities Computing and what is not’, John Unsworth (2002) talked about the ‘charlatanism’ of many so-called digital humanities computing projects.

*“It may be computer-based (for example, it may be published on the Web), and it may present very engaging content, but if it doesn’t have a way to be wrong, if one can’t say whether it does or doesn’t work, whether it is or isn’t internally consistent and logically coherent, then it’s something other than humanities computing. The problem with charlatanism is that it undersells the market by providing a quick-and-dirty simulacrum of something that, done right, is expensive, time-consuming, and difficult.”*

You will get a sense from this document that museum data is rich and can therefore be more complicated than your average institutional database. When dealing with large amounts of this type of data, from large numbers of distinctly individual museums, it might be tempting to bypass this complexity (as well as the people who create and manage the data) and harvest only that which fits into a simple lowest common denominator model. This very ‘IT’ way of viewing the problem of cultural heritage data aggregation perpetuates a divide between the humanities and computing communities and repeats a very common error (evident in many other areas of human development) that long-term sustainability requires education, collaboration and empowerment at a local level. A more grass roots approach could transform what was ‘expensive, time consuming and difficult’ ten years ago, into something core and second nature today.

Matthew Arnold in his book, ‘Culture and Anarchy’ argued that the preoccupation with and faith in machinery obscured real culture. I would argue that the machinery and technical nature of the linked data community has limited the potential of cultural data and, perhaps inadvertently, continued to alienate sections of the humanities community. The digital world allows us to explore in ways that we could only have dreamt of only a few years ago, which makes it all the more disappointing that our outputs are often shallow and formulaic, chasing performance indicators that convey little about the true value of the arts and culture to the wider community. While the linked

data movement continues to be important it doesn't necessarily promote or encourage richer uses of the data or help us (the cultural heritage and museums sector) to establish a more solid and meaningful relationship with our audiences and with society generally.

At the JISC 2013 Discovery Summit delegates voted, by some margin, for better quality and more contextual metadata. In the tradition of Arnold, this document supports an approach to achieve the best representation of our knowledge and to support the best use of it around the world. The Conceptual Reference Model (CRM) is the only harmonising ontology designed to support museum and cultural heritage data (among others) and it performs this function better than any domain ontology that I know. The activities of research, collaboration, access and engagement are all fully supported by its approach and methodology.

I would strongly encourage others to follow the same route and become part of, not just a mechanical linked data community, but a semantically rich cultural heritage 'knowledge' community. By using the CRM you are not just making data accessible but you are enabling the discovery of new knowledge unlocked through the act of employing a framework constructed through years of analysis, hard work and determination. Although this is a practical document, underlying it is an attempt to bring the 'two cultures' of the linked data and humanities communities together to meet the needs of our curators, researchers, experts and the public.

**Dominic Oldman 2013**

## About the Authors

**Dominic Oldman** – is the Deputy Head of Information Systems at the British Museum and is Principal Investigator of ResearchSpace a project, funded by the Andrew W. Mellon Foundation, which has the objective of creating a semantic online research environment based on the Conceptual Reference Model. He has been involved with collection data systems development, integration and reuse for many years and managed the British Museum's Collection Online project that now serves over 2 million object records and over 700,000 images to the World Wide Web. The creation of a semantic SPARQL Endpoint, now serving contextually rich British Museum metadata and images, benefits from the experience and knowledge generated by the ResearchSpace project and these projects represents a culmination of his work with the Conceptual Reference Model and RDF database technology. He is also currently a post-graduate student in the Department of Digital Humanities at King's College London.

**Joshan Mahmud** – is a former British Museum programmer/analyst with a background in financial sector software development. He was part of the core team developing the Museum's CIDOC CRM mapping and associated processing systems including RDFer, the British Museum's CRM mapping tool.

**Vladimir Alexiev** – is the Lead for Data and Ontology Management at Ontotext a company specialising in Semantic Web technologies. **[to be completed]**

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This is the first version of a publication that we hope to expand in the future and is based on mapping work conducted over the last two years, involving a number of people. The authors would like to thank Dr Hugh Glaser and Dr Ian Millard (Southampton University and Seme4 Ltd) who initially implemented the British Museum's data in CRM RDF format providing the initial platform for the mapping described herein. We would also like to thank Dr Peter Main who kindly provided his knowledge of the British Museum's collection system and data model during this initial phase.

A particular mention goes to Dr Martin Doerr, Research Director at the Foundation for Research and Technology - Hellas, who has contributed his considerable expertise throughout all the different stages of our work and continues to support the British Museum's efforts, both with the CRM and with ResearchSpace. We hope that the results are worthy of the work that he, Stephen Stead, Christian-Emil Ore, Patrick LeBoeuf, Matthew Stiff, Nick Crofts, Tony Gill, and all the people who have contributed to the development of the CRM to make it the tour de force that it is.

The British Museum's partnership with the Yale Center for British Art (YCBA) at Yale University has been crucial. We would like to thank Ken Hamma, Lec Maj, Matthew Hargraves, and Emmanuelle Delmas-Glass for their expertise, help, support and patience. YCBA are a world class and truly forward looking University museum and we are very grateful to them for their partnership and help in the development of CRM semantic data and their partnership on the ResearchSpace project. Particular thanks to Ken Hamma who has provided invaluable consultancy and support based on his considerable experience of cultural heritage information architectures. The ResearchSpace project, the catalyst for the work described in this document, was born out of a vision that he and others at the Andrew W. Mellon Foundation originally conceived.

The authors would like to thank the Andrew W. Mellon Foundation who generously fund the ResearchSpace project and who provided the initial vision of a 'shared infrastructure' for humanities projects based on semantic data technology. We hope that this document provides the basis for more collaborative scholarly work, central to the Foundation's objectives.

Lastly, we would like to thank all those who have helped along the way including colleagues from the British Museum's Documentation Section, curatorial departments and Information Systems department.

# 1 Introduction

The British Museum's CRM mapping has been developed through three versions. The first version introduced a range of custom extensions directly reflecting the developments made in the Museum's collection records system. This includes a set of internal 'association codes' built up over many years to describe particular object events and relationships, for example, 'printed by', 'factory of', 'workshop of', etc. These institutional codes (used in many other organisations) were incorporated into the CRM by extending existing concepts and properties (and creating some new ones) to produce more precise definitions necessary for certain research purposes. This approach resulted in a mapping containing a large number of new elements that would be unfamiliar to those without knowledge of the British Museum's data, albeit with knowledge of the CRM. The extension of the CRM is not in itself a problem since it is designed to harmonise data at a particular level and encourages extensions that can be surfaced once these general connections have been established.

The second version expanded these mappings to incorporate missing elements and corrected a structural problem with the first version in the way that parts of objects were described. This version increased the size of the mapping producing a very large overall graph. During this period of development we started to feel that the scale of our extensions to the CRM, demanded by the range and richness of the British Museum model, was starting to work against the production of a set of portable and accessible mapping constructs that we could present to other organisations for their own use. As a result we decided to change to the approach that now forms the basis of this document.

The development of practical but rich applications in the ResearchSpace project ([www.researchspace.org](http://www.researchspace.org)) focussed minds on how to represent the detail found in most museum collection inventory systems in a more consistent way. New methods were found to remove many of the original extensions and instead use internal terminology to further describe core CRM concepts. We now use local terminology to provide reification (a way of clarifying a CRM property without extending the CRM itself) and typing of CRM classes and properties. For example, instead of creating property extensions like 'bequeathed\_by', 'donated\_by', 'purchased\_from', and so on, for different types of acquisition, events are simply typed and CRM properties reified using British Museum terminology. This is implemented in such a way as to allow other organisations to simply replace BM terminology with their own local vocabularies.

This new approach is used throughout the BM mapping and has resulted in a far smaller graph which is easier to understand and provides an opportunity for creating quality reusable user interfaces for a growing museum CRM community. It also puts more emphasis on the need for better co-referencing tools – a subject being addressed by the ResearchSpace project and by other European projects.

Significantly this new approach allows us to publish standard constructs or models that other organisations can connect to their local terminologies and taxonomies. Many of the examples provided in this document are ready to implement in other museums and we will continue to develop this documentation and expand the number of models for use in different situations and different types of museum (as well as improve the Museum's own mapping!).

## 1.1 Purpose of This Document

While the CRM provides a rich knowledge representation structure for cultural heritage information, our experience shows that practical guidance on using this structure is very important. Therefore the purpose of this document is two-fold; first, to document the BM data mapping to the CRM and ensure that potential consumers are able to use it effectively.

Secondly, to provide a set of models (a ‘cook book’) that other organisations can use to help map their own data. Using such base models and examples can save on the mapping effort, but will also provide a better foundation for interoperability between different museum collections regardless of their specialism.

## **1.2 Who are you?**

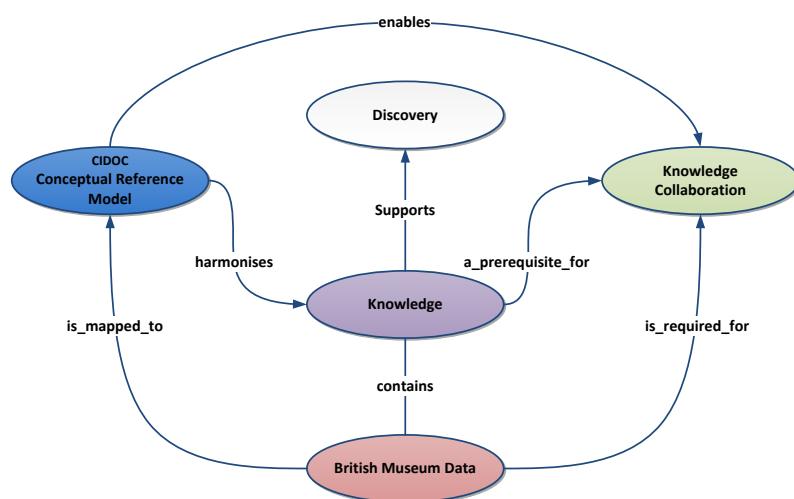
This document is for those interested in publishing quality and contextual metadata. This might be for research purposes, for public knowledge transfer (engagement), for use in linked data applications or for harvest by data aggregators. It is particularly relevant for those interested in harmonising data with other knowledge organisations. It provides the opportunity for simple or sophisticated reuse and includes the institutional context missing from other linked data sources. We hope that this document will demystify the CRM and, by providing a practical account of the mapping process, be a helpful guide to a range of cultural heritage professionals involved with collection data.

This document is neither a technical manual nor a full explanation of the CRM standard (or any other standard). These aspects are better covered in other books, articles and web sites. However, the diagrams should provide developers with a comprehensive use case to understand how the CRM is practically implemented and give cultural heritage domain experts a practical feel for the CRM and its potential. A simple summary of RDF is described purely to provide ‘non-technical’ readers with a basic understanding of the diagrams that show the BM mappings and models. Examples of the resulting RDF are provided together with supporting SPARQL statements (the query language for RDF). Please take what you need!

## 2 Why use the Conceptual Reference Model?

### 2.1 The role of Knowledge

Something very important is happening that could revolutionise the way that cultural and art organisations collaborate. This thing isn't about massive aggregations and industrial scale portals. Rather it is about a change in culture and direction for individual organisations that want to directly engage with the Internet as a tool for sharing and developing our understanding and knowledge of the world. Continual research within and between the arts and the sciences are instrumental to our future development yet the scientific community have forged ahead in building a culture of scholarly networks to accelerate discovery. To be effective for the humanities these networks require more engagement and input from knowledge creators who need to graduate from a position of cautious and reluctant followers to people actively engaged with how their data is represented on the Web. While the cultural heritage world should not leave it to commercial services to represent our culture they should equally not leave it just to technicians.



There are fundamental aspects of human development that, from a scientific perspective, should not be commercialised. For example, the Human Genome project created a consensus that the restriction of knowledge about DNA needed organised resistance. When an academic at

Manchester University was asked on a BBC news programme why they were sharing their discovery of the new form of graphite, graphene, rather than restricting and cashing in on their knowledge, the answer was simply that by sharing the raw discovery the innovative and beneficial uses of this new form would reach people faster and globally. Restricting and protection the information would result in a slower realisation of the benefits, and limit them to a privileged minority. The humanities community is yet to form the same mind set and consensus about the value of their knowledge (reflected in the way that it is digitally represented) and maintain a self-fulfilling prophecy about its relative importance, and therefore its funding.

### 2.2 CRM Networks of Knowledge

Cultural heritage information is spread across many countries and organisations. Even with its vast collection the British Museum only holds a fraction of the objects that evidence and illustrate our global history. The Internet provides the means by which we can bring knowledge together and by doing this it provides the opportunity for discovering new and important things about our past. Within this digital context museums that continue to concentrate narrowly on their own collections without engaging with a growing digital corpus of available information are likely to become increasingly isolated and irrelevant.

The methodology for publishing information directly affects its usefulness within a digital forum. The objective of arts and humanities data harmonisation inevitably requires some compromises in a sector where data can be more complicated and more than scientific information. However, many of the

current models through which museum data is being published already make far too many compromises that ‘squeeze’ fundamental aspects of knowledge out of our data.

The CRM provides concepts and relationships that can be applied to any museum collection (and many other knowledge systems within and outside cultural heritage) at a level allowing a far wider range of collaborative data activities. It is an ontology that provides a comprehensive treatment of organisational data and fully reflects existing documentation standards (like SPECTRUM, Darwin Core and CDWA). It not only makes the process of data harmonisation cheaper and more sustainable than traditional methods but it allows the type of research activity, previously confined to highly curated and specialised datasets, to be applied to broader and denser ones. It therefore supports both macro and micro research agendas. If we can demonstrate that the CRM is a very practical ontology for the Web then why would you use anything else?

### **2.3 Comparison with the EDM**

The Europeana Data Model Primer for EDM v1 says the following:

“Note finally that it is not the aim of EDM to capture the full complexity of a model like CIDOC-CRM. Nor can it capture the full diversity of all object-centric models. Rather, it provides a small set of properties and classes to which more specialized constructs can be “attached,” following the approach discussed in the next section”

Different aggregators have different objectives and this may determine the models they use for storing information. However, it is important to note that the CRM is not designed to be complex but is designed to represent as much as possible the knowledge contained within information systems and make it available for harmonisation with other semantic data sources. The first sentence of the quote above should read, “[n]ote finally that it is not the aim of EDM to capture the full complexity of cultural heritage data”.

It is the datasets (often underestimated by developers) that the CRM seeks to support that are often complex. The CRM provides a more comprehensible and contextual version of the data compared to the models that it draws from. The question is not how complex or simple the CRM is, but the extent to which data is compromised to support collaborative initiatives. In any event this matters not to external developers since once the mapping is completed at a local level the use of it within applications is very straight forward and simple! This document will demonstrate how much easier it is to identify and reuse data from a CRM repository than it is from a non-contextual data source (linked data or not).

A CRM implementation is completely compatible with EDM in that an aggregator using EDM can take what they need from a CRM implementation. However, it is not possible to populate the CRM model from EDM and therefore institutions must think carefully about the range of uses to which they want their data to be part of, and to publish it in a form that supports them all. This is especially important because many organisations cannot afford to support different data publication models (let alone one). The British Museum supports initiatives like Europeana but it also supports a whole range of other humanities projects. Our CRM implementation will support them all.

### **2.4 The real world and practicality**

One of the debates we have is about the practicality of using the CRM and one of the arguments that some technologists put to us is that the CRM is all well and good but is not practical for the real world. For them, operating in the real world requires us to invent artificial environments for our knowledge that, for reasons of practicality, misrepresent the real world by trying to squeeze knowledge into

unsatisfactory boxes. It is no wonder that some scholars have felt uncomfortable with engaging the digital world and computing.

As museum's come under more financial pressure it is noticeable that representations of their data become more visually attractive but are increasingly isolated from the processes that add to and develop our knowledge and understanding. This means that cultural heritage digital publication is often based on the latest 'cool' way to represent the same data and as a consequence shelf life is limited and ultimately, over time, perceptions of museums and their role in society is affected.

The artificial nature of many publications mean that our enquiries lead to dead ends or to unsatisfactory, uninteresting or sometimes wrong answers. The history of computing in museums reveals the tension between those creating knowledge and those who invent the artificial mechanisms in which to store, manage and expose it. In mapping to the CRM we have come across flaws in the British Museum's own internal cataloguing logic and rules. When mapping to the CRM we have corrected some of these and, as far as possible, reflect the data as accurately as possible so that others can develop their own specialist representations.

## **3 Background**

### **3.1 The British Museum Collection Data Model**

The CRM mapping described in this document is a representation of the Museum's collection cataloguing system – and as described above it may reflect some of the current problems with it. However, there are some flaws in our internal model that we have not replicated but rather fixed in our CRM representation to reflect the more open world view required of RDF networks. All museums will have issues with their internal collection information systems whether it is variations in the quality of data, the way it is modelled, or the business rules that it employs. The individual mapping models contained in this document are designed to help with all CRM implementations regardless of these issues, and to reduce the amount of additional work needed to accommodate extensions. They support an open world view and the ability to add information without remodelling.

This document is also collaborative in that by providing a reference point we have a basis on which to work with other institutions to resolved issues and maximise the level of harmonisation we can achieve. The Museum's relationship with the Yale Center for British Art, for example, is designed to reduce differences in implementation, not because those differences can't be resolved post CRM mapping technically, but because joint resolution of issues through human dialogue eliminates much of that work and improves collaboration overall. YCBA have used drafts of this document to complete their CRM implementation.

Below is a representation of the British Museum's data model in a relational format. One striking difference between the relational data model and the CRM mapping representation is the extent to which a non-technical reader can readily interpret it. It would be very difficult for anyone to make any sense of the former because, apart from the conventions used, much of its logic isn't contained in the model itself. The CRM representation is completely different and self-documenting. At first glance it looks every bit as complicated, but on a closer reading it can be followed by anyone, with relative ease. CRM mapping is an exercise in releasing data from a technically obscure framework to something far more accessible. This relates to the CRM 'complexity' myth mentioned above. We have never been reproached with a criticism about the complexity our relational data model!

## 4 Document Information

### 4.1 Glossary

**Ontology** – In this context an ontology provides the specification, the concepts and relationships, that conceptualise a particular area of knowledge. The CRM is a conceptualisation of knowledge within the cultural heritage and museums domain.

**Resource Description Framework (RDF)** - a set of World Wide Web Consortium specifications that include the RDF data model that uses triple statements, Subject Predicate and Object, to describe data.

**Graph (RDF)** – A graph is a defined set of RDF statements.

**OWL** (Web Ontology Language) – a set of languages that can be used with RDF to represent knowledge within ontologies. OWL provides reasoning capability.

**CRM Reification** – qualifies CRM generalisations with specific meanings.

**CRM Typing** – the categorisation of certain resources and activities using CRM concepts (`rdf:type`) or local categorisation (**P2\_has\_type**)

**Actor** – “This class comprises people, either individually or in groups, who have the potential to perform intentional actions for which they can be held responsible” – from, Definition of the CIDOC Conceptual Reference Model 5.1). **E39\_Actor** is a superclass of **E21\_Person** and **E74\_Group**

**SPARQL** – The query language for RDF.

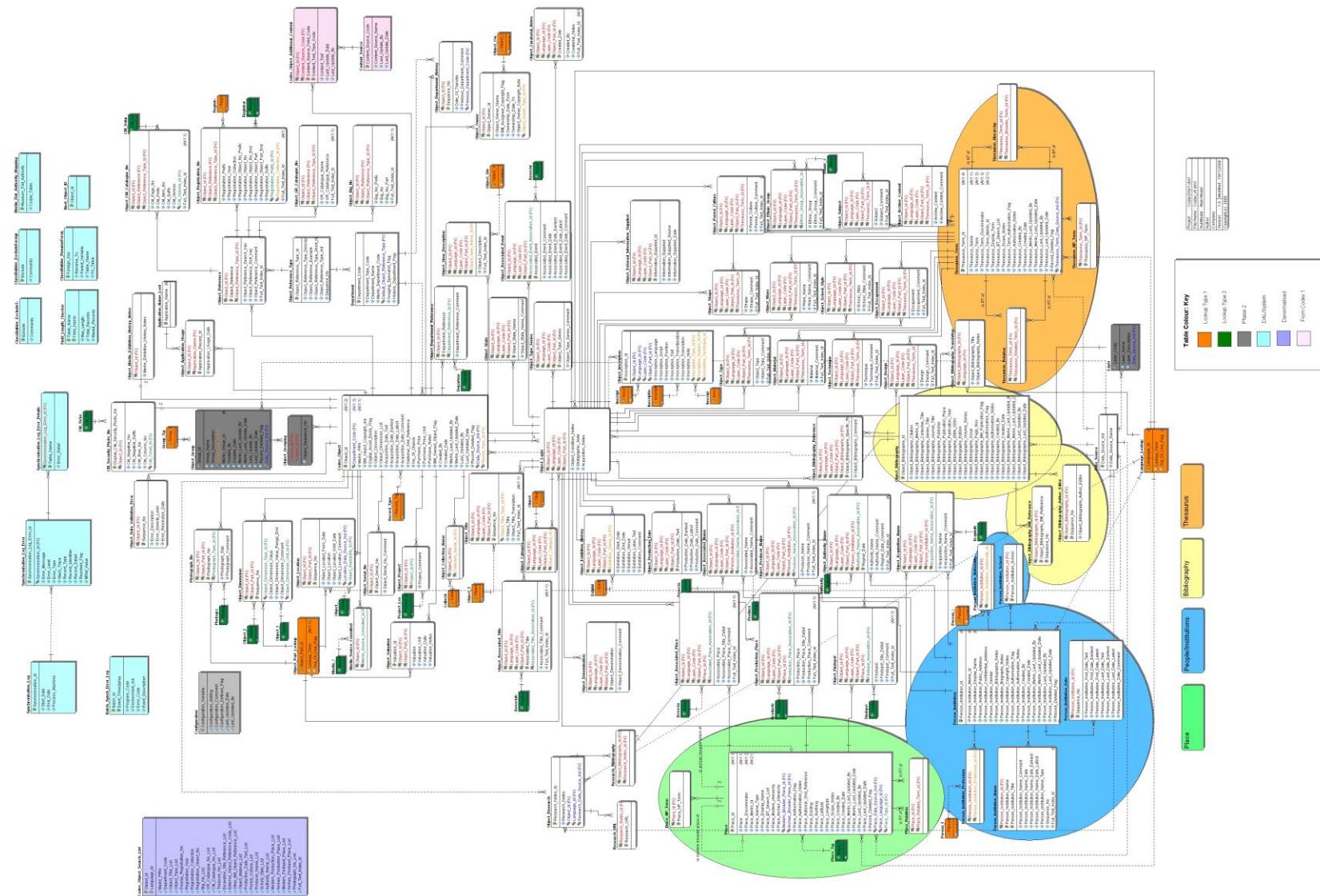
**BM Association Code** – A set of codes that provide additional meaning when used with core entities like people, places, events and so on. For example the, the code ‘AE’ means ‘formerly attributed to’.

**Aspect** – a feature of an object

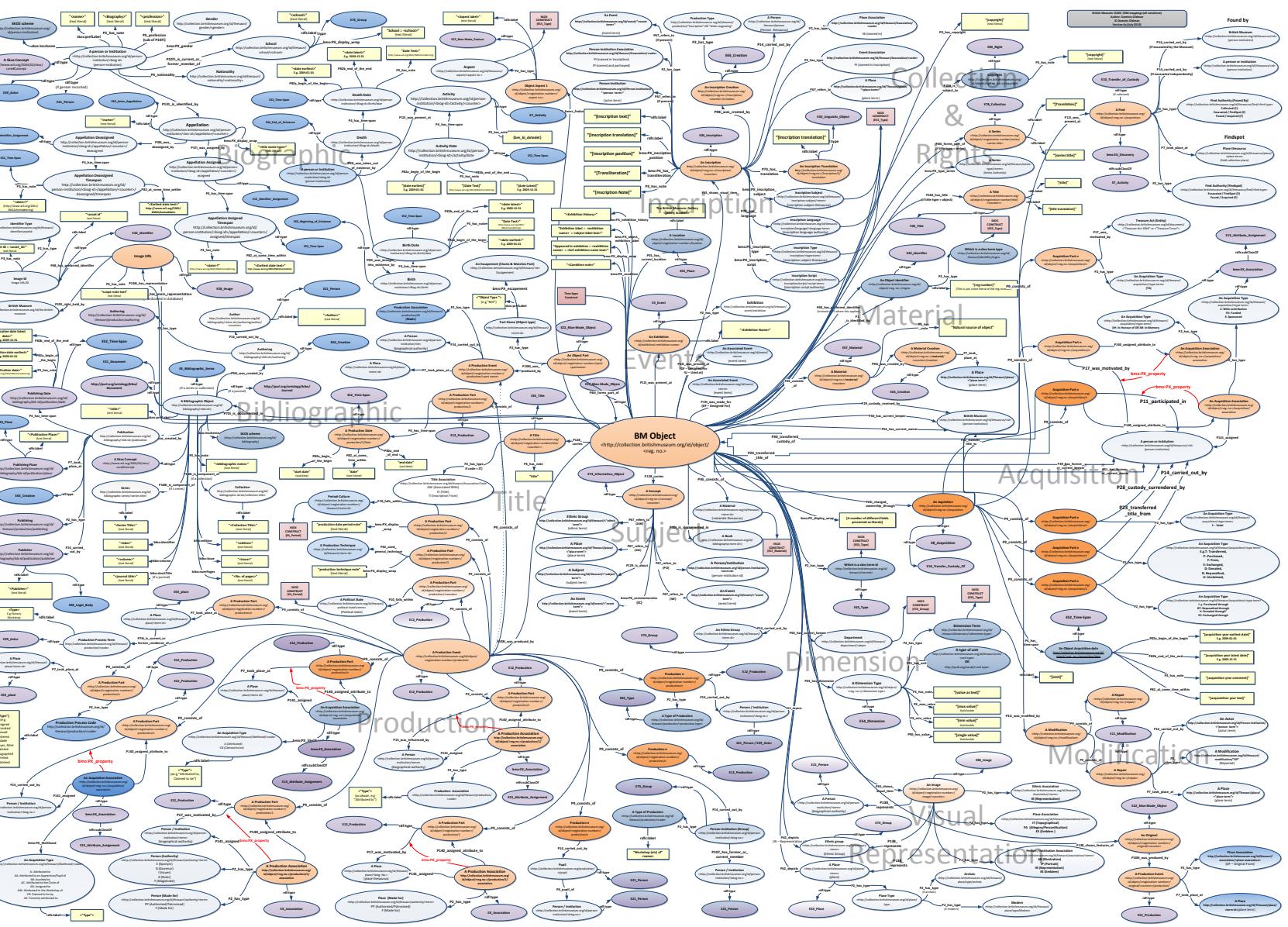
**Part** – a distinct component of an object

**[to be completed]**

## 4.2 BM Data Model (relational format)



### 4.3 CRM Mapped Model



#### 4.4 Collection catalogue core elements

The Museum's data model is broadly made up of:

**Objects:** items that have been created naturally or through human production are that have been found or acquired and placed within a collection. Objects are part of our material culture providing signals and signs that evidence our history.

**Person-Institution:** A biographical database of people, organisations, institutions, groups that have some connection to the objects in the Museum's collection

**Place:** An authority of modern and archaic place names with geographical hierarchy that provide the locations that the objects within the collection have some association. (e.g. Their findspot, their production locations, references etc,

**Bibliography:** Literary references that have associations with the objects within the Museum's collection.

**Thesauri:** A set of terminology authorities that provide consistency and precision to the classification of different aspects of an object record in the Museum's collection.

These elements will be familiar to most museum collection management/cataloguing systems. Many museums will derive some of this knowledge from central authorities established to provide universal identifiers for terminology, people and places (like the Getty Institute or VIAF), and from libraries already sharing bibliographic data. The Museum however, does not use any external knowledge sources, The process of digitising the vast Museum collection started over 30 years ago the Museum's digitisation efforts have developed its own set of authorities. In some cases they contain significant amounts of information not available in any one central resource or, in some cases, not represented in external data sources at all. Clearly the Museum should be sharing this valuable resource with others by making it available to these central repositories, and the Museum's Endpoint is a good starting point for doing this.

#### 4.5 Using Terminology

Like most cataloguing systems Museum data entry is controlled using thesauri with data organised in either a hierarchical or flat format. The records (terms, places and people) have a unique identifier – a system number. A single object record may use these authorised terms many times, for example, where the record refers to a location (a production place, a find spot and so on).

The British Museum's current authorities are;

- Object type (e.g. pin, cup)
- Material (e.g. paper, stone)
- Technique of production (e.g. carved, incised)
- Material Culture/Period (e.g. 13th dynasty, Late Minoan)
- Ware (specialised thesaurus for pottery, e.g. Black Glaze Ware, Samian)
- School (used for artworks, e.g. Italian, Aesthetic Movement)
- Escapement type (specialist thesaurus for clocks and watches)
- Subject (e.g. animal, acupuncture)
- Ethnic Name (e.g. Aztec, Yoruba)
- Place
- People
- Bibliography
- Dimensions
- State
- Location (internal)

In the mapping thesauri containing concept terms use the following fields;

- term (preferred label)
- term discriminator
- broader term(s)
- related term(s)
- use-for terms (alternative labels)
- scope note (description)
- whether the term has been authorised

The place name thesaurus has two additional fields, one which indicates whether a term is modern or archaic (place name type) and the other which provides a code for distinguishing continents, countries, villages etc. (place type)

Flat authorities range from very simple lists of museum terms and codes to two significant flat authorities - biographical and bibliographic.

Some of the authorities are significant knowledge bases in their own right and all managed authorities are separately mapped to CRM or SKOS (as appropriate) and linked to object records. Some terms don't have a specific system number and are mostly small vocabularies used for lookup and association within the system. These are assigned their own URI as part of the object record mapping to CRM.

For example, a URI for a person is <http://collection.britishmuseum.org/id/person-institution/57074>

A URI for a material is <http://collection.britishmuseum.org/id/thesauri/x10411>

(concept terms have an 'x' prefix.)

However, lookup terminology will not have a system identifier but will be a unique term (and therefore a unique URI. For example,

<http://collection.britishmuseum.org/id/thesauri/gender/male>

<http://collection.britishmuseum.org/id/thesauri/nationality/Roman>

In these cases the URI itself is unique within the Museum's domain.

## 4.6 Use of Association Codes

Annex 5 contains a list of all the association codes used in the Museum's collection system and their normalisation within the CRM mapping. These codes are used to qualify data and provide some context particularly for places and people.

The production information for this Jasper ware copy of the Portland Vase is associated with the

Merlin (4.1m) : live database - [Full Record]  
 File Edit View Search Fetch Modules Help  
 Object Name vase PRN MCT3175  
 P&E 1909.1201.88  
 Created by stirling on 21 Sep 1992  
 Amended by tszrjben on 07 Feb 2013  
 Production: Person  
 Association Name F (Factory of)  
 Wedgwood, Josiah I (Josiah Wedgwood I)  
 Production: Place  
 Association Place F (Factory in)  
 Etruria (Europe, British Isles, England, Staffordshire, Stoke-on-Trent, Etruria (England))  
 Production: Date  
 Date 1790 (1790 - 1790)  
 Comment circa  
 ID Numbers  
 Object  
 Location  
 Acquisition  
 Production  
 Findspot  
 Association  
 Inscription  
 Comment  
 Images  
 Record  
 (WHOLE)  
 Search Summary Sort 27 of 37

name, 'Josiah Wedgwood', which has been qualified with an association code 'F' meaning 'factory of' (person or institution). When used with a place the code 'F' means 'factory in' (a location).

The codes have been normalised (so that instead of factory of and factory in, a single term 'factory' is used. The use of CRM properties (**P14\_carried\_out\_by** and **P7\_took\_place\_at**) provides the context of person or place.

Association codes are also treated in a similar way

to other basic terminologies (using SKOS), as you will see below in the CRM models. The code 'A' represents 'After' used particularly in the Museum's print collection to refer to the original artist for

Subject	Predicate	Object
Rosetta Stone	has a title	"The Rosetta Stone"
Rosetta Stone	has a name	"stela"
Rosetta Stone	Consists of a material	"granodiorite"

the work being reproduced. 'After' qualifies the CRM property, **P15\_was\_influenced\_by**. Other associations include, 'decorated by', 'school of' and 'attributed at', to name a few.

## 4.7 British Museum Model, RDF & CRM

The Conceptual Reference Model is not specific to any particular technical implementation – but we think it currently works particularly well with semantic technology and the Resource Description Framework (RDF). For non-technical readers, RDF provides a way of describing information in a format known as a triple statement. Triples are simply statements with three elements; a subject, a predicate and an object. In other words knowledge is represented by something that you want to talk about (subject) and its relationship (the predicate) to something else (object).

The screenshot below shows the object information for the Rosetta Stone and beside it some of the triples that can be derived.

Merlin (4.1m) : live database - [Full Record]  
 File Edit View Search Fetch Modules Help  
 Object Name stela PRN YCA62958  
 ABS 24 EA24  
 Created by phaselam on 17 Sep 1995  
 Amended by janderson on 31 Jan 2013  
 Title Type Object The Rosetta Stone  
 Description Title Part of grey and pink granodiorite stela bearing priestly decree concerning Ptolemy V in three blocks of text: Hieroglyphic (14 lines), Demotic (32 lines) and Greek (54 lines).  
 Object Name stela  
 Materials Material granodiorite  
 Dimensions Dimensions Type L (Length) Value 112.30 Units cm Comment max  
 W (Width) 75.70 cm  
 T (Thickness) 28.40 cm  
 ID Numbers  
 Object  
 Location  
 Acquisition  
 Production  
 Findspot  
 Association  
 Inscription  
 Comment  
 Images  
 Record  
 (WHOLE)  
 Search Summary Sort 19 of 38

This consistent structure removes the complexities of traditional database models, providing a universal platform for data integration without the need for translating different types of database schema used in different organisations. The triple statements can support data, metadata and rules and therefore triples, or RDF databases, and are extremely portable and flexible. For example, adding additional triple statements, even if they have no relationship with existing triples or offer alternative and different versions, won't affect

other statements or break the system. This makes RDF ideal for researchers interested in modelling data but also for more engaging cross collection Web sites.

To further enhance these benefits, Web addresses are assigned to the data to make it available across the Internet. For example the PRN or Primary Reference Number for the Rosetta Stone is YCA62958. We use the following address which can be used in an Internet browser;

<http://collection.britishmuseum.org/id/object/YCA62958>

This means that the first triple statement about the object title becomes:

Subject	Predicate	Object
http://collection.britishmuseum.org/id/object/YCA62958	has_title	"Rosetta Stone"

Predicates themselves must also use a URI. While the museum defines the URI for its own information we can use resources defined by others in an 'ontology' standard. These will carry a URI defined by the custodian of that ontology. In this case the museum uses an implementation of the CRM that has the domain name <http://erlangen-crm.org/current/>. The Erlangen implementation is a particular version of the CRM standard that supports 'reasoning' – which is a way of making assertions about existing triples to support the generation of new machine generated information... or triples.

So;

Subject	Predicate	Object
http://collection.britishmuseum.org/id/object/YCA62958	http://erlangen-crm.org/current/P102_has_title	"Rosetta Stone"

By clicking on the subject URI your browser will take you to the site on which the Museum's linked data is stored and provide a web page showing all the triple statements that are directly associated with it. If you click on the predicate your browser will take you to a web site where the predicate is represented and defined.

Here are the triples above in their full URI format:

Subject	Predicate	Object
http://collection.britishmuseum.org/id/object/YCA62958	http://erlangen-crm.org/current/P102_has_title	"Rosetta Stone"
http://collection.britishmuseum.org/id/object/YCA62958	http://erlangen-crm.org/current/P2_has_type	http://collection.britishmuseum.org/id/thesauri/<termid>
http://collection.britishmuseum.org/id/object/YCA62958	http://erlangen-crm.org/current/P45_consists_of	http://collection.britishmuseum.org/id/thesauri/<termid>

Removing the domain names makes things a little clearer:

Subject	Predicate	Object
/id/object/YCA62958	P102_has_title	"Rosetta Stone"
/id/object/YCA62958	P2_has_type	/id/thesauri/<term id>
/id/object/YCA62958	P45_consists_of	/id/thesauri/<term id>

To make life easier we use prefixes to shorten the URI that people have to type. In the example below you will see an example of this. The CRM properties, for example, are shortened using the prefix 'crm:' to represent <http://erlangen-crm.org/>.

The first triple uses the CRM predicate **P102\_has\_title**. This is the format used in the CRM (P indicating a CRM property which is used as a predicate) with an identifying number and the relationship term.

Regardless of where the CRM is implemented (Yale University, British Museum, Victoria & Albert Museum, and so on) object titles are generalised using this property. This means that all titles of all objects in all datasets that use the CRM can be retrieved with one query simply because we have agreed on the ‘semantics’ of an object title.

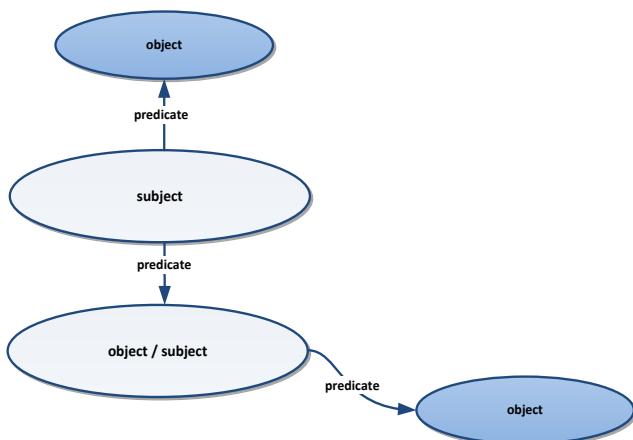
The URI scheme provides a human readable way of organising the data into a logical hierarchy. For example, when talking about the acquisition of the object you can use /id/object/<object identifier>/acquisition/, and if you talk about the acquisition date then you can extend the URI further to /id/object/<object identifier>/acquisition/date/. These institutional URIs are important for representing data correctly and to make best use of the CRM which has logical rules about how concepts and properties can be applied to particular types of resource. For example, a time span can only be applied to a resource for which a time span is logical and correctly ‘typed’ (more on typing later!).

In the example we refer to terminology that has its own URI path. A thesaurus term for a material uses the URI /id/thesauri/<identifier>. This is the URI of a node that holds a term identifier. For example, the identifier id/thesauri/x10646 is the identifier of the term ‘cotton’. Within the RDF database the following triples reside.

Subject	Predicate	Object
/id/object/YCA62958	P45_consists_of	/id/thesauri/x10646
/id/thesauri/x10646	prefLabel	‘cotton’

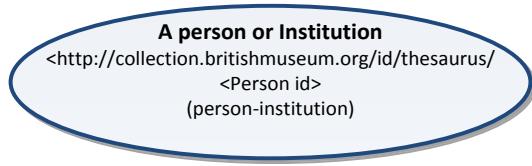
Notice that the object for the first triple statement becomes the subject for the second. In this way a logical hierarchy of triple statements is formed. In relational databases data is related through identifiers but the context for those connections resides in the application built separately on top of the database. The raw data has little obvious context and consequently the integration of data becomes much harder and less sustainable.

The hierarchy of statements is represented in this document through node diagrams that illustrate models for each part of the museum mapping.

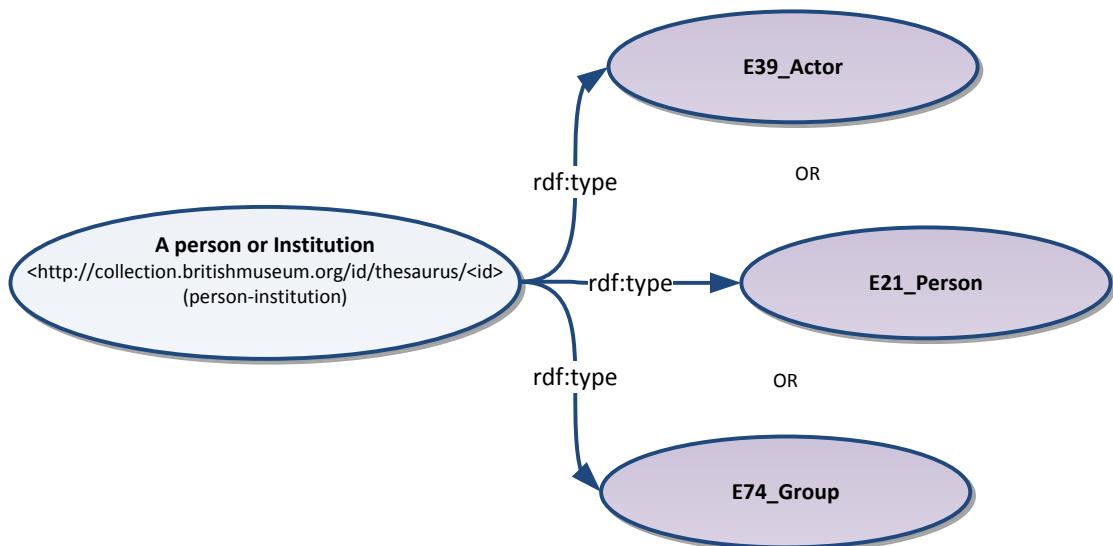


## 4.8 Representation of actors

In the model diagrams below you will see the following nodes frequently.



In the Museum's data base this can be an individual or a group, (and a group may be identified as a legal body). When mapping the mapping software will determine whether the id is an individual or group and provide the correct typing. Where this can either (it can be either a person or group), the model does not show the type, but you should assume that it is applied according to the information from the particular record. For example,



## 4.9 The Mapping in a Nutshell – Mapping Mindset

### 4.9.1 Introduction

CRM generalisations have been derived by examining a wide range of data models particularly from the cultural heritage and museums sector. This means that many of the concepts are familiar to those working with Museum documentation. The following provides a summary of the mapping for a typical British Museum object based on some key CRM properties (it is not comprehensive). As you will see the CRM closely follows the events and concepts that many museum staff find familiar. An understanding of domain and range is crucial. Every CRM property has a carefully selected scope of use. It will only be applicable for a specified domain (the subject of the triple) and a specified range (the object of a triple). The CRM has a structure of sub classes and therefore the domain and range are specified at the highest class but include sub-classes. Therefore the range of **E39\_Actor** includes the sub-classes **E21\_Person** and **E74\_Group**. A domain of **E5\_Event** includes the sub-class **E7\_Activity** and then its sub-class **E8\_Acquisition**.

### 4.9.2 Things and objects

An **E18\_Physical\_Thing** can be either an artificial and natural object which are persistent (and stable). Note that it can be artificial or natural and is persistent.

An **E24\_Physical\_Man-Made\_Thing** is a persistent physical thing created by human activity. This is an artificial object.

**E22\_Man-Made\_Object** is a physical object created by human activity. The difference being with persistence. **E24** refers to more infrastructural things like a bridge. **E22** is a more appropriate class for a museum object. A sub-class of **E22** is **E84\_Information\_Carrier**.

### 4.9.3 Relationship with URI nodes

The mapping is held together by a scheme of URI (Uniform Resource Identifiers). This may be formed using actual data from the Museum's database or be created simply for the purposes of conforming to the conventions of domain and range required for the CRM – and to make the mapping logical. For example and acquisition may have a time span but you can't simply add dates to the acquisition node. You must create a node that is of type **E52\_Time-Span**. This node is created just to record the date information. However, another type of node might use and represent a field value within the database.

#### 4.9.4 A Mapping Narrative

Narrative	Properties	Classes			
Museum's hold objects that tell the history of the world. These <u>objects</u> sometimes have a <u>title</u> and are recorded with an <u>identifier</u> (an accession number). Some objects form part of a sub-collection with a <u>collection title</u> .	P102_has_title P1_is_identified_by P46i_forms_part_of	E22_Man-Made_Object E35_Title E42_Identifier E78_Collection			
<b>CRM Mapping Note</b>					
The domain of the property <b>P102_has_title</b> is <b>E71_Man-Made_Thing</b> . A BM object is typed as an <b>E22_Man-Made_Object</b> which is part of the <b>E71_Man-Made_Thing</b> class hierarchy. Therefore <b>P102_has_title</b> can be used with a man-made object. The range is <b>E35_Title</b> . Therefore the node that the triple uses as an object node (as in subject – predicate – object) must be of type, <b>E35_Title</b> .					
The domain of <b>P1_is_identified_by</b> is <b>E1_CRM_Entity</b> (so any entity in the CRM could have an identifier). The range is <b>E41_Appellation</b> . <b>E41_Appellation</b> has sub-classes that include <b>E42_Identifier</b> . Therefore to make the triple using <b>P1_is_identified_by</b> valid the object node in the triple is, and is typed as, an <b>E42_Identifier</b> .					
Lastly, <b>P46i_forms_part_of</b> is the inverse of the property <b>P46_is_composed_of</b> , and is used to show that the object forms part of a collection. It has a domain and a range of <b>E18_Physical_Thing</b> . This class includes the sub-class <b>E24_Physical_Made-Made_thing</b> which in turn has the sub-class <b>E78_Collection</b> . Therefore a collection is a type of <b>E18_Physical_Thing</b> and is valid for the mapping.					
<table border="1"> <tr> <td>Most collection catalogue databases will allow curators to write some comments or <u>notes</u> about the object.</td> <td>P3_has_note</td> <td>E62_String</td> </tr> </table>			Most collection catalogue databases will allow curators to write some comments or <u>notes</u> about the object.	P3_has_note	E62_String
Most collection catalogue databases will allow curators to write some comments or <u>notes</u> about the object.	P3_has_note	E62_String			
<b>CRM Mapping Note</b>					
As you might expect <b>P3_has_note</b> has the domain of <b>E1_CRM_Entity</b> and can therefore apply to any triple subject (you can write notes about anything). Its range is <b>E62_String</b> and therefore the node it points to must be of type <b>E62_String</b> . Straight forward, yes?					
(Note: You may be starting to understand how the CRM ensures integrity of mapping. This is essential for the end product to make sense, but also ensures data harmonisation.)					
<table border="1"> <tr> <td>Museums will record where the object came from and therefore the details of the various <u>transfers</u> of it from one person or organisation to another, and ultimately to the <u>current owner</u>. However, the current owner could be a third party if the object is on loan, and the acquisition may simply be a <u>transfer of custody</u> rather than of ownership.</td> <td>P23_transferred_title_from P51_has_former_or_current_owner. P52_has_current_owner P28_custody_surrendered_by</td> <td>E22_Man_Made_object E8_Acquisition E10_Transfer of Custody</td> </tr> </table>			Museums will record where the object came from and therefore the details of the various <u>transfers</u> of it from one person or organisation to another, and ultimately to the <u>current owner</u> . However, the current owner could be a third party if the object is on loan, and the acquisition may simply be a <u>transfer of custody</u> rather than of ownership.	P23_transferred_title_from P51_has_former_or_current_owner. P52_has_current_owner P28_custody_surrendered_by	E22_Man_Made_object E8_Acquisition E10_Transfer of Custody
Museums will record where the object came from and therefore the details of the various <u>transfers</u> of it from one person or organisation to another, and ultimately to the <u>current owner</u> . However, the current owner could be a third party if the object is on loan, and the acquisition may simply be a <u>transfer of custody</u> rather than of ownership.	P23_transferred_title_from P51_has_former_or_current_owner. P52_has_current_owner P28_custody_surrendered_by	E22_Man_Made_object E8_Acquisition E10_Transfer of Custody			
<b>CRM Mapping Note</b>					
<b>P23_transferred_title_from</b> is a predicate that uses a subject node with a type of <b>E8_Acquisition</b> (domain) but must refer (range) to an <b>E39_Actor</b> (e.g. a person <b>E21</b> or a Group <b>E78</b> ). This makes sense because the object must come from some sort of group or person.					
For <b>P51_has_former_owner</b> we are talking about the object's ( <b>E22_Man-Made_Object</b> ) former owner (the domain is <b>E18_Physical_Thing</b> ) and a range of <b>E39_Actor</b> again (Acquisitions work around people or organisations).					
Likewise the property <b>P52_has_current_owner</b> also operates in the domain of the physical thing ( <b>E18_Physical_Thing</b> ) and the range of an Actor.					

**P28\_custody\_surrendered\_by** has a range of **E39\_Actor** but the domain is **E10\_Transfer\_of\_Custody**. This triple operates between the acquisition node (typed as a transfer of custody as well as an acquisition) and the actor from which the object was transferred. Other forms of transfer exist like **P24\_transferred\_ownership\_through** (rather than 'from'). The semantics are different and therefore there will be different forms of acquisition mapping. We call this different constructs

In some cases details of where an object was originally found are known and recorded. The find itself is an event at which the object <u>was present</u> .	<b>P12i_was_present_at</b>	<b>EX_Discovery (BM specialisation)</b>
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#### CRM Mapping Note

**P12i\_was\_present\_at** is the inverse of the property **P12\_occurred\_in\_the\_presence\_of** which is used in the domain of **E5\_Event**. The Museum has created a sub-class of **E5\_Event** called **EX\_Discovery** to describe the event of discovery of an object. If the CRM doesn't have a class that describes your entity fully then you can usually create a sub-class of an existing CRM class. The BM has limited the number of class specialisations to the absolute minimum and instead made use of typing by vocabularies.

Further investigation of the object will often provide more information about how the object was created or produced in the first place. Like an acquisition or a find, a <u>production</u> is an event with a range of useful information. For example, the <u>technique</u> used to produce the object. The BM records the broad production <u>types</u> to support precise searching.	<b>P108i_was_produced_by</b> <b>P32_used_general_technique</b>	<b>E12_Production</b> <b>E55_Type</b>
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#### CRM Mapping Note

**P108i\_was\_produced\_by** provides the initial relationship between the collection item and the production event node. Therefore the domain must be the classes that describe an object, in this case **E24\_Physical\_Man-Made\_Thing** which clearly denotes that this is an artificial thing that has been produced (and encompasses **E22\_Man\_Made\_object**). **P32\_used\_general\_technique** works with activities (**E7\_Activity** being the domain) and production is indeed an activity because it is a sub-class of **E11\_Modification** which is, in turn, a sub-class of **E7\_Activity**. The British Museum then uses a thesaurus of technique terms in a SKOS format - the term itself is typed as **E55\_Type** – which is the range of **P32\_used\_general\_technique**.

The period in which production <u>falls within</u> is a key piece of information and may be accompanied by a date or specific <u>time period</u> .	<b>P10_falls_within</b> <b>P4_has_time_span</b>	<b>E52_Time_Span</b>
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#### CRM Mapping Note

**P10\_falls\_within** has both a domain and a range of **E4\_Period**. An example of a period is an **E7\_Event** and all activities are therefore within the sub-classes of **E4\_Period**, including say, an **E8\_Acquisition**. Therefore in the mapping we can use **P10\_falls\_within** with any event object but must ensure that the triple subject comes within the realms of **E4\_Period** node before defining the details of the period. This is done by creating an appropriate date URI, typed as a time span, to hold the date information.

People and places are commonly associated with production information. The people, groups or artistic schools who <u>carried out</u> the production of the object and the locations where production <u>took place</u> (which might be various) are important material aspects of the object.	<b>P14_carried_out_by</b> <b>P7_took_place_at</b>	<b>E21_Person</b> <b>E39_Actor</b> <b>E74_Group</b> <b>E53_Place</b>
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#### CRM Mapping Note

The most frequent use of the generalisation **P14\_carried\_out\_by** in the Museum's mapping is in production, and in particular, the relationship with people and places (using **P7\_took\_place\_at**). Unsurprisingly **P14\_carried\_out\_by** has a domain of **E7\_Activity** (as production is also an event) and a range of **E39\_Actor**. **P7** **P14\_carried\_out\_by** has the same domain but the range is, of course, **E53\_Place**.

Other people indirectly involved in the process might be those who influenced the production (another artist for example) or were the motivation for it, like a coin minted for an emperor. Otherwise an object might have been made for an event.

**P15\_was\_influenced\_by**  
**P17\_was\_motivated\_by**

**E21\_Person**  
**E39\_Actor**  
**E74\_Group**  
**E53\_Place**  
**E5\_Event**

#### CRM Mapping Note

**P15\_was\_influenced\_by** and **P17\_was\_motivated\_by** are again talking about the domain of 'activities'. In the BM mapping these might be people or groups who have influenced or motivated (although **P15** and **P17** have a range which includes all CRM entities (**E1\_CRM\_Entity**) a production process. These are generalisations that are very open to reification with internal vocabularies. For example, the motivation of something through an authority, like an emperor, is useful information to add to the mapping.

If the object has an inscription on it then this is a type of visual item which might directly refer to a subject, place, person or group.

**P65\_shows\_visual\_item**  
**P67\_refers**

**E65\_Creation**  
**E34\_Inscription**

#### CRM Mapping Note

**P65\_shows\_visual\_item** refers to **E24\_Physical\_Man-Made\_Thing** and has a range of **E36\_Visual\_Item**. In the mapping this is a node created for the purpose of using **P67\_refers** (which has the domain of **E89\_Propositional\_Object** - a class containing immaterial objects like information objects (**E73\_Information\_Object**). An Information object includes a visual item (**E36\_Visual\_Item**) that itself contains a class for 'markings' (**E37\_Mark**) and this has the sub-class for inscriptions (**E34\_Inscription**) - and therefore is a valid range for **P65\_shows\_visual\_item**.

An inscription is a type of production process (a creation) in its own right and therefore we may record specific production information against it including the person who carried out the inscription (who may be different from the object producer).

**P14\_carried\_out\_by**

**E21\_Person**

#### CRM Mapping Note

See production above

The object may directly depict or visually represent as an image place, person or group and so on.

**P62\_depicts**  
**P65\_shows\_visual\_item**  
**P138\_represents**

**E38\_Image**  
**E21\_Person**  
**E39\_Actor**  
**E53\_Place**

#### CRM Mapping Note

Depiction is a short cut for a visual image (picture) representation. **P65\_shows\_visual\_item** can refer to a picture (image) on the object itself (the domain and range above). Instead of **P67\_refers** a pictorial representation uses the property **P138\_represents**. This operates with a (you guessed it) an **E36\_Visual\_Item** and any other CRM entity (**E1\_CRM\_Entity**).

The object may also have more indirect

**P128\_carries**

**E73\_Information\_Object**

associations to these things and <u>carry references</u> . The object may also have conceptual subjects (information object) which can tell people more <u>about</u> the object and its meaning.	<b>P67_refers</b> <b>P129_is_about</b>	
<p><b>CRM Mapping Note</b></p> <p>An object may refer to something in a more indirect conceptual way. The Museum has invented a URI node called 'concept' and typed it as an <b>E73_Information_Object</b>. <b>P128_carries</b> can use this node as its range (with a domain of <b>E24_Physical_Man-Made_thing</b> - the physical object) and this provides the basis for a reference to an <b>E21_Actor</b> (like an ethnic group - e.g. this visual design alludes to a particular culture) or an recorded event. <b>P67_refers</b> has the domain <b>E89_Propositional_Object</b> (including an <b>E28_Conceptual_Object</b>) and can have a range of any concept. <b>P128</b> has the range <b>E90_Symbolic_Object</b> (including the "aggregation of symbols") covering subject terms.</p>		
Other more technical information is also recorded against the object like the material it was made out of (or that it <u>consists of</u> ).	<b>P45_consists_of</b>	<b>E57_Material</b>
<p><b>CRM Mapping Note</b></p> <p>This one is straight forward. <b>P45_consists_of</b> has a domain and refers to an <b>E19_Physical_Thing</b> and has the range of <b>E57_Material</b>. This would be a thesauri identifier leading to a SKOS schema for the term.</p>		
<u>Dimension measurements</u> are taken for the object and these are stored as values and units.	<b>P43_has_dimension</b> <b>P90_has_value</b> <b>P91_has_unit</b>	<b>E54_Dimension</b>
Objects will be documented in bibliographic material which is created through <u>publishing and authoring</u> . This includes journals (a <u>component</u> of a series) and references that are part ( <u>components</u> ) of a collection.	<b>P70i_is_documented_in</b> <b>P94i_was_created_by</b> <b>P148i_is_a_component_of</b>	<b>E31_Document</b> <b>EX_Bibliographic_Series</b> <b>E65_Creation</b>
<p><b>CRM Mapping Note</b></p> <p>Not surprisingly <b>P70_documents</b> (<b>P70i_is_documented_in</b>) refers to <b>E31_Document</b> and can apply to any CRM entity. <b>P94_has_created</b> has the domain <b>E65_Creation</b> and applies to <b>E28_Conceptual_Object</b>. In this case the concept is 'Authoring'. <b>P148i</b> refers to a document being part of a <b>E89_Propositional_Object</b></p>		
People might be identified with different names (or <u>appellations</u> ) and the Museum records people who belong to or were <u>members</u> of a school (of art for example). These are people of different (belong to) national groups.	<b>P131_is_identified_by</b> <b>P107i_is_current_or_former_member_of</b>	<b>E39_Actor</b> <b>E21_Person</b> <b>E74_Group</b>
<p><b>CRM Mapping Note</b></p> <p><b>P131</b> is used specifically to identify the name of an <b>E39_Actor</b> with the range <b>E82_Actor_Appellation</b>. <b>P107</b> deals with members of a group with the domain being <b>E74_Group</b> and a range of <b>E39_Actor</b></p>		

## 4.10 CIDOC CRM Property Hierarchy:

(Taken from cidoc-crm draft version 5.1)

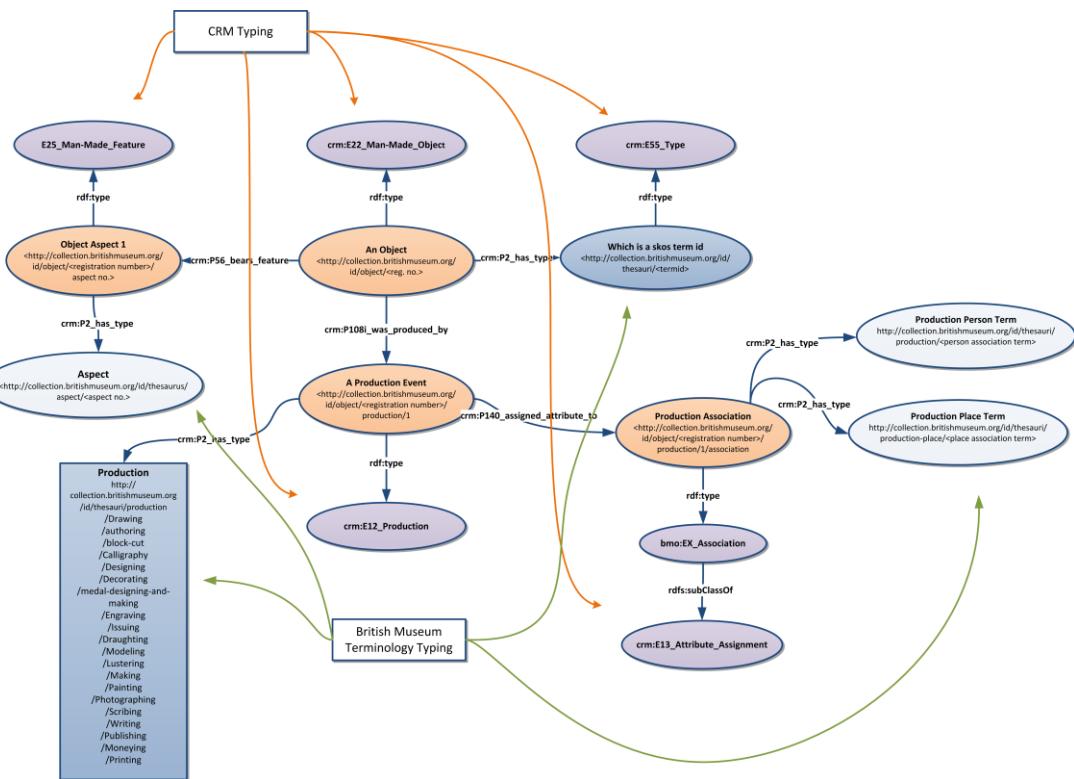
Property id	Property Name	Entity – Domain	Entity - Range
P1	is identified by (identifies)	E1 CRM Entity	E41 Appellation
P48	- has preferred identifier (is preferred identifier of)	E1 CRM Entity	E42 Identifier
P78	- is identified by (identifies)	E52 Time-Span	E49 Time Appellation
P87	- is identified by (identifies)	E53 Place	E44 Place Appellation
P102	- has title (is title of)	E71 Man-Made Thing	E35 Title
P131	- is identified by (identifies)	E39 Actor	E82 Actor Appellation
P149	- is identified by (identifies)	E28 Conceptual Object	E75 Conceptual Object Appellation
P2	has type (is type of)	E1 CRM Entity	E55 Type
P137	- exemplifies (is exemplified by)	E1 CRM Entity	E55 Type
P3	has note	E1 CRM Entity	E62 String
P79	- beginning is qualified by	E52 Time-Span	E62 String
P80	- end is qualified by	E52 Time-Span	E62 String
P4	has time-span (is time-span of)	E2 Temporal Entity	E52 Time-Span
P5	consists of (forms part of)	E3 Condition State	E3 Condition State
P7	took place at (witnessed)	E4 Period	E53 Place
P26	- moved to (was destination of)	E9 Move	E53 Place
P27	- moved from (was origin of)	E9 Move	E53 Place
P8	took place on or within (witnessed)	E4 Period	E18 Physical Thing
P9	consists of (forms part of)	E4 Period	E4 Period
P10	falls within (contains)	E4 Period	E4 Period
P12	occurred in the presence of (was present at)	E5 Event	E77 Persistent Item
P111	- added (was added by)	E79 Part Addition	E18 Physical Thing
P113	- removed (was removed by)	E80 Part Removal	E18 Physical Thing
P11	- had participant (participated in)	E5 Event	E39 Actor
P14	- - carried out by (performed)	E7 Activity	E39 Actor
P22	- - transferred title to (acquired title through)	E8 Acquisition	E39 Actor
P23	- - transferred title from (surrendered title through)	E8 Acquisition	E39 Actor
P28	- - custody surrendered by (surrendered custody through)	E10 Transfer of Custody	E39 Actor
P29	- - custody received by (received custody through)	E10 Transfer of Custody	E39 Actor
P96	- - by mother (gave birth)	E67 Birth	E21 Person
P99	- - dissolved (was dissolved by)	E68 Dissolution	E74 Group
P143	- - joined (was joined by)	E85 Joining	E39 Actor
P144	- - joined with (gained member by)	E85 Joining	E74 Group
P145	- - separated (left by)	E86 Leaving	E39 Actor
P146	- - separated from (lost member by)	E86 Leaving	E74 Group
P151	- - was formed from (participated in)	E66 Formation	E74 Group
P16	- used specific object (was used for)	E7 Activity	E70 Thing
P33	- - used specific technique (was used by)	E7 Activity	E29 Design or Procedure
P111	- - added (was added by)	E79 Part Addition	E18 Physical Thing
P142	- - used constituent (was used in)	E15 Identifier Assignment	E90 Symbolic Object
P25	- moved (moved by)	E9 Move	E19 Physical Object
P31	- has modified (was modified by)	E11 Modification	E24 Physical Man-Made Thing
P108	- - has produced (was produced by)	E12 Production	E24 Physical Man-Made Thing
P110	- - augmented (was augmented by)	E79 Part Addition	E24 Physical Man-Made Thing
P112	- - diminished (was diminished by)	E80 Part Removal	E24 Physical Man-Made Thing
P92	- brought into existence (was brought into existence by)	E63 Beginning of Existence	E77 Persistent Item
P94	- - has created (was created by)	E65 Creation	E28 Conceptual Object
P135	- - - created type (was created by)	E83 Type Creation	E55 Type
P95	- - has formed (was formed by)	E66 Formation	E74 Group
P98	- - brought into life (was born)	E67 Birth	E21 Person
P108	- - has produced (was produced by)	E12 Production	E24 Physical Man-Made Thing
P123	- - resulted in (resulted from)	E81 Transformation	E77 Persistent Item
P93	- took out of existence (was taken out of existence by)	E64 End of Existence	E77 Persistent Item
P13	- - destroyed (was destroyed by)	E6 Destruction	E18 Physical Thing
P99	- - dissolved (was dissolved by)	E68 Dissolution	E74 Group
P100	- - was death of (died in)	E69 Death	E21 Person
P124	- - transformed (was transformed by)	E81 Transformation	E77 Persistent Item
P142	- - used constituent (was used in)	E15 Identifier Assignment	E90 Symbolic Object
P15	was influenced by (influenced)	E7 Activity	E1 CRM Entity
P16	- used specific object (was used for)	E7 Activity	E70 Thing
P33	- - used specific technique (was used by)	E11 Modification	E29 Design or Procedure
P111	- - added (was added by)	E79 Part Addition	E18 Physical Thing
P142	- - used constituent (was used in)	E15 Identifier Assignment	E90 Symbolic Object
P17	- was motivated by (motivated)	E7 Activity	E1 CRM Entity
P134	- continued (was continued by)	E7 Activity	E7 Activity
P136	- was based on (supported type creation)	E83 Type Creation	E1 CRM Entity

P19	was intended use of (was made for)	E7 Activity	E71 Man-Made Thing
P20	had specific purpose (was purpose of)	E7 Activity	E5 Event
P21	had general purpose (was purpose of)	E7 Activity	E55 Type
P24	transferred title of (changed ownership through)	E8 Acquisition	E18 Physical Thing
P30	transferred custody of (custody transferred through)	E10 Transfer of Custody	E18 Physical Thing
P43	has dimension (is dimension of)	E70 Thing	E54 Dimension
P44	has condition (is condition of)	E18 Physical Thing	E3 Condition State
P45	consists of (is incorporated in)	E18 Physical Thing	E57 Material
P46	is composed of (forms part of)	E18 Physical Thing	E18 Physical Thing
P56	- bears feature (is found on)	E19 Physical Object	E26 Physical Feature
P49	has former or current keeper (is former or current keeper of)	E18 Physical Thing	E39 Actor
P50	- has current keeper (is current keeper of)	E18 Physical Thing	E39 Actor
P109	- has current or former curator (is current or former curator of)	E78 Collection	E39 Actor
P51	has former or current owner (is former or current owner of)	E18 Physical Thing	E39 Actor
P52	- has current owner (is current owner of)	E18 Physical Thing	E39 Actor
P53	has former or current location (is former or current location of)	E18 Physical Thing	E53 Place
P55	- has current location (currently holds)	E19 Physical Object	E53 Place
P54	has current permanent location (is current permanent location of)	E19 Physical Object	E53 Place
P57	has number of parts	E19 Physical Object	E60 Number
P58	has section definition (defines section)	E18 Physical Thing	E46 Section Definition
P59	has section (is located on or within)	E18 Physical Thing	E53 Place
P62	depicts (is depicted by)	E24 Physical Man-Made Thing	E1 CRM Entity
P67	refers to (is referred to by)	E89 Propositional Object	E1 CRM Entity
P68	- foresees use of (use foreseen by)	E29 Design or Procedure	E57 Material
P70	- documents (is documented in)	E31 Document	E1 CRM Entity
P71	- lists (is listed in)	E32 Authority Document	E1 CRM Entity
P129	- is about (is subject of)	E89 Propositional Object	E1 CRM Entity
P138	- represents (has representation)	E36 Visual Item	E1 CRM Entity
P69	has association with (is associated with)	E29 Design or Procedure	E29 Design or Procedure
P72	has language (is language of)	E33 Linguistic Object	E56 Language
P74	has current or former residence (is current or former residence of)	E39 Actor	E53 Place
P75	possesses (is possessed by)	E39 Actor	E30 Right
P76	has contact point (provides access to)	E39 Actor	E51 Contact Point
P81	ongoing throughout	E52 Time-Span	E61 Time Primitive
P82	at some time within	E52 Time-Span	E61 Time Primitive
P83	had at least duration (was minimum duration of)	E52 Time-Span	E54 Dimension
P84	had at most duration (was maximum duration of)	E52 Time-Span	E54 Dimension
P86	falls within (contains)	E52 Time-Span	E52 Time-Span
P89	falls within (contains)	E53 Place	E53 Place
P90	has value	E54 Dimension	E60 Number
P91	has unit (is unit of)	E54 Dimension	E58 Measurement Unit
P97	from father (was father for)	E67 Birth	E21 Person
P101	had as general use (was use of)	E70 Thing	E55 Type
P103	was intended for (was intention of)	E71 Man-Made Thing	E55 Type
P104	is subject to (applies to)	E72 Legal Object	E30 Right
P105	right held by (has right on)	E72 Legal Object	E39 Actor
P52	- has current owner (is current owner of)	E18 Physical Thing	E39 Actor
P106	is composed of (forms part of)	E90 Symbolic Object	E90 Symbolic Object
P107	has current or former member (is current or former member of)	E74 Group	E39 Actor
P114	is equal in time to	E2 Temporal Entity	E2 Temporal Entity
P115	finishes (is finished by)	E2 Temporal Entity	E2 Temporal Entity
P116	starts (is started by)	E2 Temporal Entity	E2 Temporal Entity
P117	occurs during (includes)	E2 Temporal Entity	E2 Temporal Entity
P118	overlaps in time with (is overlapped in time by)	E2 Temporal Entity	E2 Temporal Entity
P119	meets in time with (is met in time by)	E2 Temporal Entity	E2 Temporal Entity
P120	occurs before (occurs after)	E2 Temporal Entity	E2 Temporal Entity
P121	overlaps with	E53 Place	E53 Place
P122	borders with	E53 Place	E53 Place
P125	used object of type (was type of object used in)	E7 Activity	E55 Type
P32	- used general technique (was technique of)	E7 Activity	E55 Type
P126	employed (was employed in)	E11 Modification	E57 Material
P127	has broader term (has narrower term)	E55 Type	E55 Type
P65	- shows visual item (is shown by)	E24 Physical Man-Made Thing	E36 Visual Item
P130	shows features of (features are also found on)	E70 Thing	E70 Thing
P128	- carries (is carried by)	E24 Physical Man-Made Thing	E90 Symbolic Object
P65	- - shows visual item (is shown by)	E24 Physical Man-Made Thing	E36 Visual Item
P73	- has translation (is translation of)	E33 Linguistic Object	E33 Linguistic Object
P132	overlaps with	E4 Period	E4 Period
P133	is separated from	E4 Period	E4 Period
P139	has alternative form	E41 Appellation	E41 Appellation
P140	assigned attribute to (was attributed by)	E13 Attribute Assignment	E1 CRM Entity
P34	- concerned (was assessed by)	E14 Condition Assessment	E18 Physical Thing
P39	- measured (was measured by)	E16 Measurement	E1 CRM Entity

<a href="#">P41</a>	- classified (was classified by)	<a href="#">E17 Type Assignment</a>	<a href="#">E1 CRM Entity</a>
<a href="#">P141</a>	assigned (was assigned by)	<a href="#">E13 Attribute Assignment</a>	<a href="#">E1 CRM Entity</a>
<a href="#">P35</a>	- has identified (identified by)	<a href="#">E14 Condition Assessment</a>	<a href="#">E3 Condition State</a>
<a href="#">P37</a>	- assigned (was assigned by)	<a href="#">E15 Identifier Assignment</a>	<a href="#">E42 Identifier</a>
<a href="#">P38</a>	- deassigned (was deassigned by)	<a href="#">E15 Identifier Assignment</a>	<a href="#">E42 Identifier</a>
<a href="#">P40</a>	- observed dimension (was observed in)	<a href="#">E16 Measurement</a>	<a href="#">E54 Dimension</a>
<a href="#">P42</a>	- assigned (was assigned by)	<a href="#">E17 Type Assignment</a>	<a href="#">E55 Type</a>
<a href="#">P147</a>	curated (was curated by)	<a href="#">E87 Curation Activity</a>	<a href="#">E78 Collection</a>
<a href="#">P148</a>	has component (is component of)	<a href="#">E89 Propositional Object</a>	<a href="#">E89 Propositional Object</a>
<a href="#">P150</a>	defines typical parts of(defines typical wholes for)	<a href="#">E55 Type</a>	<a href="#">E55 Type</a>
<a href="#">P152</a>	has parent(is parent of)	<a href="#">E21 Person</a>	<a href="#">E21 Person</a>

## 4.11 The Anatomy of BM CRM Model

The diagram below is typical of the ones you will find in this document. It consists of nodes that are resources with their own distinct URIs. Let's follow it from the object node. An object is of type **man-made** object. The Museum has many different types of object and this broad description applies to them all. The object also has a type provided by the Museum's object type thesaurus and is



documented using the SKOS ontology. The object was produced through a production event which itself has a type called 'Production' (**E12\_Production**). It bears a feature that we call an aspect. This is a part of the object which is of specific note and for which information has been recorded – like an object but without its own inventory number. The type of aspect is defined by a vocabulary of all the different aspects that we record information for.

These example nodes show a particularly important part of the BM mapping. One of the simplest but most useful aspects of the CRM is the classification of data into simple common types. For example, a Production, Period, Material, Acquisition, etc. This allows you to confine queries of the data to specific parts of the object graph you are interested in. These CRM types are used with the property **rdf:type**. They represent the first level of data harmonisation.

The other typing you see uses local terminologies. The CRM provides a property to support this local typing that allows a further narrowing of enquiry beyond the CRM types called **P2\_has\_type**. If we want to see Productions (**E12\_Production**) that involved **engraving** then we can narrow down to a more manageable group of objects simply using the Production and engraving type classifications. This brings us another significant aspect of the mapping.

The British Museum, like many others, further qualifies concepts like production and acquisition with association codes. These are important because they can determine the exact semantic relationship we adopt in different circumstances and allow us to improve search interfaces beyond those currently

available. The Production association you see in the diagram not only type a production can determine its relationship to things like people and places. For example, a production association code called ‘related to’ will determine a CRM relationship of **P15\_was\_influenced\_by** rather than **P14\_carried\_out\_by**.

The CRM properties, like the CRM types, are general statements, but are designed to be used within a specific scope. Therefore while different organisations might use the same generalisations slightly differently the controlled scope in which they can be used ensures that the meaning is not stretched beyond that intended by the semantics of the property. The idea of this document is to provide examples that show how the Museum is using them and, in conjunction with other CRM documentation, how they might be employed within other institutional mappings.

Also notice the use of Museum URIs in the nodes themselves creates what looks like a hierarchy but is in fact a poly-hierarchical structure.

## 4.12 SPARQL with the Conceptual Reference Model

---

```
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX crm: <http://erlangen-crm.org/current/>
PREFIX skos: <http://www.w3.org/2004/02/skos/core#>
PREFIX bmo: <http://collection.britishmuseum.org/id/ontology/>

SELECT ?Subject ?Description
WHERE

{
?Object rdf:type crm:E25_Man-Made_Feature .

?Subject ?Predicate ?Object .

?Subject bmo:PX_physical_description ?Description .

?Subject crm:P2_has_type ?type .

?type skos:prefLabel "coin" .

?Subject crm:P45_consists_of ?material .

?material skos:prefLabel "gold" .

?Subject crm:P108i_was_produced_by ?ProductionMain .

?ProductionMain crm:P9_consists_of ?ProductionPart .

?ProductionPart crm:P7_took_place_at ?Place .

?Place skos:prefLabel "Italy" .

}
```

Although this is not an optimised SPARQL query (or particularly useful) it illustrates the use of types. The aim is to bring back statements that meet the criteria of the search. Variables have been used that are named after the triple elements but this is uncommon and normally the variables will reflect the data that you want to return. For example, the variables could have been ?Coin ?Predicate ?Feature rather than ?Subject ?Predicate ?Object.

The first statement identifies the object of the triples to be returned but which is the subject of this particular statement. We want to finds nodes that are typed as a CRM Man-Made\_Feature.

Once we have the feature we know that the only triple that leads to this node is the one from the main object node. This is identified as the subject.

We want a particular type of object, a coin, and therefore we use P2\_has\_type to locate the thesaurus term id for the object type. We then narrow this down to a 'coin' using the SKOS preferred label.

We also know that the objects material connected to the object through the property P45\_Conists\_of, and in the same way that we refined the search to a coin, we can refine the material to gold. We are looking for gold coins.

Lastly, we use the same technique to further refine the search to Italy. The result is a set of coin identifiers with a link to the obverse and reverse features.

## 5 General Object Mapping Information

This section provides some of the main principles and concepts used in the British Museum mapping. In employing the CRM we have not just considered the correct alignment of data with CRM concepts from a theoretical perspective, but also considered the practicalities of putting CRM linked data to work in practical applications. For example, for those unfamiliar with the CRM and the technicalities of querying linked data we have provided non-contextual information resources (using the property, ‘display\_wrap’) that are exposed immediately when a British Museum URI is browsed creating a ‘shop window’ for an object’s data record. We have also organised each object record into its own linked data graph facilitating updates to individual linked data records from our internal collection inventory system and to allow users and developers to see all the data for a record with a simple query statement (an example of an object graph query is reproduced below).

### 5.1 Ontologies

The CRM is not the only ontology used to map BM data but it is designed so that other ontologies can be incorporated within it. The following additional ontologies are also used.

#### 5.1.1 SKOS (Simple Knowledge Organisation Schema)

SKOS provides a framework for representing structured terminology and classifications including thesauri. It is also implemented using the Resource Description Framework and this makes it useful for building into other frameworks like the CRM. SKOS is not good for representing complex knowledge, like people or places, which are not simple classifications but knowledge metadata in their own right. The SKOS framework is a development of the World Wide Web Consortium (W3C). (see <http://www.w3.org/2004/02/skos/>)

#### 5.1.2 QUDT (Quantities, Units, Dimensions and Types)

An ontology for measurable quantities and units for measuring different kinds of quantities. (See <http://www.qudt.org/>)

#### 5.1.3 BIBO & FRBR

BIBO is a lightweight ontology for describing documents and journals and is derived from other bibliographic metadata schemas. It provides a standard set of core bibliographic classifications. FRBR stands for Functional Requirements for Bibliographic Records and is a conceptual model developed by the International Federation of Library Associations and Institutions (IFLA). It groups the products of intellectual and artistic endeavour, the custodians (people families, organisations) of those products, and the subjects (concepts, objects, events and places) that relate to those endeavours and custodians. It has a lot in common with the CRM and provides a rich representation of bibliographic metadata.

An international working group for FRBR/CIDOC CRM harmonisation has now released a mature ontology capturing the semantics of FRBR bibliographic information called FRBRoo. At the time of writing Version 2 is available as a draft from the CIDOC CRM site ([http://www.cidoc-crm.org/frbr\\_drafts.html](http://www.cidoc-crm.org/frbr_drafts.html)). While this standard is likely to be adopted at the British Museum (and we would recommend that you use it for bibliographic data if possible), for the time being we have utilised the more lightweight BIBO ontology which describes Museum’s collection system bibliographic data adequately for the present. An extension to the CRM has been created to denote the concept of ‘series’ expanding the BIBO description of a journal. The main events described within the bibliography mapping model are ‘authorship’ and ‘publication’. These are expanded below. (See <http://bibliontology.com/> and <http://vocab.org/frbr/core.html>).

#### **5.1.4 BMO (British Museum Ontology)**

BMO is the British Museum's own ontology to document British Museum extensions to the CRM. The CRM provides contextual generalisations that apply across different information systems and does not attempt to incorporate organisation specific information for obvious reasons. However, it can be extended by individual organisations by extending existing concepts (classes) and properties or creating new ones. These extensions would be available beyond the point that the CRM provides general harmonisation. The naming convention for BMO is EX\_<Extension> for a concept extension and PX\_<extension> for a property extension. They are mostly sub classes and sub properties of existing CRM concepts and simply provide specialisations of CRM generalisations.

A full list is supplied in Annex X. The extensions include an extension of **E13\_Attribute\_Assignment** called **EX\_Association** to provides support for reification constructs. Property extensions include **PX\_has\_main\_representation** (a sub property of **P138i\_has\_representation**), **PX\_commemorates** (a sub property of **P67\_refers\_to**) and **PX\_pupil**, which is a new property with a Domain of **E21\_Person** and Range, **E39\_Actor**.

In addition where an object has specialist object types then sub-properties of **P2\_has\_type** are created to differentiate them from the main object type classification. This applies to currency, wares, and escapement, for example, an object may have a main object type of 'vase' but a specialist object type from the wares thesaurus.

The purpose of typing and reification (see below) is designed to reduce the number of extensions. However, in the circumstances when they are required, the BMO has been designed to expose these extensions when the classes and properties that they extend are required (queried) and this functionality is built into the BMO itself.

#### **5.1.5 Dublin Core**

A simple set of very general and simple metadata terms to describe a wide range of resources across different domains. (See <http://dublincore.org/>).

## 5.2 Structural Conventions

### 5.2.1 URI Conventions

The human readable URIs used to structure British Museum data with the CRM is fully reproduced in Annex 2. In retrospect the URI model reflects closely the structure of the CRM itself and therefore when designing your own URI structure the CRM provides a good starting point.

The main URI structures are these;

<http://collection.britishmuseum.org/id/object/<idnifier>>  
http://collection.britishmuseum.org/id/object/<idnifier>/production  
http://collection.britishmuseum.org/id/object/<idnifier>/acquisition  
http://collection.britishmuseum.org/id/object/<idnifier>/acquisition/association/<counter>  
http://collection.britishmuseum.org/id/object/<idnifier>/acquisition/date  
http://collection.britishmuseum.org/id/object/<idnifier>/find  
http://collection.britishmuseum.org/id/object/<idnifier>/inscription/<counter>  
http://collection.britishmuseum.org/id/object/<idnifier>/length/<counter>  
http://collection.britishmuseum.org/id/object/<idnifier>/thickness/<counter>  
http://collection.britishmuseum.org/id/object/<idnifier>/width/<counter>  
http://collection.britishmuseum.org/id/object/<idnifier>/title/<counter>  
http://collection.britishmuseum.org/id/object/<idnifier>/concept/  
<http://collection.britishmuseum.org/id/object/<idnifier>/inscription>  
http://collection.britishmuseum.org/id/object/<idnifier>/repair  
http://collection.britishmuseum.org/id/object/<idnifier>/material/  
http://collection.britishmuseum.org/id/object/<idnifier>/aspectno.  
http://collection.britishmuseum.org/id/thesauri/

**[Ed. List to be expanded to be more comprehensive]**

As mentioned above these provide a poly-hierarchical structure(a graph) in which to describe objects.

### 5.2.2 Labels

These are often used as a poor substitute for providing proper contextual and typed linked data. However, the Museum mapping makes liberal use of **rdfs:label** to provide literal text information to accompany full contextual and typed resources. They are not a substitute for but provide additional help with describing, finding and using data. When SKOS labels are used **rdfs:label** is replaced by the appropriate SKOS label, e.g. **skos:prefLabel**.

### 5.2.3 A Record is a Graph

As mentioned above, a British Museum object record is wrapped in its own graph so that a full object record can be retrieved (or updated) easily. The RDF database is optimised to provide an object graph from a query very quickly if you know the URI of the object. This can sometimes provide a better solution than using SPARQL ‘Describe’ or ‘Construct’ (for those familiar with SPARQL) and internally supports updating for only those records that have changed (deltas). You can query the British Museum’s Endpoint for an object graph using the query below. The full object graph of the Rosetta Stone has been provided in an appendix;

```
SELECT * FROM
<http://collection.britishmuseum.org/id/object/<object id>/graph>
WHERE
{
?Subject ?Predicate ?Object
}
```

## 5.2.4 Textual Help

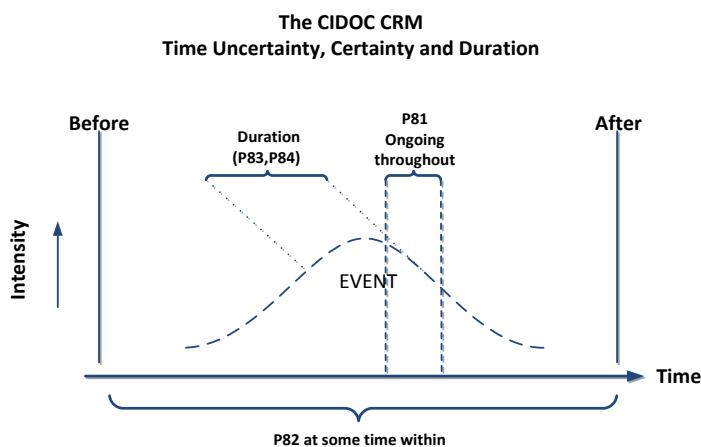
Much of the core object metadata is exposed in a special text field predicated by the property **PX\_display\_wrap** (a term borrowed from LIDO). This allows programmers to obtain non-contextual information quickly and many display wraps are created at the top level of the object hierarchy. **PX\_display\_wrap** is a sub property of **crm:P3\_has\_note**. These are not always represented on the diagrams below.

## 5.2.5 Man Made Objects

Every collection object is described as **E22\_Man-Made\_Object**. The official CRM documentation provides one of the Museum's objects as an example, the 'Portland Vase'<sup>1</sup>. While E22 has been applied consistently across all the objects we could also use a sub-class, **E84\_Information\_Carrier** for certain types of object. Again the CRM provides the 'Rosetta Stone' as a very obvious example, but might also include collection items like prints and drawings, that are also considered carriers of (visual) information. In the current version we have only applied **E22\_Man-Made\_Object** as a common denominator across all object types but we can refine this at a later date.

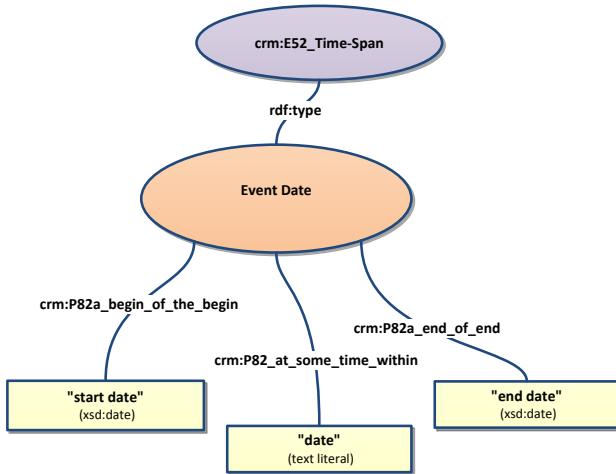
## 5.2.6 Dates

Cultural heritage dates are problematic because many, particularly at the Museum, will not be precise. Furthermore, although some have attempted to establish standards, historic periods do not have universally agreed start and end dates (e.g. when did the Rococo period start and end?). As a result many events in the Museum's database use date ranges instead. The inner bounds (P81a and P81b) enclose a time span through which we are certain the event took place. The outer bounds (P82a and P82b) enclose a wider span that we are certain encompasses the whole event.



In general the Museum has large numbers of object records that don't use the inner bounds, and only use the outer bounds provided by P82a and P82b. In case we have a single date, we use P82. (Please note that P82a and P82b are sub-properties of, and imply P82.). The resulting model below is relatively straight forward. A typical scenario is that we know that something took place in a particular year. For this P82a will be the 1<sup>st</sup> January <year x> and P82b will be 31<sup>st</sup> December <year x>. P82 will be just the year. On a technical level the data uses XML data typing to designate a date (xsd:date).

<sup>1</sup> [http://www.cidoc-crm.org/docs/cidoc\\_crm\\_version\\_5.1.pdf](http://www.cidoc-crm.org/docs/cidoc_crm_version_5.1.pdf)



For example,

Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/object/YCA7507">http://collection.britishmuseum.org/id/object/YCA7507</a> 0/acquisition/date	id:ontology/PX_display _wrap	"Acquisition date :: 2005 ::"
<a href="http://collection.britishmuseum.org/id/object/YCA7507">http://collection.britishmuseum.org/id/object/YCA7507</a> 0/acquisition/date	crm:P82_at_some_time _within	"2005"^^xsd:s tring
<a href="http://collection.britishmuseum.org/id/object/YCA7507">http://collection.britishmuseum.org/id/object/YCA7507</a> 0/acquisition/date	crm:P82a_begin_of_the _begin	"2005-01- 01"^^xsd:date
<a href="http://collection.britishmuseum.org/id/object/YCA7507">http://collection.britishmuseum.org/id/object/YCA7507</a> 0/acquisition/date	crm:P82b_end_of_the_ end	"2005-12- 31"^^xsd:date
<a href="http://collection.britishmuseum.org/id/object/YCA7507">http://collection.britishmuseum.org/id/object/YCA7507</a> 0/acquisition/date	rdf:type	crm:E52_Time -Span

### 5.2.7 Inverse Reasoning

The diagrams contained in this document display the mapped properties. However, these properties have inverse versions and other properties are inferred depending upon the reasoning technique used by the triple store. These properties are fully referenced in the official CRM documentation<sup>2</sup>. For example, we show, **crm:P24\_transferred\_title\_of** but you should imply the inverse relationship, in this case, **crm:P24i\_changed\_ownership\_through**, as a matter of course.

Other examples include (but are certainly not limited to):

Property	Inverse Property
P49_has_current_or_former_owner	P49i_s_former_or_current_keeper_of
P5_consists_of	P5i_forms_part_of
P62_depicts	P62i_is_depicted_by
P12_occurred_in_the_presence_of	P12i_was_present_at
P1_is_identified_by	P1i_identifies
And so on.	

Inverse properties greatly increase the flexibility of querying the data and inference means that the principle of minimality (economic mapping) can be employed for the mapping process.

---

<sup>2</sup> [http://www.cidoc-crm.org/official\\_release\\_cidoc.html](http://www.cidoc-crm.org/official_release_cidoc.html)

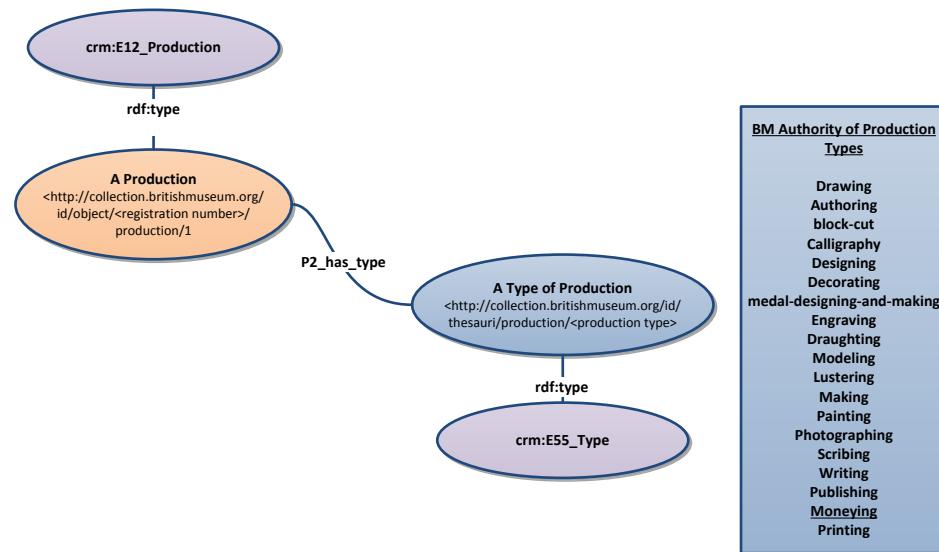
### 5.2.8 Domain and Range – This is Important!

The CIDOC CRM defines a domain and range for each property. This is important because although the ontology itself is broad, the usage of any particular property is carefully assigned to particular subjects and objects. The domain and range of CRM properties can be found in the latest CRM reference. The domain determines the allowable subjects that can be used with the property, and the range provides the allowable objects. It is this that provides the precise control over the use of the ontology and its lack of use is often the cause of mapping errors. The use of real world names is extremely useful but cannot be relied upon in isolation of domain and range assertions.

### 5.2.9 Terminology and Typing

In computing there is a concept known as ‘typing’. Typing is the classification of data and is used, for example, to say that a particular item of data is an integer or a string. The same principle can be used in semantic data. In this case we can say that a resource is a place, a period, a material, a person, and so on. The CRM provides these simple concepts and we use the property **rdf:type** to invoke them. Additionally we use terms from the British Museum’s authority terminology to provide more detailed typing. For this we use the property **P2\_has\_type**.

Using the example about the production event can be typed with **P2\_has\_type** using the Museum production term, ‘moneying’. Moneying itself is typed as a terminology concept with **E55\_Type** as described above.



This technique is extremely useful for narrowing down the things that you want to query. For example, if I am interested in Production events that are of type, ‘Moneying’ then I can narrow my query using both **rdf:type** and **P2\_has\_type**.

Example use of typing

```
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
```

```
PREFIX crm: <http://erlangen-crm.org/current/>
```

```
SELECT ?subject
```

```
WHERE
```

```

{

?subject rdf:type crm:E12_Production .

#Only select production events

?subject crm:P2_has_type <http://collection.britishmuseum.org/id/thesauri/production/T> .

#Only events with type minting coins (Type T)

}

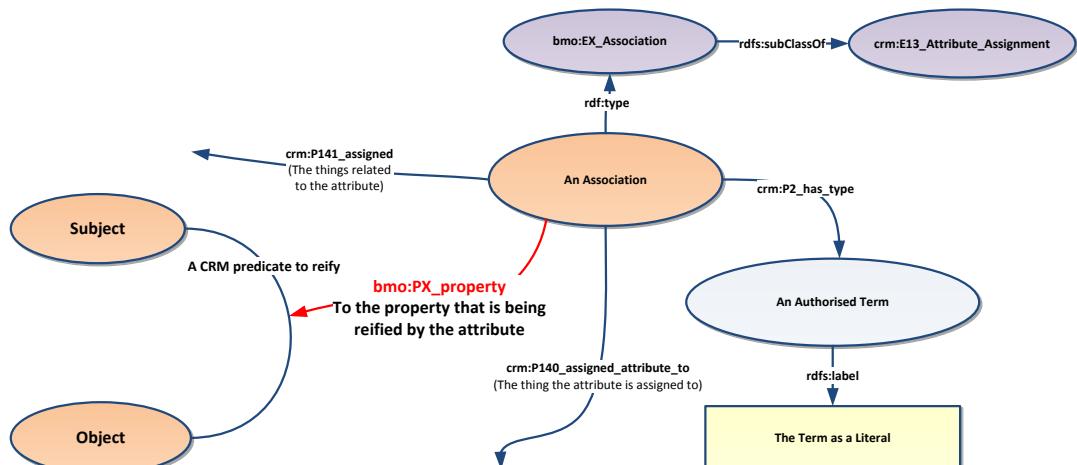
LIMIT 10

```

Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/object/COC198457/production/1">http://collection.britishmuseum.org/id/object/COC198457/production/1</a>	crm:P2_has_type	<a href="#">id:thesauri/production/T</a>
<a href="http://collection.britishmuseum.org/id/object/COC198457/production/1">http://collection.britishmuseum.org/id/object/COC198457/production/1</a>	crm:P7_took_place_at	<a href="#">id:place/x20500</a>
<a href="http://collection.britishmuseum.org/id/object/COC198457/production/1">http://collection.britishmuseum.org/id/object/COC198457/production/1</a>	rdf:type	crm:E12_Production

### 5.2.10 Reification

Like typing this method allows us to provide more information about the CRM property generalisations without resorting to custom extensions for each case. This is effectively another way of typing but rather than typing nodes of a graph, we're typing the relationship between nodes. For example, the process of production involves a person (**P14\_carried\_out\_by**) and a place (**P7\_took\_place\_at**). Both these properties can be associated with a term (derived from the Museums internal association codes) that further explains how the production was carried out. For the minting of a coin, instead of creating an extension to say, *a production -> was\_minted\_by -> a person*, we can associate the **P14\_carried\_out\_by** with the term, 'minted' and the **P7\_took\_place\_at** with, 'minted in'. Below is the standard construct for term association or reification.



For technical readers this reification technique is CRM specific and similar but different from that used and recommended in general RDF data. (See <http://www.w3.org/TR/rdf-primer/#reification>). It still uses a standard CRM entity **E12\_attribute\_Assignment** and just one custom property, **PX\_Property**.

Examples of reification are provided in the models below. One particular example includes the reification of the CRM property, **P23\_transferred\_title\_from** to, ‘Purchased From’.

#### 5.2.11 SKOS and CRM Concepts

Both SKOS and the CRM talk about concepts but at different levels. The British Museum terminologies (place and name are not terminologies) have been mapped to the SKOS RDF schema.

<b>SKOS Construct for Material</b>	
<b>Predicate</b>	<b>Object</b>
rdf:type	E57_Material
rdf:type	skos:core#Concept
skos:inScheme	id:thesauri/material
skos:prefLabel	“<term>”
skos:broader	<term id>
skos:scopeNote	“<note>”
skos:related	<term id>
skos:altLabel	“<term>”

A material term, like ‘rubber’ is part of a concept scheme called, ‘material’. Within that scheme the term is recorded along with related and alternative terms and, for a thesaurus, broader and narrower concepts. The CRM defines its own set of concepts and SKOS concept schemes are classed under the CRM concept, **E55\_Type**. **E57\_Material** is a sub-class of **E55\_Type**. **E55\_Type** is a concept reserved for terms belonging to a thesaurus and controlled vocabularies which can be used to “characterize and classify instances of CRM classes”.

**Important:** All terms represented in the diagrams below have a SKOS construct, from types of identifier and association codes to full managed authorities. These are mostly not represented in the diagrams but you should assume that they are present.

#### 5.2.12 URI Counters

Where multiple instances can occur the models will indicate a counter (<counter>). For example, for multiple acquisition events, multiple authors or multiple object parts. If an object refers to a bibliographic reference and that reference has multiple authors then they are differentiated as follows;

[http://collection.britishmuseum.org/id/bibliography/<term\\_id>/authoring/author/1](http://collection.britishmuseum.org/id/bibliography/<term_id>/authoring/author/1)  
[http://collection.britishmuseum.org/id/bibliography/<term\\_id>/authoring/author/2](http://collection.britishmuseum.org/id/bibliography/<term_id>/authoring/author/2)  
[http://collection.britishmuseum.org/id/bibliography/<term\\_id>/authoring/author/<n>](http://collection.britishmuseum.org/id/bibliography/<term_id>/authoring/author/<n>)

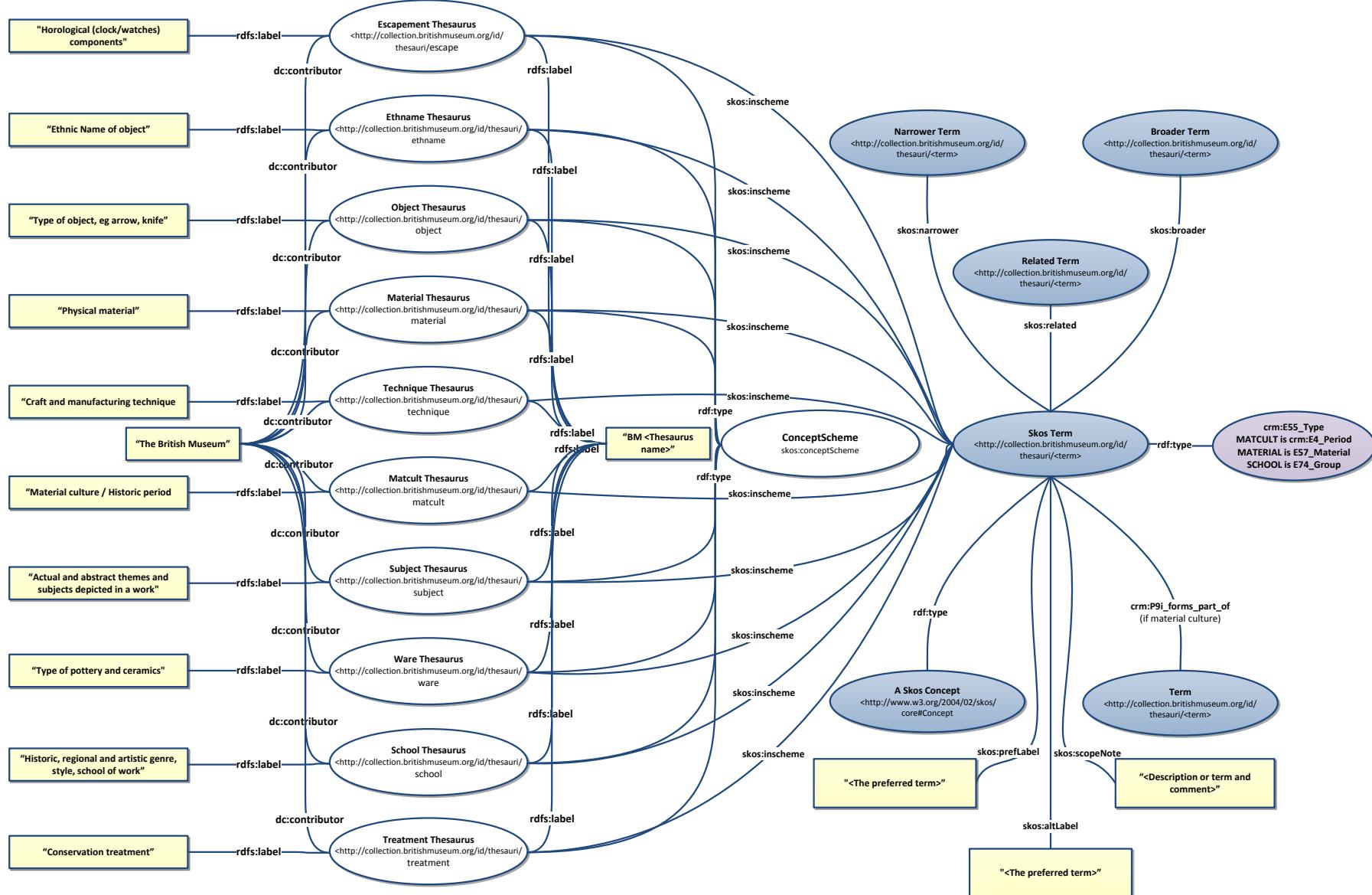
#### 5.2.13 Documentation of vocabularies in the mapping

The SKOS ontology is used consistently with terminology. Although people and places are not concepts and are documented with the CRM we have still used SKOS to label them for consistency. In these circumstances SKOS is only used to provide basic information and not as a way to fully describe people and places. SKOS is not an ontology that conceptually describes people and places and should not be used for this purpose.

In most cases **E55\_Type** is used with SKOS concepts. For the Material Culture/Period, Material and School, we use **E4\_Period**, **E57\_Material** and **E74\_Group** respectively. For biographical information we use **E39\_Actor** and **E21\_Person** (where the actor is known to be a person rather than an organisation).

CRM Types	Authorities
E4_Period	Material Culture
E57_Material	Materials
E74_Group	Ethnic Name
E53_Place	Places
E39_Actor	Biographical
E55_Type	Object Name, Technique, Subject, Ware, School, Treatment

The main authorities are organised as follows:



The Associations codes used in the BM database could also have been included in the diagram as they have also been organised using SKOS. In addition, place and person authorities also use the same SKOS structure for consistency (and therefore a query for the schemes will reveal them) but are not properly described by SKOS and are described separately below.

Each authority has a label describing what it is. The British Museum is named as the main contributor (we have developed our own set of terms, names and places) and another label provides the name of the vocabulary prefixed with 'BM'. SKOS provides standard authority fields such as preferred label, alternative label, scope note, narrower and broader terms etc. These are used to the extent that they exist in the data. In subsequent diagrams these SKOs constructs will be omitted in the interests of providing clarity for the main CRM relationships. However, where a term is declared then this construct can be assumed.

For example, there is a controlled authority for languages. The SPARQL query below lists all the languages documented.

```
SELECT DISTINCT *
WHERE
{
  ?subject skos:inScheme <http://collection.britishmuseum.org/id/thesauri/language>
}
```

This produces the result;

Subject
<a href="#">id:thesauri/language/latin</a>
<a href="#">id:thesauri/language</a>
<a href="#">id:thesauri/language/arabic</a>
<a href="#">id:thesauri/language/greek</a>
<a href="#">id:thesauri/language/coptic</a>
<a href="#">id:thesauri/language/middle-egyptian</a>
<a href="#">id:thesauri/language/greek-and-coptic</a>
<a href="#">id:thesauri/language/phoenician</a>
<a href="#">id:thesauri/language/coptic-greek</a>
<a href="#">id:thesauri/language/meroitic</a>
<a href="#">id:thesauri/language/old-nubian</a> , And so on....

The description for 'Latin', for example is

Subject	Predicate	Object
<a href="#">id:thesauri/language/latin</a>	<a href="#">rdf:type</a>	<a href="#">crm:E56_Language</a>
<a href="#">id:thesauri/language/latin</a>	<a href="#">rdf:type</a>	<a href="#">skos:Concept</a>
<a href="#">id:thesauri/language/latin</a>	<a href="#">skos:inScheme</a>	<a href="#">id:thesauri/language</a>
<a href="#">id:thesauri/language/latin</a>	<a href="#">skos:prefLabel</a>	"Latin"

Other terms may have alternative and related skos definitions. For the concept scheme, 'Technique' the terms have system identifiers,

PREFIX thes: <<http://collection.britishmuseum.org/id/thesauri/>>

```

SELECT DISTINCT * WHERE
{
  ?subject skos:inScheme thes:technique
}

```

Produces:

Subject
<a href="#">id:thesauri/x12059</a>
<a href="#">id:thesauri/x12287</a>
<a href="#">id:thesauri/x12141</a>
<a href="#">id:thesauri/x12079</a>
<a href="#">id:thesauri/x12107</a>
<a href="#">id:thesauri/x12254</a>
<a href="#">id:thesauri/x12126</a>
<a href="#">id:thesauri/x12128</a>
And so on.....

And an example term eg. x12141

Subject	Predicate	Object
<a href="#">id:thesauri/x12141</a>	rdf:type	<a href="#">crm:E55_Type</a>
<a href="#">id:thesauri/x12141</a>	rdf:type	<a href="#">skos:Concept</a>
<a href="#">id:thesauri/x12141</a>	skos:broader	<a href="#">id:thesauri/x113753</a>
<a href="#">id:thesauri/x12141</a>	skos:inScheme	<a href="#">id:thesauri/technique</a>
<a href="#">id:thesauri/x12141</a>	skos:prefLabel	"forged"
<a href="#">id:thesauri/x12141</a>	skos:related	<a href="#">id:thesauri/x12412</a>

The full set of terminologies (with the addition of places and biography) defined under the thesauri URI path (although not all are hierarchical) can be listed on the British Museum's Endpoint with the following SPARQL query.

```
SELECT distinct ?scheme
```

where

```
{
?s skos:inScheme ?scheme.
```

List of vocabularies		
<a href="#">/id/thesauri/language</a>	<a href="#">/id/thesauri/script</a>	<a href="#">/id/thesauri/currency</a>
<a href="#">/id/thesauri/units</a>	<a href="#">/id/thesauri/association</a>	<a href="#">/id/thesauri/find</a>
<a href="#">/id/thesauri/department</a>	<a href="#">/id/thesauri/dimension</a>	<a href="#">/id/thesauri/inscription</a>
<a href="#">/id/thesauri/inscription-subject</a>	<a href="#">/id/thesauri/political-state</a>	<a href="#">/id/thesauri/type</a>
<a href="#">/id/thesauri/acquisition</a>	<a href="#">/id/thesauri/production-place</a>	<a href="#">/id/thesauri/production</a>

/id/thesauri/authority	/id/thesauri/modification	/id/thesauri/person-institution
/id/thesauri/place	/id/thesauri/object	/id/thesauri/material
/id/thesauri/technique	/id/thesauri/matcult	/id/thesauri/subject
/id/thesauri/ware	/id/thesauri/school	/id/thesauri/escape
/id/thesauri/ethname	/id/thesauri/treatment	/id/thesauri/state
/id/thesauri/location	/id/thesauri/series-typea	/id/thesauri/identifier
/id/thesauri/type	/id/thesauri/gender	

#### 5.2.14 A Note on Vocabularies

Another area of concern, particularly within research circles, is the lack of co-referenced terminologies. The British Museum has its own set of terminologies and maintains its own biographical and geographical authorities (both modern and archaic) which have no reference to more widely known authorities like the Getty's Union List of Artists Names (ULAN), Thesaurus of Geographic names (TGN), Virtual International Authority File (VIAF), ISNI (International Standard Name Identifier), and so on. When records appear for use in research projects from a variety of different sources of varying quality, names and places will appear that are not easily disambiguated.

Typically when a documentation expert looks at possible matches of terms they turn to the records where those terms are used to determine equivalency – their ‘contextual’ usage. Indeed, most collection management systems with authority management will have a button called ‘usage’ to bring up records from which evidence can be collected. The British Museum’s use of the CRM provides the potential for developing algorithms that make use of that contextual information without the need to trawl through object records manually.

For example, an object record that arrives with a creator named, ‘Elizabeth Ellis’ will correspond with a number of typographical matches available on VIAF or the TGN (although not corresponding to the Museum’s bibliographic record). When additional biographical information is sparse then the ability to see what things that person created, the people that they were associated with, the subjects that they covered, the places that their work was produced, etc. will make matching more accurate, and reduce the chances of error. It could even be used to suggest missing information!

## 6 CIDOC CRM Mappings

### 6.1 Introduction

This section provides examples of British Museum mappings. These examples employ both diagrams and RDF data examples. When viewing these mappings you should bear in mind the following:

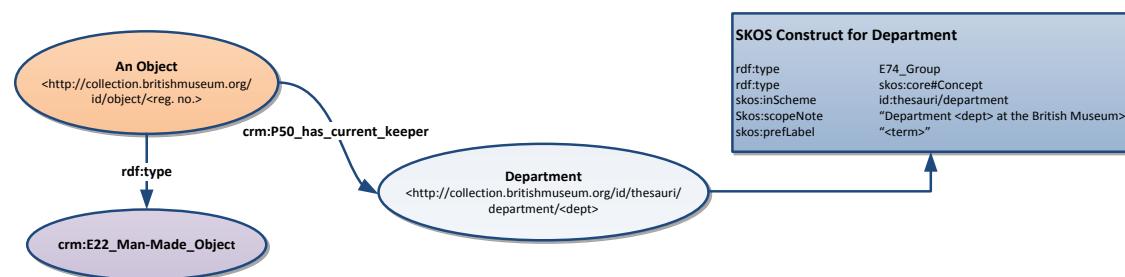
1. For convenience some diagrams show alternative mappings in the same diagram. In reality these might be mutually exclusive or simply not occur at the same object mapping. You should, in particular, consult the association codes provided in the Appendices. It is recommended that you consult actual triple statements from the Museum's Endpoint at <http://collection.britishmuseum.org>.
2. Not all details are placed in the diagrams. For example, when you encounter terms and association codes, you should assume a type (e.g. E55\_Type) and a SKOS construct.
3. Some triples are inferred through rules in the triple store itself; these are not represented in the diagrams. Practical implementations need to understand what inference rules are being employed in a particular installation.

### 6.2 Collection Objects

#### 6.2.1 Ownership

*"The British Museum holds in trust for the nation and the world a collection of art and antiquities from ancient and living cultures."*

While the collection is ultimately the responsibility of a board of Trustees the practical day to day management and care for the collection sits with the Museum's curatorial departments each of which has a Keeper – the head of department. However in the mapping, for the practical purposes, the department is designated as the keeper providing a direct relationship between an object and its administrative department. This is established through **P50\_has\_current\_keeper**. The British Museum is identified as the owner through **P52\_has\_current\_owner**.



A list of departments can be obtained as follows;

```
SELECT ?deptURI ?department
WHERE
{
? s skos:inScheme <http://collection.britishmuseum.org/id/thesauri/department> .
?deptURI skos:prefLabel ?department .
}
```

The result:

deptURI	Department
<code>id:thesauri/department/Y</code>	"Ancient Egypt and Sudan"
<code>id:thesauri/department/E</code>	"Africa, Oceania and the Americas"
<code>id:thesauri/department/A</code>	"Asia"
<code>id:thesauri/department/C</code>	"Coins and Medals"
<code>id:thesauri/department/G</code>	"Greek and Roman"
<code>id:thesauri/department/W</code>	"Middle East"
<code>id:thesauri/department/P</code>	"Prints and Drawings"
<code>id:thesauri/department/H</code>	"Prehistory and Europe"
<code>id:thesauri/department/S</code>	"Conservation and Scientific Research"

### 6.2.2 Object Identifiers

Museum objects can end up with a large number of identifiers and over the years the British Museum has created a fair few. In addition to curatorial identifiers, there are others designed to mediate between different systems and for system administration purposes. The identifier that has the most 'meaning' is the one used as the primary and preferred identifier (**P48\_has\_preferred\_identifier**) and is used for the stable URI for the object. This is the Museum's registration number which is used by curators in their publications (and their day to day work) and therefore by external researchers who will find this identifier in the catalogues and journals the Museum produces. All identifiers use the property **P1\_is\_identified\_by**. To reduce the overhead for different users knowing different object identifiers, equivalency reasoning is used by asserting **owl:sameAs**. At the beginning of the document we said that triples support rules. In this case the triple use is, **subject: <identifier1> predicate: owl:sameAs object: <identifier2>**. Note that 'sameAs' can also be used to state equivalency between URIs in different data stores.

The full list is;

**Registration number** – The accession number for the object.

**Primary Reference Number (PRN)** – a unifying identifier generated automatically by the Museum's collection management system.

**Big No.** – A number used for Egyptian and Middle East objects. (Also known as BM Number)

**CM No.** – Identifiers (catalogue numbers) used by the department of Coins & Medals.

**GR No.** – Identifiers (catalogue numbers) used by the Greek & Roman department.

**Object Id (codex)** – A system identifier used for systems integration purposes and used in the URLs of the Museum's Collection Online service.

**Other ID** – Capturing any other reference used to identify the object.

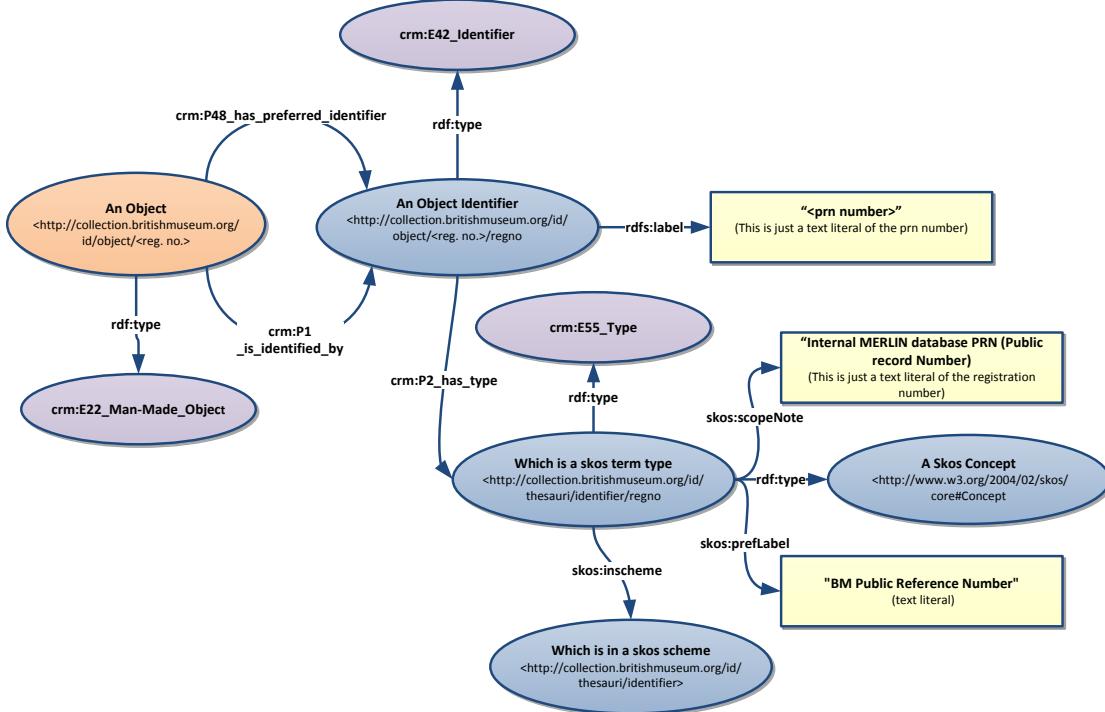
One of the problems with the Museum accession number (registration number) is duplication, either by mistake (caused by lack of coordination between departments) or through changes in cataloguing (like splitting up groups of objects). As a result although the registration number has been chosen as the preferred identifier it has been altered to provide uniqueness while retaining the core meaningful format. The following have been applied in the British Museum's mapping;

The URI for an object looks like this <http://collection.britishmuseum.org/id/object/<reg.no.>> For every object we create a node of type **E42\_Identifier** and relate this node to the object using **P48\_has\_preferred\_identifier** (for the registration number) and **P1\_is\_identified\_by** (for all other Id's).

The identifiers values are then represented by a 'label' on the identifier node.

The different identifiers are organised into their own SKOS terminology scheme and these are used to type (**P2\_has\_type**) the identifier. Both for the CRM and SKOS type the information is

accessible without any previous knowledge of the BM's identifier scheme. A scope note adds additional help to understand them.



For example:



The Rosetta Stone

Part of grey and pink granodiorite stela bearing priestly decree concerning Ptolemy V in three blocks of text: Hieroglyphic (14 lines), Demotic (32 lines) and Greek (53 lines).

(PRN No. YCA62958, Registration No. .24)

The identifiers for the Rosetta Stone are obtained with the following query

```

PREFIX crm: <http://erlangen-crm.org/current/>
SELECT distinct ?Object ?id
WHERE
{
<http://collection.britishmuseum.org/id/object/YCA62958> crm:P1_is_identified_by ?Object .
?Subject ?Predicate ?Object .
?Object rdfs:label ?id
}
  
```

Subject	Predicate	Object
	crm:P1_is_identified_by	id:object/YCA62958/big_no
<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>	crm:P1_is_identified	id:object/YCA62958/cod

<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>	_by	exid
<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>	crm:P1_is_identified _by	id:object/YCA62958/otherid
<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>	crm:P1_is_identified _by	id:object/YCA62958/registrationno

To see the triples for the 'Big' number:

```
PREFIX id: <http://collection.britishmuseum.org/id/object/>
PREFIX crm: <http://erlangen-crm.org/current/>
SELECT ?Subject ?Predicate ?Object
WHERE
{
  id:YCA62958 crm:P1_is_identified_by ?Subject .
  ?Subject crm:P2_has_type <http://collection.britishmuseum.org/id/thesauri/identifier/bigno> .
  ?Subject ?Predicate ?Object .
}
```

Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/object/YCA62958/bigno">http://collection.britishmuseum.org/id/object/YCA62958/bigno</a>	rdf:type	<a href="#">crm:E42_Identifier</a>
<a href="http://collection.britishmuseum.org/id/object/YCA62958/bigno">http://collection.britishmuseum.org/id/object/YCA62958/bigno</a>	rdfs:label	"24"
<a href="http://collection.britishmuseum.org/id/object/YCA62958/bigno">http://collection.britishmuseum.org/id/object/YCA62958/bigno</a>	crm:P2_has_type	<a href="#">id:thesauri/identifier/bigno</a>

Codex Id

Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/object/YCA62958/codexid">http://collection.britishmuseum.org/id/object/YCA62958/codexid</a>	rdf:type	<a href="#">crm:E42_Identifier</a>
<a href="http://collection.britishmuseum.org/id/object/YCA62958/codexid">http://collection.britishmuseum.org/id/object/YCA62958/codexid</a>	rdfs:label	"117631"
<a href="http://collection.britishmuseum.org/id/object/YCA62958/codexid">http://collection.britishmuseum.org/id/object/YCA62958/codexid</a>	crm:P2_has_type	<a href="#">id:thesauri/identifier/codexid</a>

Other ID

Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/object/YCA62958/otherid">http://collection.britishmuseum.org/id/object/YCA62958/otherid</a>	crm:P2_has_type	<a href="#">id:thesauri/identifier/otherid</a>
<a href="http://collection.britishmuseum.org/id/object/YCA62958/otherid">http://collection.britishmuseum.org/id/object/YCA62958/otherid</a>	rdf:type	<a href="#">crm:E42_Identifier</a>
<a href="http://collection.britishmuseum.org/id/object/YCA62958/otherid">http://collection.britishmuseum.org/id/object/YCA62958/otherid</a>	rdfs:label	"BS.24"

Registration Number:

Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/object/">http://collection.britishmuseum.org/id/object/</a>	crm:P2_has_type	<a href="#">id:thesauri/identifier/regno</a>

<b>YCA62958/otherid</b>		
<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>	<u>rdf:type</u>	<u>crm:E42_Identifier</u>
<b>YCA62958/otherid</b>		
<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>	<u>rdfs:label</u>	".24"
<b>YCA62958/otherid</b>		

If you have an identifier and want to quickly find the primary URL then a shortcut is to use the label.  
 You can use this SPARQL query that reduces the search to an identifier and then determines the preferred identifier:

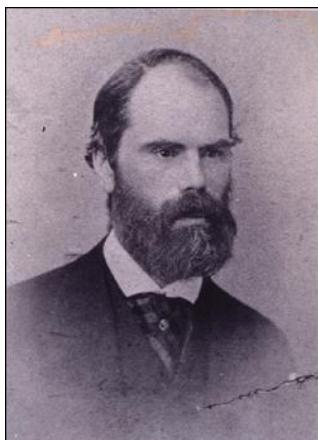
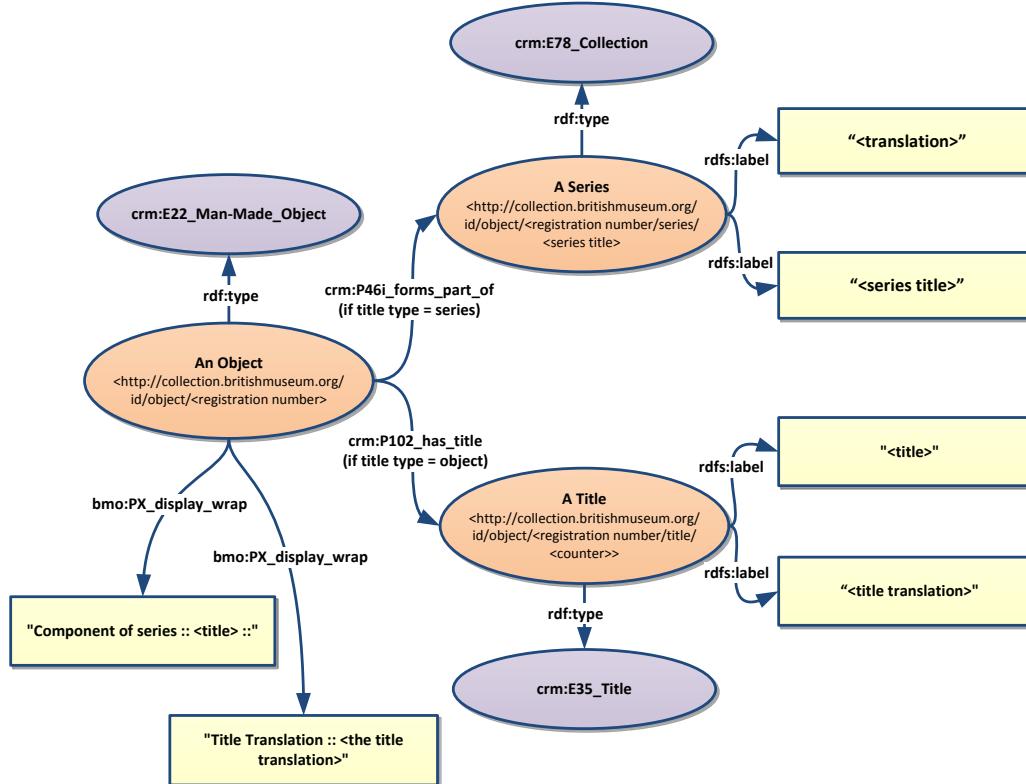
**#Find the registration number from the primary reference number.**

```
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX crm: <http://erlangen-crm.org/current/>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
SELECT ?RegNo WHERE
{
?prnURI rdf:type crm:E42_Identifier .
?prnURI rdfs:label "YCA62958" .
?myObject crm:P1_is_identified_by ?prnURI .
?myObject crm:P1_is_identified_by ?regURI .
?regURI crm:P2_has_type <http://collection.britishmuseum.org/id/thesauri/identifier/regno> .
?regURI rdfs:label ?RegNo .

}
```

### 6.3 Object Title

An object may have its own title (**P102\_has\_title**) but could also form part of a series of objects (**P46i\_forms\_part\_of**) which together have a group title. A series title is typed as **E78\_Collection** and a single title **E35\_Title**. These titles are recorded as text labels along with any translations (encoded as English – ‘en’).



Described by a former Director as the “second founder of the British Museum”. Augustus Wollaston Franks (20 March 1826 – 21 May 1897) was one of the greatest collectors of antiquities of his age and, as a Museum curator and administrator, is an important part of the Museum’s history in terms of its collection and its structure. At his death he had amassed a considerable personal collection which he bequeathed to the British Museum. It has the title - The Franks Collection.

Object Name	PRN	Collection Name	Acquisition Name	Acquisition Year
scarab	YCA5834	Franks Collection	D (Donated by) Franks, Augustus Wollaston (Sir Augustus Wollaston Franks)	1889

Subject	Predicate	Object
<a href="#">id:object/YCA2927</a>	crm:P46i_forms_part_of	<a href="#">id:collection/Franks-Collection</a>
<a href="#">id:object/YCA5834</a>	crm:P46i_forms_part_of	<a href="#">id:collection/Franks-Collection</a>
<a href="#">id:object/YCA5835</a>	crm:P46i_forms_part_of	<a href="#">id:collection/Franks-Collection</a>
<a href="#">id:object/YCA5836</a>	crm:P46i_forms_part_of	<a href="#">id:collection/Franks-Collection</a>
And so on.		

Subject	Predicate	Object
<a href="#">id:collection/Franks-Collection</a>	<a href="#">rdf:type</a>	<a href="#">crm:E78_Collection</a>

Screenshot of a digital collection interface showing search results for "Rembrandt". The search bar includes filters: "Find all objects with images", "all owners/keepers", "Sir Augustus Wollaston", "and", "is/has/about", "finger-ring". The results count is 289.

Screenshot of a digital collection interface showing search results for "Rembrandt". The search bar includes filters: "Find all objects with images", "all owners/keepers", "Sir Augustus Wollaston", "and", "is/has/about", "finger-ring". The results count is 289.

The left sidebar contains filters for Object Type (e.g., 3 armillary sphere, 7 cameo, 4 coin, 3 compass-dial, 289 finger-ring), Creator (e.g., 262 (missing this field), 1 Henry Bone, 1 James Tassie, 1 Jules Klagmann, 1 Kirghiz), Places (e.g., 4 Africa, 4 Egypt, 1 Lower Egypt, 1 Nile Delta, 1 Alexandria Egypt), Created (e.g., 68 (missing this field), 11 0001-01-01, 9 -0099-01-01, 1 -0100-01-01, 1 0150-01-01), and Technique (e.g., 69 (missing this field), 16 applied, 9 beaded wire, 1 beaten).

The main area displays 289 results as thumbnails, each with a title and a 10 cm scale bar. Some items are labeled with object IDs like PS034483, BCB13423, BCB179401, BCB51872, BCB51877, BCB72994, BCB72995, BCB91998, BCB91999, BCB92000, and BCB92001.

<a href="#">id:collection/Franks-Collection</a>	<a href="#">rdfs:label</a>	"Franks Collection"
---	----------------------------	---------------------

### 6.3.1 More than one title

In art history paintings and drawings often have more than one title. Art museums will record all these titles in which case they can all be recorded with **P102\_has\_title**. However it may also be necessary to designate one title as a primary title and/or sequence other titles. This can be achieved using counters, as described above, but also using the same technique to designate one as the 'primary' URI.

Subject	Predicate	Object
<a href="http://www.rembrandtdatabase.org/obj/53707">http://www.rembrandtdatabase.org/obj/53707</a>	<a href="#">crm:P102_has_title</a>	<a href="http://www.rembrandtdatabase.org/obj/53707/title/primary">http://www.rembrandtdatabase.org/obj/53707/title/primary</a>
<a href="http://www.rembrandtdatabase.org/obj/53707">http://www.rembrandtdatabase.org/obj/53707</a>	<a href="#">crm:P102_has_title</a>	<a href="http://www.rembrandtdatabase.org/obj/53707/title/1">http://www.rembrandtdatabase.org/obj/53707/title/1</a>

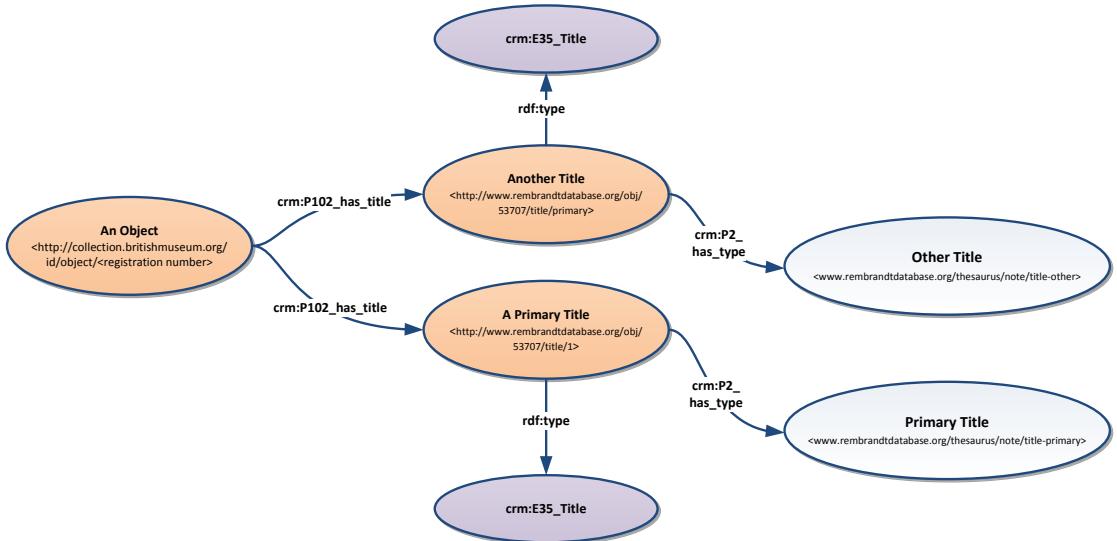
This example from the Rembrandt database forms a small terminology authority scheme in which the URIs are typed themselves to denote a primary URI and a normal (counter) URI. The primary URI has a type of [www.rembrandtdatabase.org/thesaurus/note/title-primary](#). The other URIs have a type of [www.rembrandtdatabase.org/thesaurus/note/title-other](#). These are just normal terms encapsulated in a SKOS scheme. The title itself is capture in **P3\_has\_note**.

The triples look like this:

Subject	Predicate	Object
<a href="http://www.rembrandtdatabase.org/obj/53707/title/primary">http://www.rembrandtdatabase.org/obj/53707/title/primary</a>	<a href="#">crm:P2_has_type</a>	<a href="#">www.rembrandtdatabase.org/thesaurus/note/title-primary</a>
<a href="http://www.rembrandtdatabase.org/obj/53707/title/primary">http://www.rembrandtdatabase.org/obj/53707/title/primary</a>	<a href="#">crm:P3_has_note</a>	Aristotle with a Bust of Homer@en

The SKOS convention is standard:

Subject	Predicate	Object
<a href="#">www.rembrandtdatabase.org/thesaurus/note/title-primary</a>	<a href="#">rdf:type</a>	<a href="#">crm:E55_Type</a>
<a href="#">www.rembrandtdatabase.org/thesaurus/note/title-primary</a>	<a href="#">rdf:type</a>	<a href="#">skos:Concept</a>
<a href="#">www.rembrandtdatabase.org/thesaurus/note/title-primary</a>	<a href="#">rdfs:label</a>	primary title@en
<a href="#">www.rembrandtdatabase.org/thesaurus/note/title-primary</a>	<a href="#">crm:P2_has_type</a>	<a href="#">rst-note</a>
<a href="#">www.rembrandtdatabase.org/thesaurus/note/title-primary</a>	<a href="#">skos:inScheme</a>	<a href="#">rst-note</a>
<a href="#">www.rembrandtdatabase.org/thesaurus/note/title-primary</a>	<a href="#">skos:prefLabel</a>	primary title@en



### 6.3.2 Textual Information about the Object

It is common for Museums to use free text fields to provide narrative descriptions of an object and its history. These fields are normally mapped using **P3\_has\_note**. This is fine for general notes and the CRM could not hope to provide properties for all of the different notes and comment fields that different organisations might use for a specific purpose. The following textual notes are therefore extensions of **P3\_has\_note**.

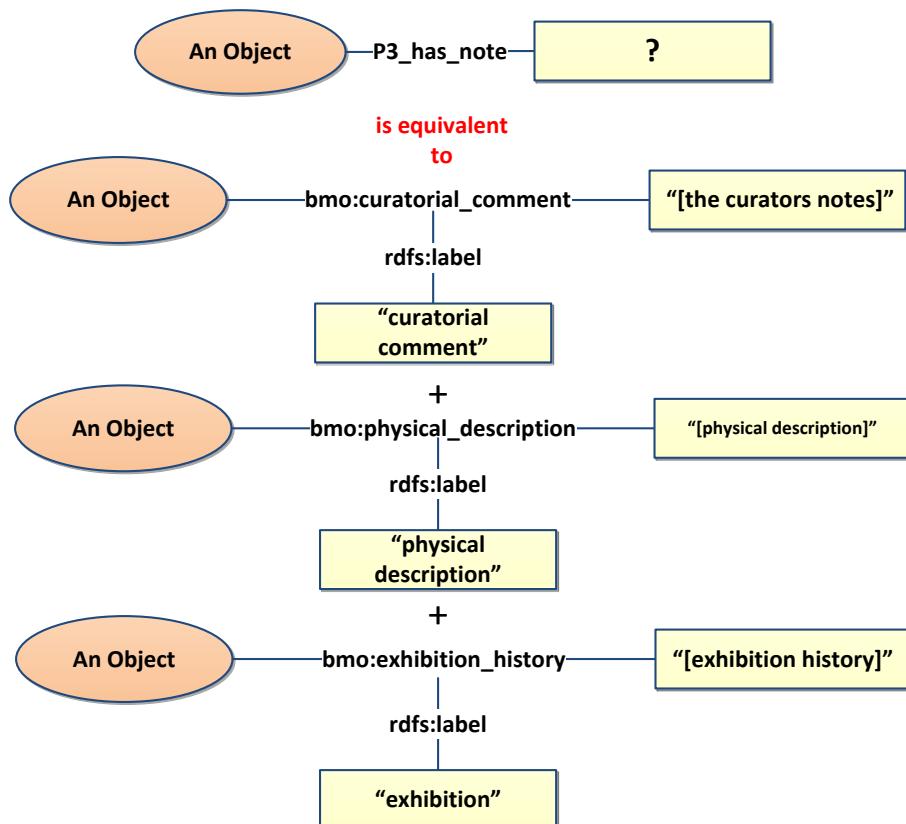
Since it is impossible for external users to know what these extensions are without referring to the Museum's ontology, some reasoning has been applied to return them with a query of **P3\_has\_note**. This is done by equating **P3\_has\_note** with a BMO extended note which provides the trigger to return the information as if it were **P3**.

The configuration logic is as follows;

Subject	Predicate	Object
crm:x	rdf:type	owl:property
bmo:x	rdf:type	owl:property
bmo:x	owl:subProperty	crm:x
bmo:x	rdfs:label	<a literal> (e.g. curatorial comment)
Subject	bmo:x	Object

In addition, developers using the system who do not know the extensions will be provided with a label that describes the extensions. These labels can, for example, be used to create automated forms on a web site.

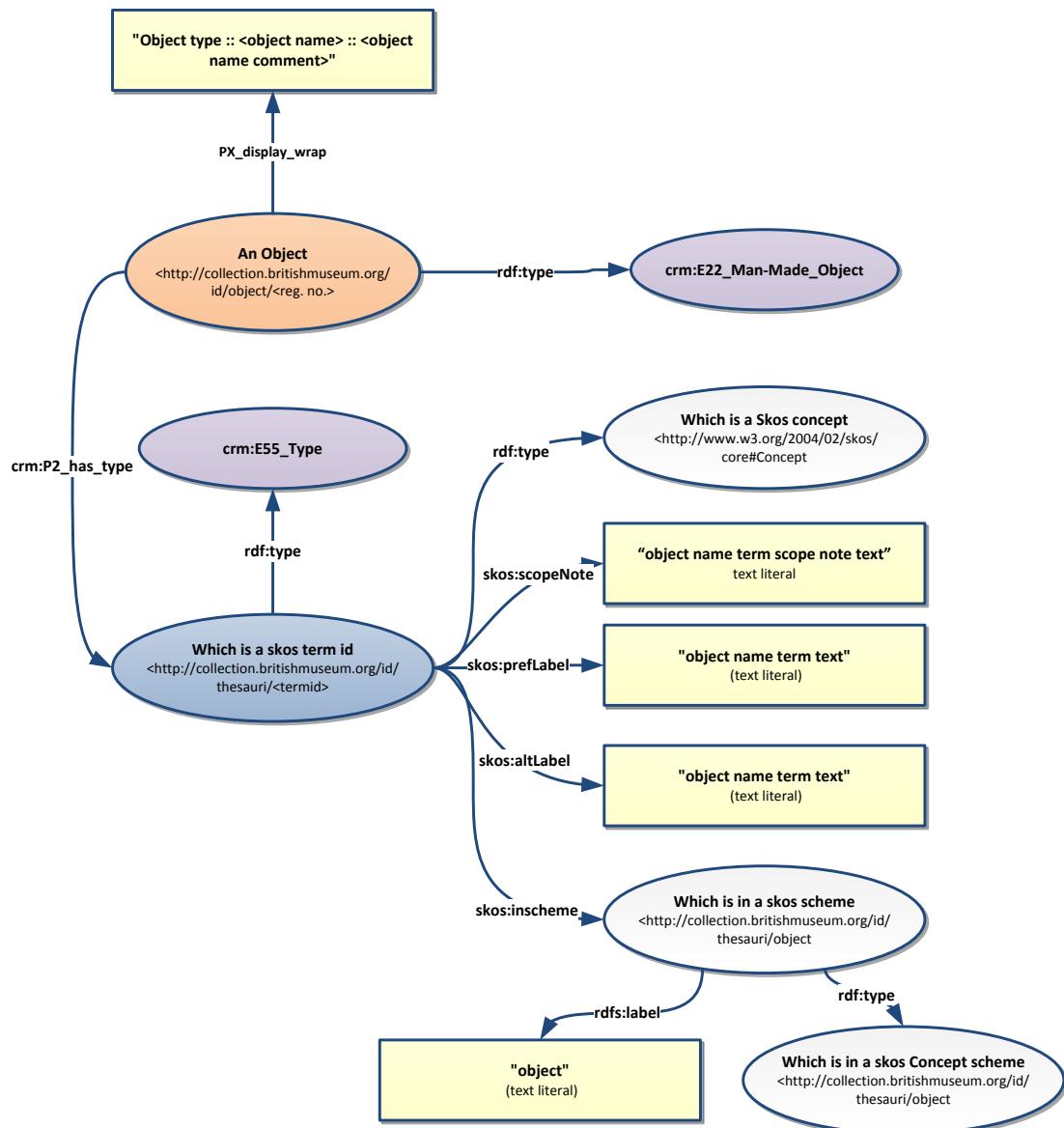
Graphically the situation may look something like this:



For simple textual names, rather than comments and descriptions, **rdfs:label** is preferred.

## 6.4 Object Type

All objects are described by an authorised term or terms from the object name thesaurus. The object node is connected to a term node containing the term id. All thesaurus terms have a unique URI based on their id (or unique name), and are classified as a 'skos:Concept'.



Tattooing needle, wood handle, bone serrated blade, vegetable-fibre lashing.

(Reg No. EOC32281)

This object (<http://collection.britishmuseum.org/id/object/EOC32281>) is a tattooing needle which has the type (**P2\_has\_type**) of thesaurus term x9507.

Term x9507 is described as follows;

Subject	Predicate	Object
<b>id:thesauri/x9507</b>	rdf:type	skos:Concept
<b>id:thesauri/x9507</b>	rdf:type	crm:E55_Type
<b>id:thesauri/x9507</b>	skos:inScheme	id:thesauri/object
<b>id:thesauri/x9507</b>	skos:prefLabel	"tattooing-needle"
<b>id:thesauri/x9507</b>	skos:broader	id:thesauri/x9505
<b>id:thesauri/x9507</b>	skos:related	id:thesauri/x8063

The term is part of the SKOS scheme, 'object'. These schemes are typed by the CRM as **E55\_Type**. In this case there is also a related term and a broader term, x9505. The broader term has a similar structure.

Subject	Predicate	Object
<b>id:thesauri/x9505</b>	rdf:type	skos:Concept
<b>id:thesauri/x9505</b>	rdf:type	crm:E55_Type
<b>id:thesauri/x9505</b>	skos:inScheme	id:thesauri/object
<b>id:thesauri/x9505</b>	skos:prefLabel	"tattooing-instrument"
<b>id:thesauri/x9505</b>	skos:altLabel	"tattooing-implement"
<b>id:thesauri/x9505</b>	skos:broader	id:thesauri/x9504
<b>id:thesauri/x9505</b>	skos:related	id:thesauri/x9412

In effect SKOS is replicating some of the main aspects of the thesauri that you use in a collection record information system.

## 6.5 Acquisition

### 6.5.1 A just so story – How the CRM got its reputation – Part II

Some of you reading this paper might feel that we haven't fully dealt with another reason why some consider the CRM to be difficult. This reason is closely related to issue we gave in the introduction and is to do with interpretation. We hear the argument that there are so many different ways to apply the CRM's generalisations that it becomes difficult to know whether a mapping has been carried out correctly or not. In the relational database world it is very unlikely that you will see two museum collection data models that are the same and there is far more scope for doing things differently. In fact, the CRM is very precisely defined and incorporates rules (particularly domain and range) such that most situations will have a very limited number of potential mapping solutions. However, sometimes there may well be two different ways of representing the semantics of an activity and choosing one, once you are satisfied that the semantics are correct, also depends upon your knowledge of your data.

This document recognizes that different people require different ways of learning how to use the CRM and that existing CRM reference material may not be the best starting point for everyone. Without an appropriate reference it becomes easy to start imagining theoretical situations designed to challenge and test the CRM. Occasionally it is found wanting but like any standard the model is improved to satisfy new requirements and to learn from experience. A common mistake is to believe that the CRM can provide answers to questions about your own data. A developer may wade through the CRM in vain trying to find a match that might explain the data they are dealing with. They might do better asking the people who use and record the data on a regular basis.

The CRM cannot teach people about the meaning of their own data but it can help convey that meaning to others. It may be useful for prompting questions and some mappings may be obvious, but ultimately, to map data to the CRM you must first understand your own data. This is why it is more convenient for aggregators (who know the least about local datasets) to simply to put up a target model of data fields that they understand and ask organizations to fit their data into it. It allows aggregators to quickly amass a large volume of data records (which may have some benefits) but those records carry a degree of deficiency inherent in many aggregation processes.

Interpretation of data stored in databases can be difficult particularly if the database has been badly documented. Many documentation departments manage legacy systems that they themselves question and attempt to understand the logic of previous custodians. This document is part of a collaborative effort to define scholarly constructs that describe as many scenarios as possible both as a way of helping people understand the CRM schema and perhaps unpick the rationale behind legacy data models. The constructs or models in this document will provide a high level insight and documentation that may well be helpful in trying to unravel poorly documented systems and perhaps lead to collaborative decisions in changing and developing the way that we current document cultural heritage entities.

For example, the process of property reification (essentially a way of refining or typing a CRM property or predicate) has been used to precisely describe acquisitions . In particular, the Museum uses associations such as 'bequeathed by' and 'bequeathed through' to clarify how an object came into the collection. These phrases are aimed at describing the activity in terms of the relationship between the person who bequeathed the gift (or the agent for the bequeathal) and the acquisition event. The words, 'bequeathed by' refer to both the type of acquisition and the 'bequeathor'. The options for mapping are:

1. Type the acquisition event itself as a 'bequeathal' and an 'acquisition'.

- Reify the property (**P24\_title transferred from**) which is the generalization for the phrase ‘bequeathed by’, using the same association used in the underlying relational database. The event itself is simply typed as an acquisition.

Both mappings are technically allowed. In 1 the combination of the property **P24** and the simple typing of the event as a bequeathal means that a particular person bequeathed the object. In 2, the same conclusion is reached – a person has bequeathed an object to the Museum. They both mean the same but the second example, albeit a more precise representation on the underlying database, requires more triples to instantiate and produces a more complex model. Now consider that the object may have gone through different types of acquisition and that these acquisitions may have involved a combination of types (a part bequeathal and a part donation, for example). We end up with an acquisition record with potentially many parts and each with their own reifications.

It is in situations like these, where we know that we have correctly interpreted the data and have solutions that represent the meaning sufficiently we can afford to take the foot off and make life easier for everyone by adopting the simpler and more practical mapping. If this method does not convey the right semantics then reification can be employed. The advantage of 1 is that it is easier to implement and to add new facts should they come to light.

These are situations in which debate and arguments can break out over the correct and most precise way to map a particular situation and can lead to frustration with the CRM. This, of course, is not an issue with the CRM but an issue with differences in interpretation. The CRM should be used to accurately represent the data but once this is achieved we should not be bound to reflecting outmoded conventions within old relational model or logic built into old user interfaces and following the old law to the letter. Rather we should update the law to suit the circumstances and the newly acquired freedom that the CRM provides.



Registration number: 1863,0509.534

### 6.5.2 A note on events within the CRM

The CRM scope note for an event (**E5\_Event**) says this.

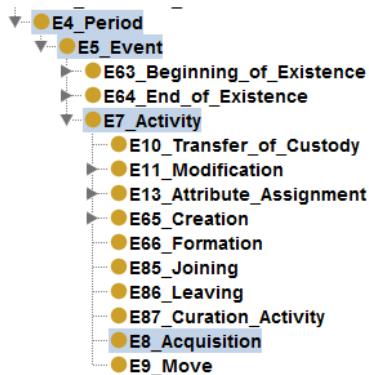
*“This class comprises changes of states in cultural, social or physical systems, regardless of scale, brought about by a series or group of coherent physical, cultural, technological or legal phenomena. Such changes of state will affect instances of E77 Persistent Item or its subclasses.”*

In other words a whole range of happenings at a determinable time and place that anyone might reasonably consider to be an event. CRM specific examples include creation, modification, movement, joining, leaving, transfer and acquisition, to name a few. One of the reasons for writing this document is to provide practical and implemented examples of the very precise CRM scope

notes. We don't intend to replicate CRM reference documentation here and you will need to consult CRM reference material at some point.

The CRM event concept provides a useful framework for talking about things in terms of who, what, why, when and where. **E5\_Event** is a sub concept of **E4\_Period** and the concepts of changes in time

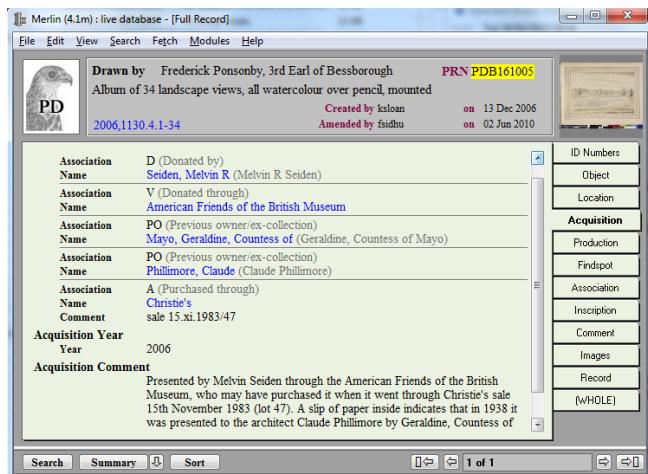
and space are important to understanding the CRM. An acquisition is an event or activity that occurs during a period of time and, in this case, brings together people, places, things and dates.



The CRM scope note for E8\_Acquisition includes the text;

- “Depending on the circumstances, it may describe:
1. the beginning of ownership
  2. the end of ownership
  3. the transfer of ownership
  4. the acquisition from an unknown source
  5. the loss of title due to destruction of the item”

Therefore **E8\_Acquisition** provides the ideal mechanism for describing how the British Museum came by its collection!



### 6.5.3 General Principles

British Museum documentation on the history of acquisition may not be stated at the same level of detail as say, an art gallery, where a fuller history of provenance is particularly important (and often available). In many cases the acquisition record relates to the one that transferred ownership to the British Museum. In some records some further history may be recorded but only a note (**P3\_has\_note**) will indicate their

relationship to each other and the Museum. The important thing is that whatever the level of documentation at the time of mapping the model must be able to accommodate new information as and when it becomes available.

### 6.5.4 Two Broad Constructs

There are two broad variations for an acquisition construct.

1. The first deals with an acquisition that transfers ownership or custody the Museum but that transfer has a number of parts.
2. The second deals with a sequence or history of independent acquisition events therefore recording the acquisition provenance of the object.

For an acquisition that has parts these are mapped as sub-acquisitions using a numbered acquisition URI. The order is not relevant and is just used to differentiate the parts. The parent acquisition therefore consists of (**P9\_consists\_of**) a series of individual acquisition events that represent the different parts of the acquisition. Each of these individual events will have an acquisition association type (using the association codes) and will share the same date (time-span). In some cases the property generalising the transfer will be reified where this is deemed necessary to assert the correct semantics.

### 6.5.5 Direct or Indirect Involvement

In cases where a person or institution are the direct owners and custodians it is enough that the transfer of title (e.g. **P23\_transferred\_title\_from**) and the type of transfer, using **P2\_has\_type** is

recorded. These types include purchase, donation, direct bequeathals, etc). Where a person or institution is directly involved but were not the owners themselves, in other words, the transfer went through them, perhaps as a direct agent (purchased through, donated through etc) then these people are said to have carried out the acquisition and the property **P14\_carried\_out\_by** is used. Again this needs no further meaning to be applied. However, where the involvement is not direct then a less direct property (**P11\_had\_participation**) is appropriate. In these cases funding (or a contribution to funding) may have been provided to enable the purchase.

### 6.5.6 Common Issues

Sometimes the acquisition information is not clear in terms of sequence, dates and so on. The screen shot above from the British Museum's collection system says that the object was donated by Melvin R Sieden, through the American Friends of the British Museum. These are parts of the same acquisition. It also names previous owners but with no information about the type of transfer (unless you read the notes). It also cites the auctioneers, Christies, and the note indicates that this may have been the mechanism by which Melvin R. Sieden purchased it. However, nothing is sequenced. In this case the an umbrella acquisition node is still applied and represents the most we can say at this time about the different acquisition elements.

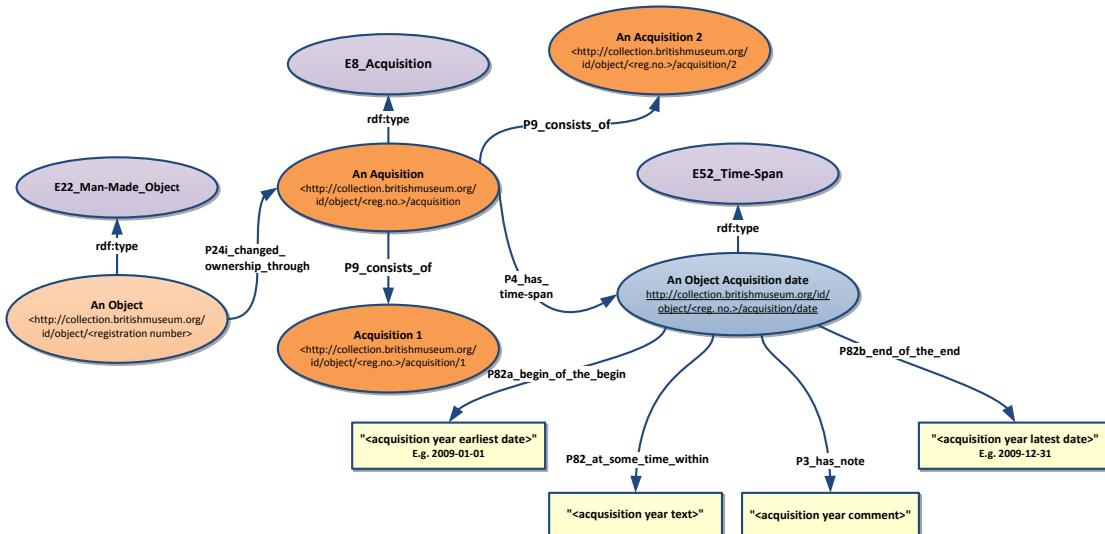
### 6.5.7 Acquisition Date

The process for mapping is as follows:

The acquisition event is given an acquisition type E8\_Acquisition.

A node of type **E52\_Time-Span** is created – the acquisition and time-span nodes are related by P4\_has\_time-span.

Time span node uses **P82\_at\_some\_time\_within** to represent text version of the date, and a minimum and maximum range (within which the whole event took place) are created using, **P82a\_begin\_of\_the\_begin** and, **P82b\_end\_of\_the\_end**.



**Note:** To specify dates you need a node which is capable of supporting them and this is why a time-span (date URI) node is required. Ours on the main – others might be for each sub node.

### 6.5.8 Acquisition From

The following table shows the different types of acquisition that the British Museum Collection database supports (with their code) for the CRM **P23\_transferred\_title\_from**.

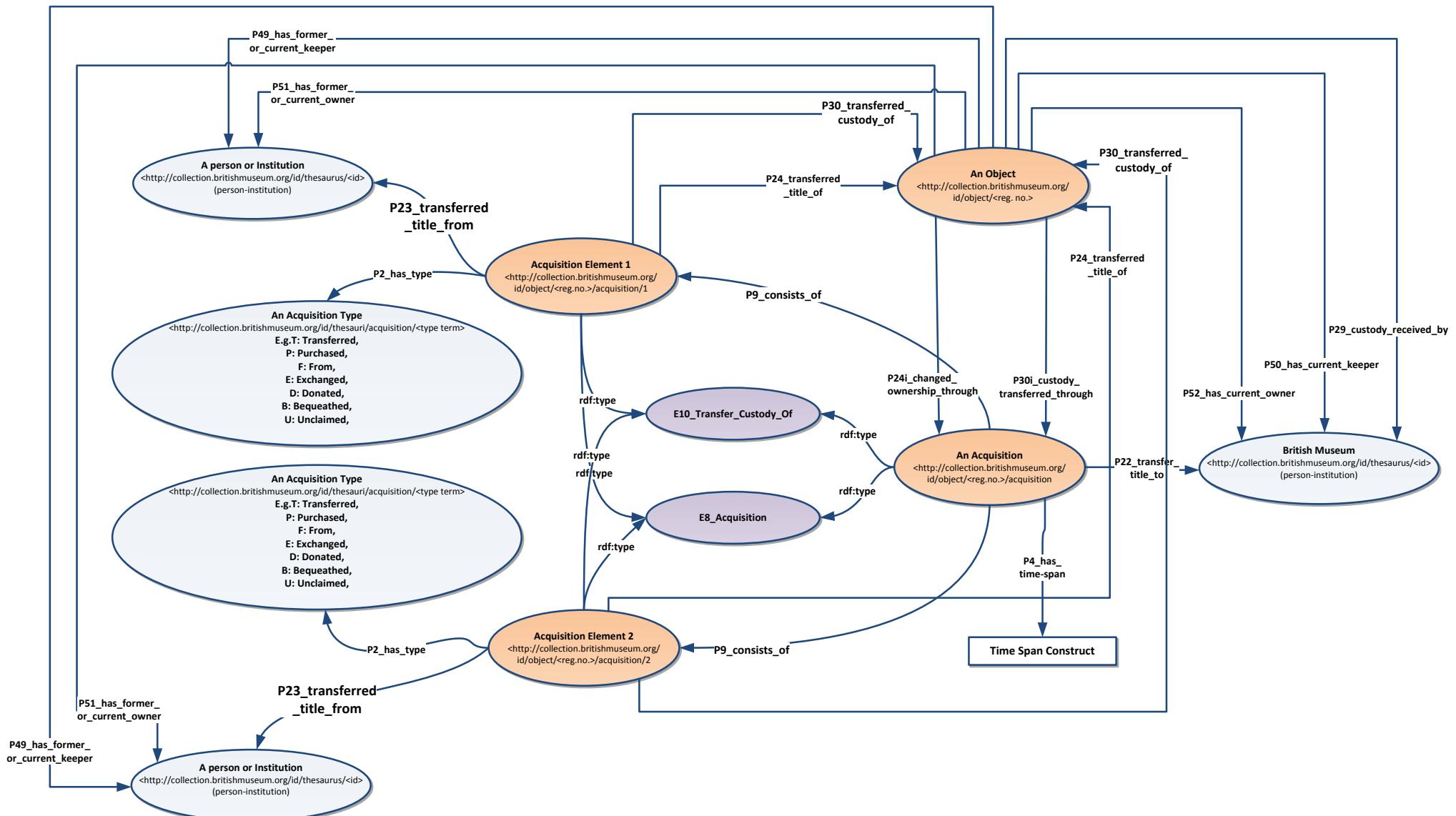
BM internal code	CMS Meaning	Normalised to
B	Bequeathed by	Bequeathed (B)
D	Donated by	Donated (D)
E	Exchanged with	Exchanged (E)
F	From	From (F)
P	Purchased from	Purchased (P)
T	Transferred from: this is transfer of ownership, and not merely custody	Transferred (T)
UI	Unclaimed item:	Unclaimed (U)

The model below shows a situation in which the acquisition has come from two different people to illustrate how the main acquisition and sub acquisitions work together. If there were just one sub-acquisition the umbrella node would still be used leaving it open for any other information that might be added in the future (open world model).

The acquisition nodes themselves are fairly standard and describe the transfer of the object from one owner to another. The acquisition involves the transfer of custody from a former owner (or several) and the legal title is transferred from that owner. Custody and title is received and transferred to the Museum. If you follow the nodes and properties in the diagram you can see that the model follows a logical sequence of real world events.

Particular features to note are;

1. The transfer to the Museum is mapped from the main acquisition node.
2. If your triple store is configured correctly then other mappings are inferred and should not be mapped manually. Previous and current keepership is inferred from the transfer of custody.
3. The main and sub-acquisition nodes are typed as acquisitions and transfers of custody as appropriate. In particular,
  - a. An acquisition that involves the someone with ownership and custody (FROM) will be typed as an **E8\_Acquisition** and an **E10\_Transfer\_of\_Custody**.
  - b. Each sub acquisition node contributes to the transfer of title of the object to the British Museum. (**P24\_transfers\_title\_of**).
  - c. An acquisition that is through an intermediary (THROUGH) will not involve a transfer of custody and this person or institution will not be a former owner. This makes a transfer, 'THROUGH' different to a transfer 'FROM', removing custody relationships from the model.
  - d. A transfer of custody will not involve a transfer of title and ownership, only custody.

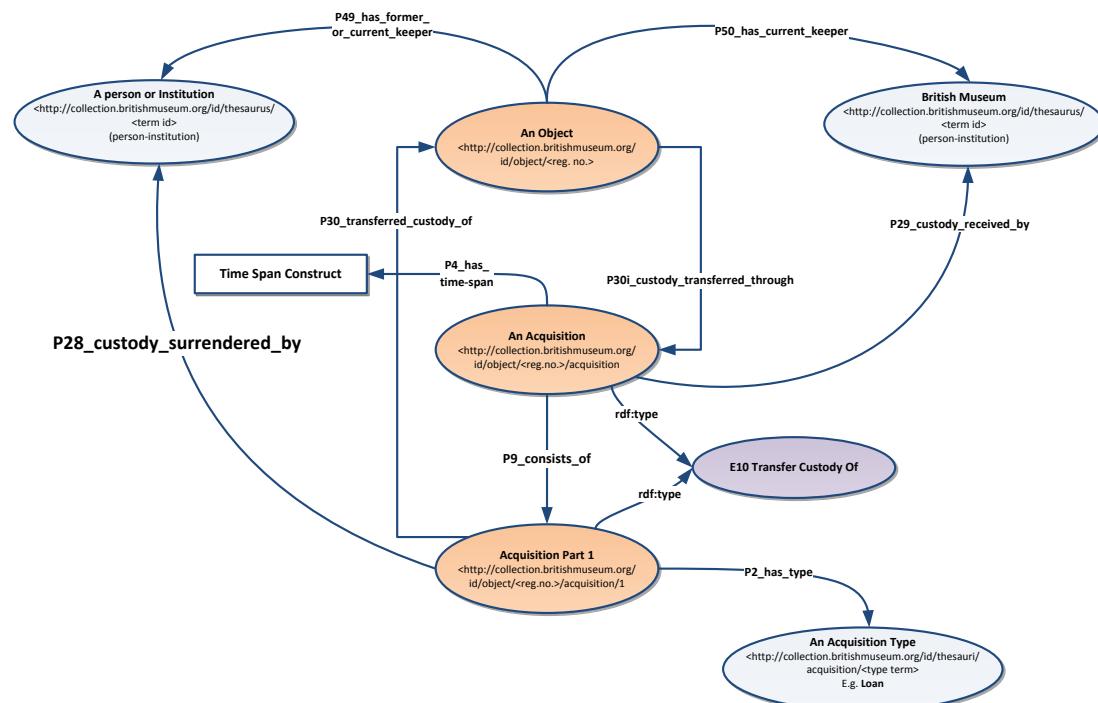


### 6.5.9 Received Custody From

In this case the legal title of the object is not transferred. Ownership is retained and the object is placed in the custody of another (the British Museum). This is typically the case when an object is loaned to another. The British Museum code for this is 'L'.

BM internal code	Meaning	Normalised to
L	On Loan From	Loan

The following example shows the transfer of custody through a loan to the British Museum. It is the acquisition sub node that transfers the custody of the object. It is the main acquisition node that is the target of the object relationship **P30i\_custody\_transferred\_through**. Notice the semantics, the sub acquisition connected to the person or institution that is loaning the object, the object to the main acquisition node that ultimately transfers custody to the museum. Any additional information that may appear in the future can be attached to its own sub acquisition node.



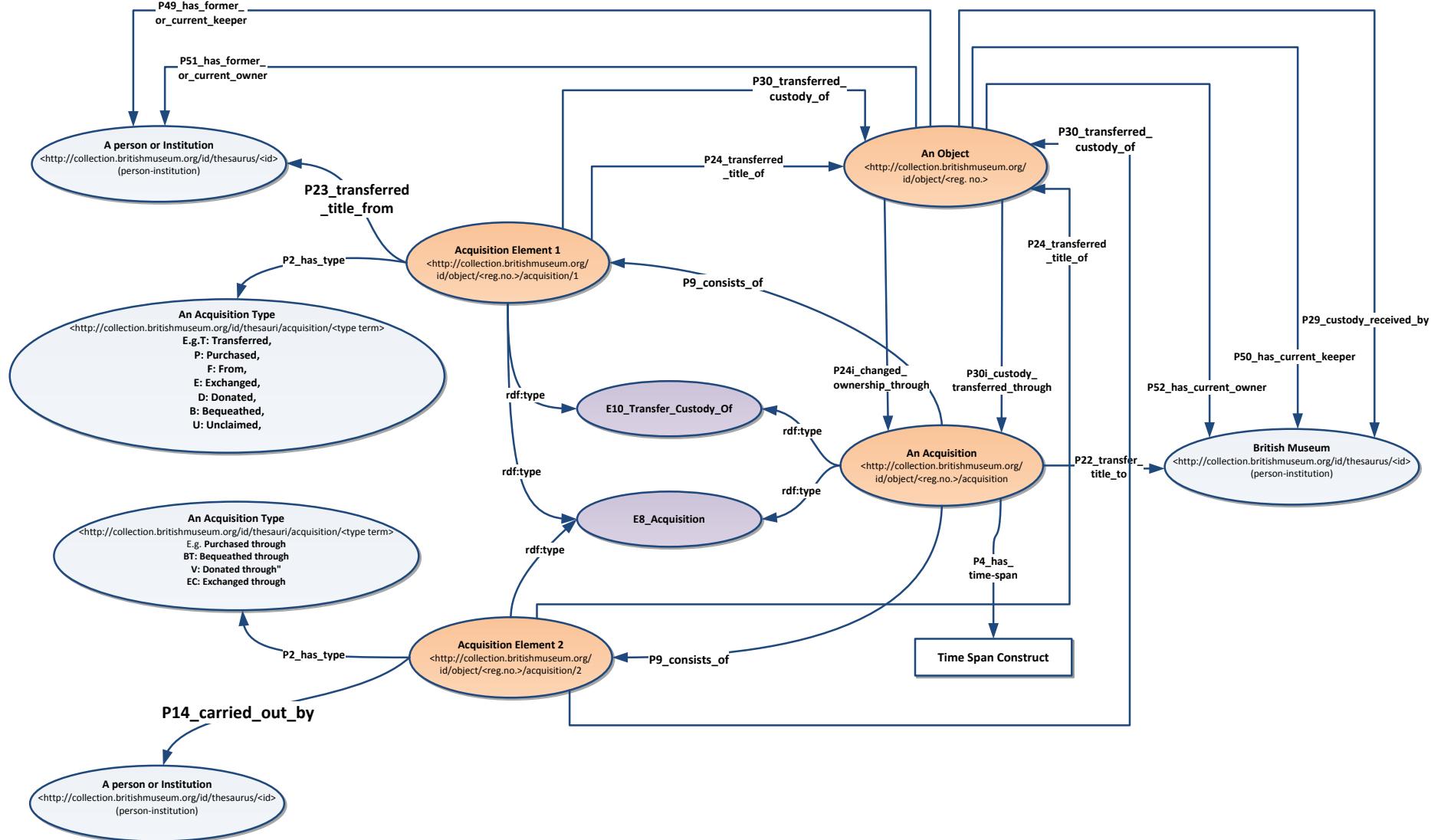
### 6.5.10 Acquired Through (intermediary or contributor)

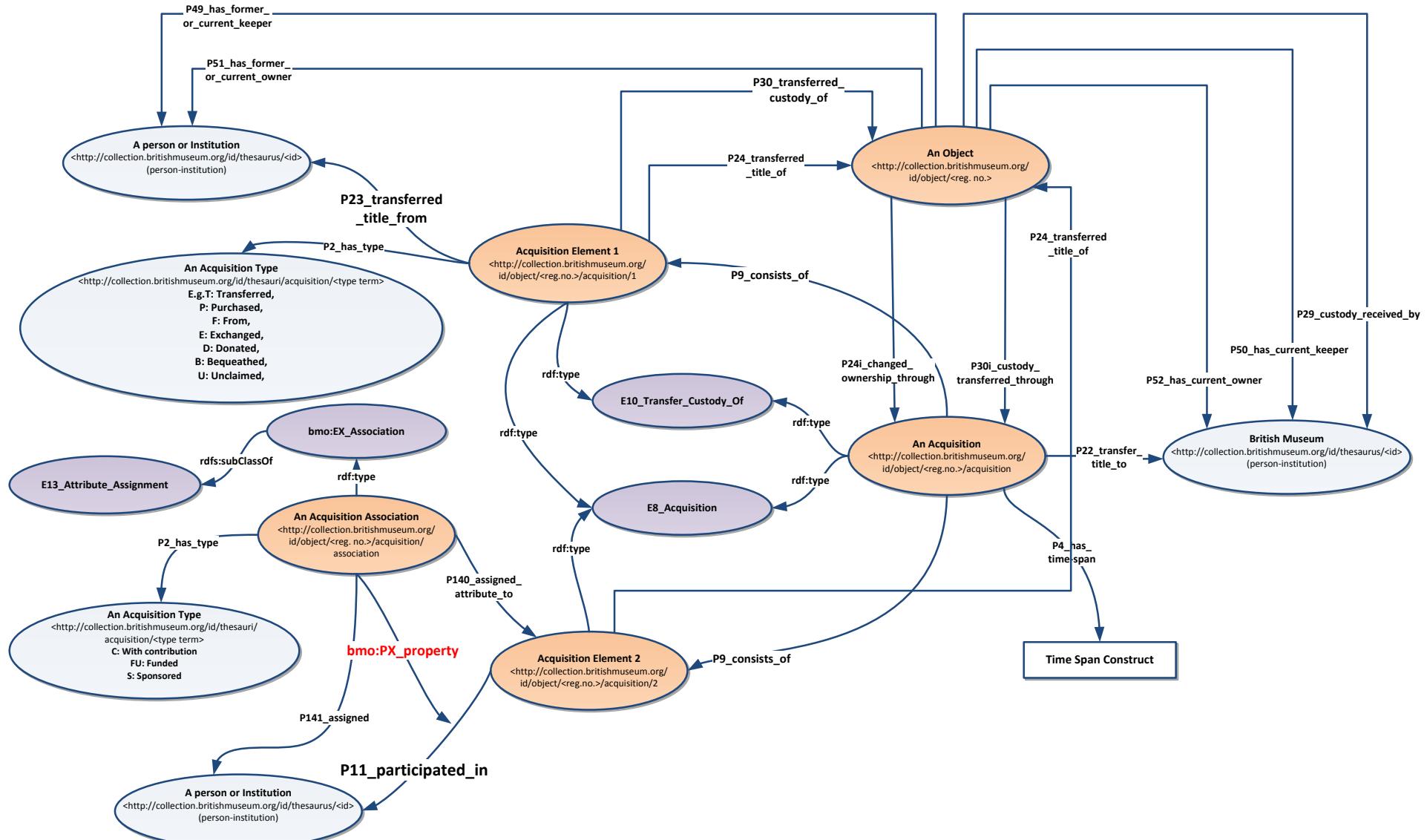
Some objects are acquired through an agent who is not the owner of the object but acts for that owner (for example through an auction house). As stated above, these contributors can either be direct facilitators of the transaction or they can be at arm's length – perhaps only providing the funding. This distinction is reflected in the relationship used. The agent either directly carried through the acquisition (**P14\_carried\_out\_by**) or was merely a participant. In the case of a participant **P11\_had\_participant** is used to connect the person and this is reified because the relationship is more general and is not directly part of the acquisition event.

BM internal code	Meaning	Normalised to	Reified
A	Purchased through	Purchased	
BT	Bequeathed through	Bequeathed	
CF	With contribution from	With Contribution	*
EC	Exchanged through	Exchanged	
FU	Funded by	Funded	*
S	Sponsored by	Sponsored	*
V	Donated through	Donated	

The previous owner may be unknown in which case **P49\_has\_former\_or\_current\_keeper** cannot be asserted. All of the above codes imply that BM received ownership. The model below shows an example where the object has two acquisition part. One FROM, and the other THROUGH. In this case the THROUGH part is a direct involvement. Features to note;

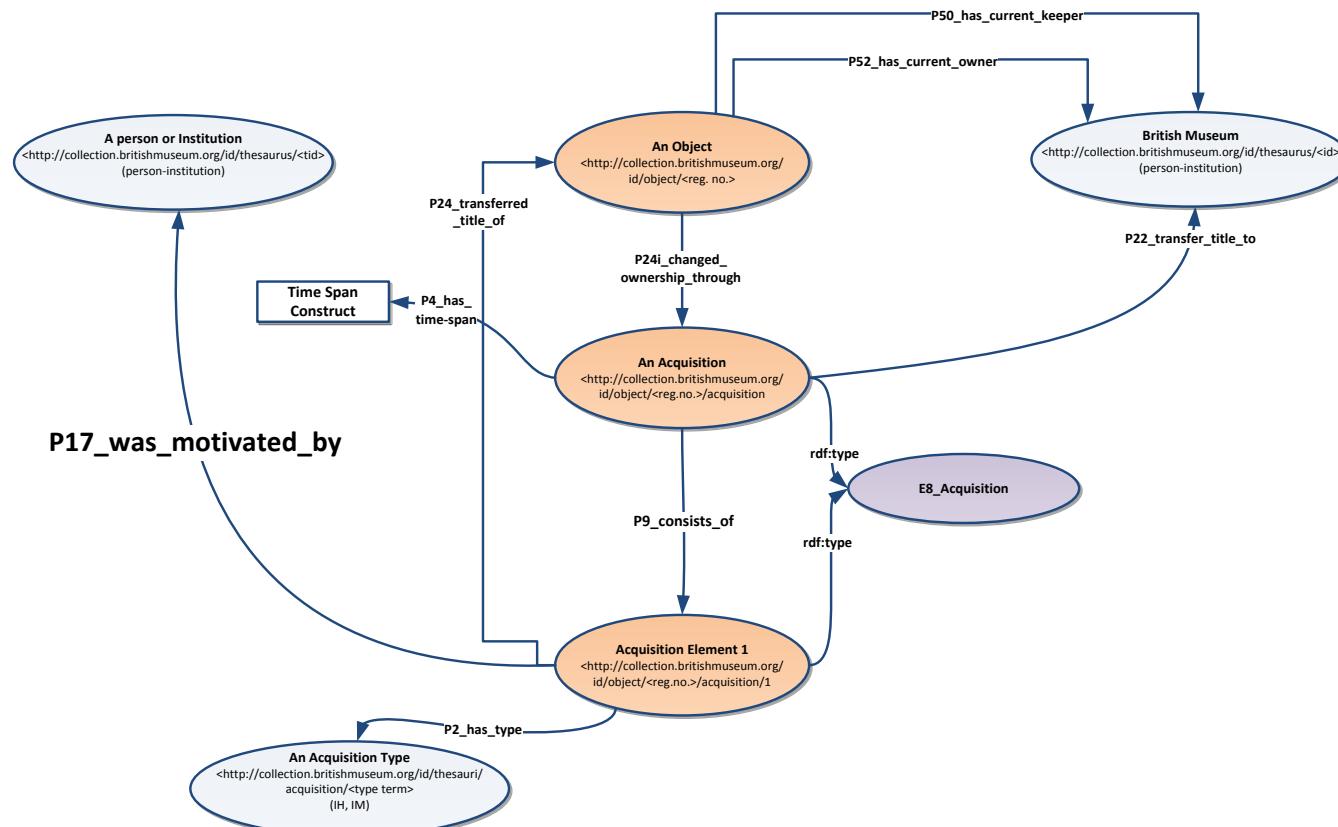
There is a difference in relationships between the FROM acquisition sub-node and the THROUGH acquisition sub-node. The agent is not a **P49\_has\_former\_or\_current\_keeper** or a **P51\_has\_former\_or\_current\_owner**.





### 6.5.11 Acquisition Motivated By

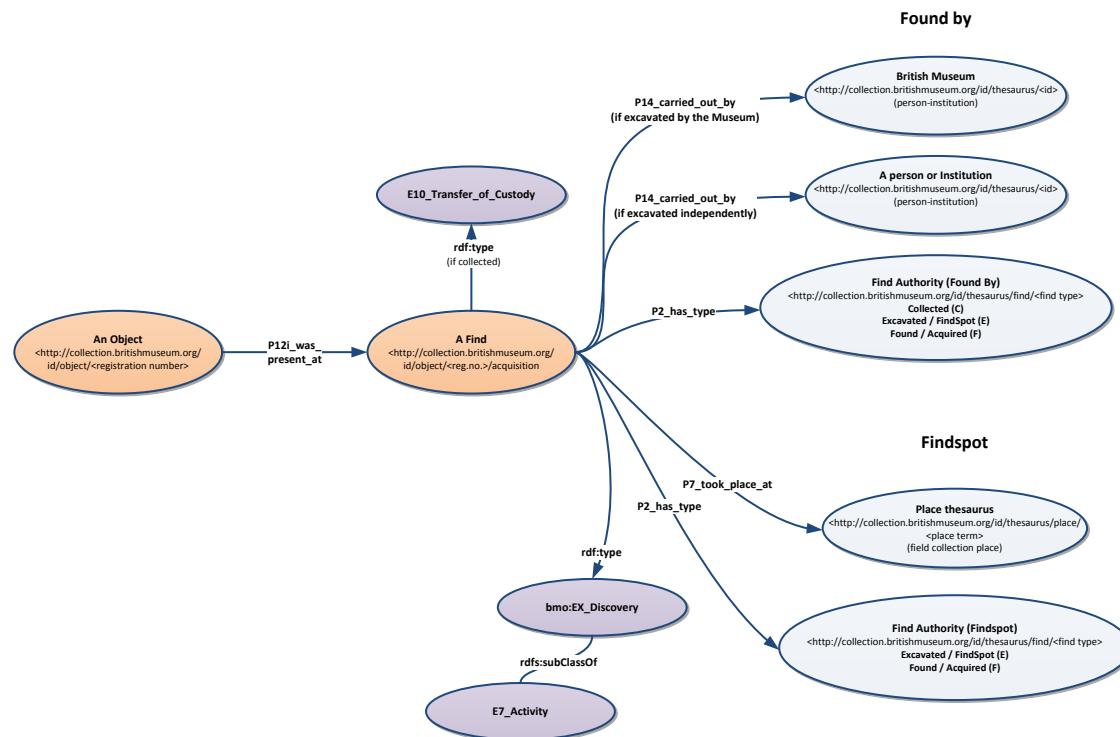
BM internal code	Meaning
IH	In Honour of
IM	In Memory of



### 6.5.12 Found By

"Finding" is an important kind of acquisition and may provide, in the future, the foundations for additional data around the excavation of an object that may provide important evidence about the object. We have created a specific sub-class called EX\_Discovery to type a Find URI. The model will, of course, have no information about former ownership.

BM internal code	Meaning	Normalised to
C	Collected by	Collected (C)
EX	Excavated by	Excavated / Findspot (E)
E	Excavated / Findspot	Excavated / Findspot (E)
F	<u>Found / Acquired</u>	Found / Acquired (F)

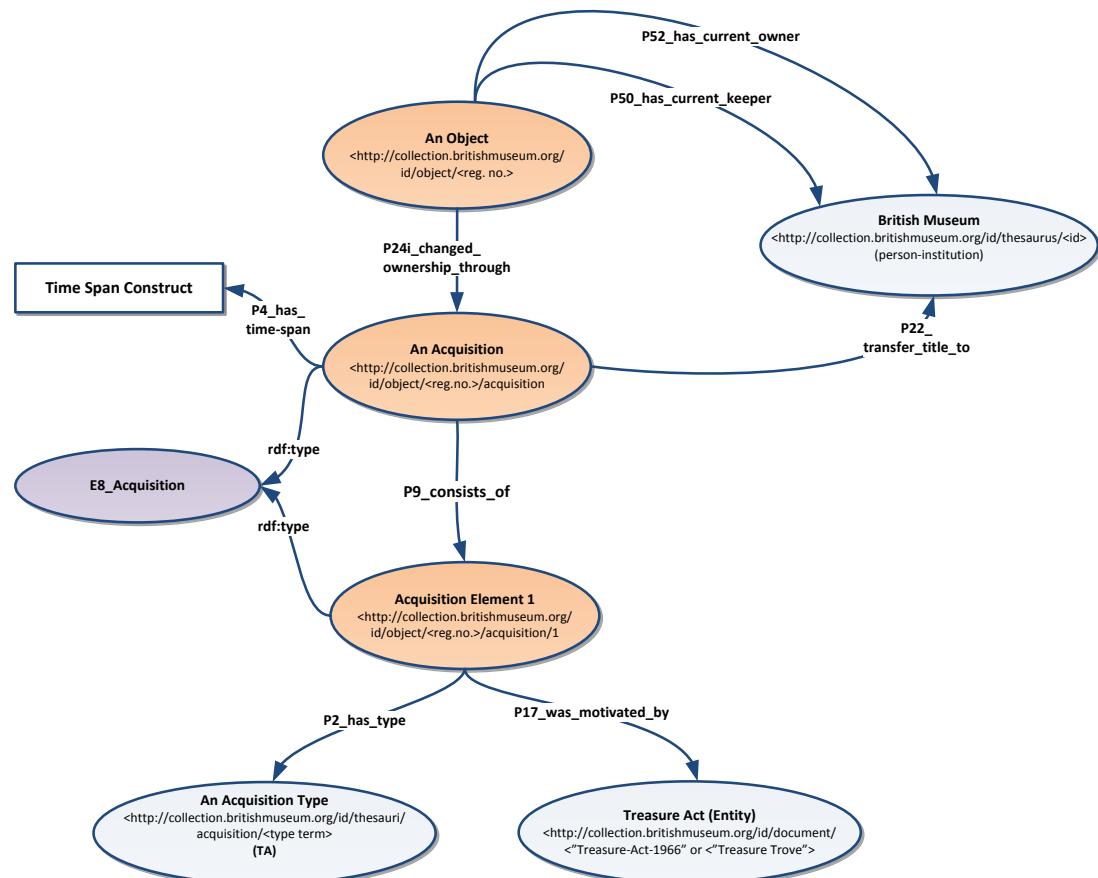


### 6.5.13 Acquired by virtue of the Treasure Act

Objects that are found within the United Kingdom by the general public may be classed as ‘Treasure’ under the terms of the Treasure Act. The British Museum administers the provisions of the Treasure Act and has the right to purchase objects found to be Treasure for the British Museum’s collection. This type of acquisition has its own system code.

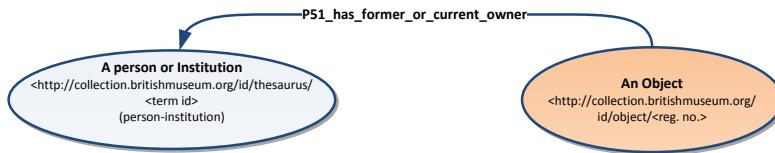
BM internal code	Meaning
TT	Treasure Trove

Although this acquisition is a special case the construct is virtually the same as the first example y and the acquisition can simply be typed using **P2\_has\_type**. This again avoids the use of extensions like, ‘**PX\_treasure\_trove\_from**’, reducing customisation.



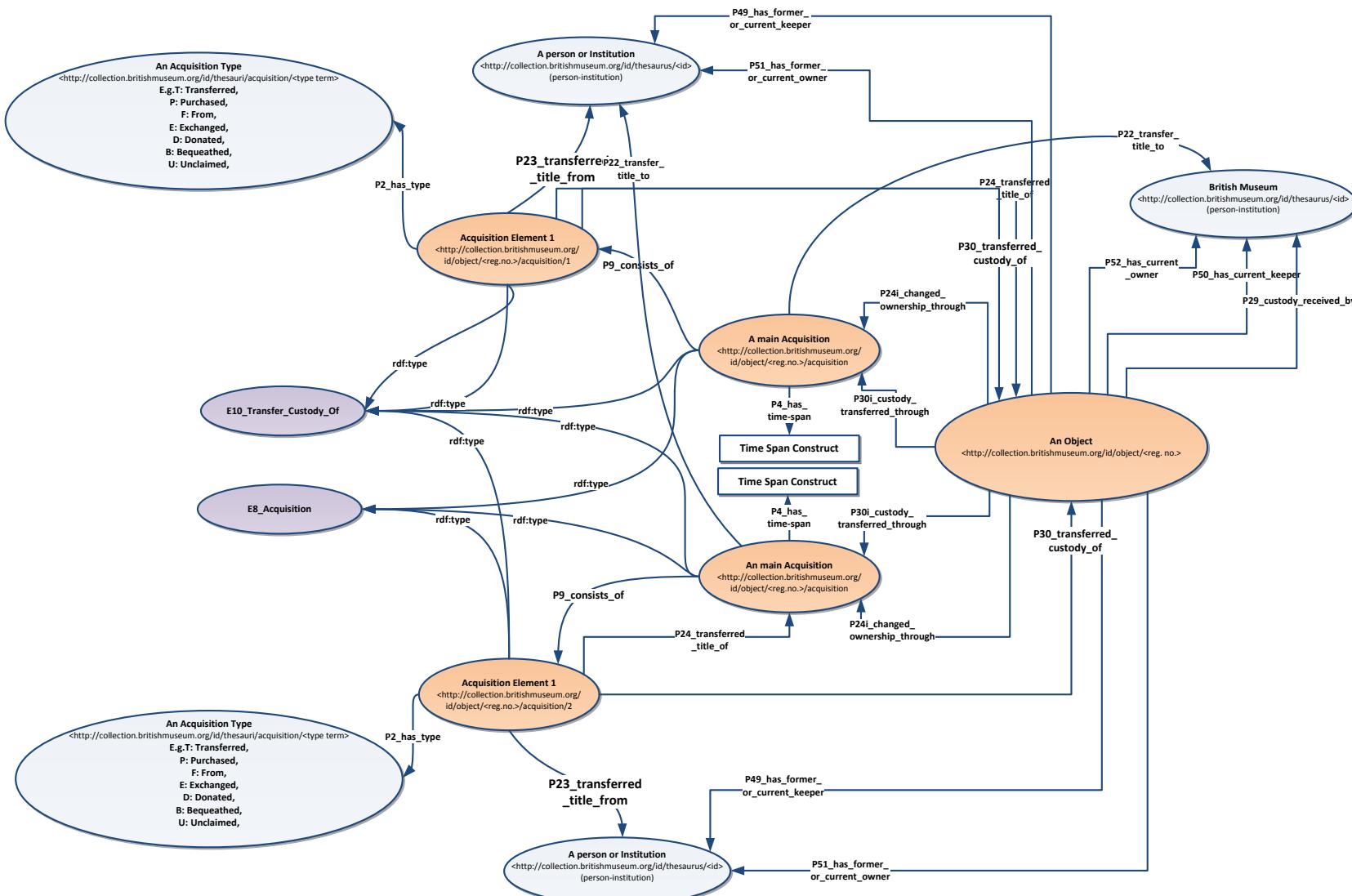
#### 6.5.14 Former Owner

The documentation of a former owner in the BM database is simple. It just provides a mechanism for listing actors who we know owned the object before the Museum's acquisition.



### 6.5.15 A Sequence of Acquisitions

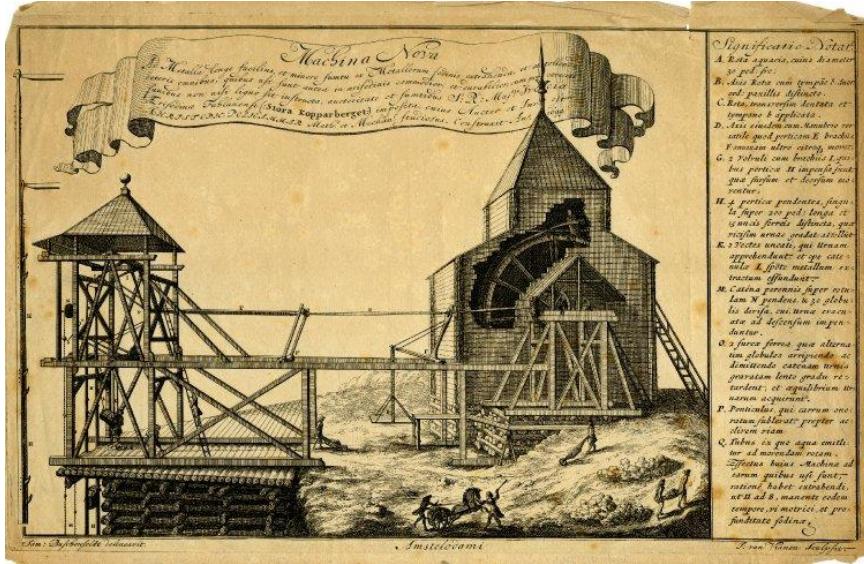
If a history of acquisition information is known then this can be represented as a sequence of acquisition events



## 6.6 Production

### 6.6.1 Production Events

Production events provide the mechanisms to describe the people, places and techniques involved in the production of objects as well as the dates or periods when they took place. People involved in object production often have trades and/or specialised skills. Objects may have originated through particular processes associated with different groups of artisans often associated with particular locations. The British Museum describes a whole range of different processes that are associated with different types of objects. A ‘moneyer’ or ‘minter’ may be involved with the production of new coins, a calligrapher with manuscripts and an engraver with jewellery or watches.



Registration number: 2006,U.1341

Providing properties that describe all of these different things is not the purpose of the CRM because these descriptions can be extensive and differ from organisation to organisation. Instead the CRM provides generalisations that invite and support further organisational description or extension. This further description can include refinement through institutional taxonomies as described above. Since most museums already possess the necessary language to describe object events we only need to incorporate them into the CRM. The simple way of doing this is through **P2\_has\_type** and using an appropriate authority term to type a particular event. Take the following construct for describing the technique used in a production.

The production type is created by using a resource URI based on a list of broad production techniques that cover the range of British Museum object types (Drawings, Greek Pottery, Coins, Medals, etc.). These are the British Museum’s own generalisations of more detailed terms contained in the Museum’s techniques thesaurus. Both are encapsulated within a SKOS construct and typed as **E55\_Type**.

A production place is commonly referenced using **P7\_took\_place\_at** and a person’s involvement will normally be connected using **P14\_carried\_out\_by**. These are properties that we are also able to describe in greater details because the Museum records additional information about the production process.

## 6.6.2 Production Elements – sub parts

As with acquisition the Museum often records different parts of production process without necessarily defining the connection between them (except through free text comments and notes). However, all production activity contributes to the overall production of an object and in order to maximise the open nature of the mapping each documented part of a production is given a sub node. This means that as new information is recorded it can be simply added as another sub node with the appropriate accompanying data. The result is a main production node that consists of (**P9\_consists\_of**) a number of sub-production nodes.

## 6.6.3 Production Elements Example



Bronze gilt square table-clock; large base; surmounted by circular tower with pinnacles and dome supported on columns; one face with two dials of silver showing hours and quarters I-XII, 13-24 and I-IV; opposite side with two small dials for striking apparatus; brass and steel movement with later pendulum. Count wheel striking for hours and quarters.

PRN: [MCC3799](#)

Registration number: 1888,1201.131

The production node in this case consists of six sub-production nodes.

- Production 1 provides the time-span for the production – in this case between the 1<sup>st</sup> January 1620 and the 31<sup>st</sup> December 1630.

<a href="http://collection.britishmuseum.org/id/object/MCC3799/">http://collection.britishmuseum.org/id/object/MCC3799/</a>	crm:P9_consists_of	Id:object/MCC3799/production/1
<a href="http://collection.britishmuseum.org/id/object/MCC3799/">http://collection.britishmuseum.org/id/object/MCC3799/</a>	rdf:type	crm:E12_Production
<a href="http://collection.britishmuseum.org/id/object/MCC3799/">http://collection.britishmuseum.org/id/object/MCC3799/</a>	bmo:PX_display_wrap	Production date :: 1620-1630 ::
<a href="http://collection.britishmuseum.org/id/object/MCC3799/">http://collection.britishmuseum.org/id/object/MCC3799/</a>	crm:P4_has_time-span	id:object/MCC3799/production/1/date

Predicate	Object
<a href="#">rdf:type</a>	<a href="#">crm:E52_Time-Span</a>
<a href="#">rdfs:label</a>	1620-1630

<a href="#">id:object/MCC3799/production/1/date</a>	<a href="#">crm:P3_has_note</a>	1620-1630 ::
<a href="#">id:object/MCC3799/production/1/date</a>	<a href="#">crm:P82a_begin_of_the_begin</a>	1620-01-01
<a href="#">id:object/MCC3799/production/1/date</a>	<a href="#">crm:P82b_end_of_the_end</a>	1630-12-31

- Production 2 describes the production technique. In this case the thesauri term 12150 refers to a preferred label within a SKOS construct (**E55\_Type**) which is, 'gilded'

<a href="#">http://collection.britishmuseum.org/id/object/MCC3799/production</a>	crm:P9_consists_of	Id:object/MCC3799/production/2
<a href="#">http://collection.britishmuseum.org/id/object/MCC3799/production/2</a>	rdf:type	crm:E12_Production
<a href="#">http://collection.britishmuseum.org/id/object/MCC3799/production/2</a>	crm:P32_used_general_technique	thes:x12150

thes:x12150	rdf:type	crm:E55_Typeskos:Concept
thes:x12150	skos:inScheme	thes:technique
thes:x12150	skos:prefLabel	gilded
thes:x12150	skos:scopeNote	The term 'gilded' refers to an overlay (wholly or in parts) of a thin layer of gold. The term 'gold' is entered in the Materials field as well as terms for the base Materials. 'Silver-gilt' refers to a silver base to which a layer of gilding has been applied, and the Technique entered is 'gilded', the Materials 'silver' and 'gold'. See also the term 'gold-plated'.
thes:x12150	skos:altLabel	giltsilver-gilt
thes:x12150	skos:related	thes:x12153

- Production 3 states that the object was produced by 'making' (a Museum generalisation) by the person-institution with the id 71361. This resolves to Samuel Haug, a clock maker.

<a href="#">http://collection.britishmuseum.org/id/object/MCC3799/production</a>	crm:P9_consists_of	Id:object/MCC3799/production/3
<a href="#">http://collection.britishmuseum.org/id/object/MCC3799/production/3</a>	rdf:type	crm:E12_Production
<a href="#">http://collection.britishmuseum.org/id/object/MCC3799/production/3</a>	crm:P2_has_type	id:thesauri/production/making
<a href="#">http://collection.britishmuseum.org/id/object/MCC3799/production/3</a>	crm:P14_carried_out_by	id:person-institution/71361

id:person-institution/71361	rdf:type	crm:E21_Personskos:Concept
id:person-institution/71361	crm:P3_has_note	Clockmaker. Born c.1580, became a Master clockmaker in the Augsburg Guild 9th September 1612, died 1637.
id:person-institution/71361	skos:inScheme	thesIdentifier:person-institution
id:person-institution/71361	skos:prefLabel	Samuel Haug

<a href="#">id:person-institution/71361</a>	bmo:PX_gender	<a href="http://collection.britishmuseum.org/id/t hesauri/gender/male">http://collection.britishmuseum.org/id/t hesauri/gender/male</a>
<a href="#">id:person-institution/71361</a>	bmo:PX_nationality	<a href="http://collection.britishmuseum.org/id/t hesauri/nationality/German">http://collection.britishmuseum.org/id/t hesauri/nationality/German</a>
<a href="#">id:person-institution/71361</a>	bmo:PX_profession	<a href="http://collection.britishmuseum.org/id/t hesauri/profession/clockmaker/watchma ker">http://collection.britishmuseum.org/id/t hesauri/profession/clockmaker/watchma ker</a>
<a href="#">id:person-institution/71361</a>	crm:P131_is_identified_by	<a href="http://collection.britishmuseum.org/id/p erson-institution/71361/appellation/1">http://collection.britishmuseum.org/id/p erson-institution/71361/appellation/1</a> <a href="http://collection.britishmuseum.org/id/p erson-institution/71361/appellation/2">http://collection.britishmuseum.org/id/p erson-institution/71361/appellation/2</a>
<a href="#">id:person-institution/71361</a>	crm:P92i_was_brought_into_existence_by.	<a href="http://collection.britishmuseum.org/id/p erson-institution/71361/birth">http://collection.britishmuseum.org/id/p erson-institution/71361/birth</a>
<a href="#">id:person-institution/71361</a>	crm:P93i_was_taken_out_of_existence_by	<a href="http://collection.britishmuseum.org/id/p erson-institution/71361/death">http://collection.britishmuseum.org/id/p erson-institution/71361/death</a>

- Production 4 states that production was influenced by a person-institution with the id of 73289. This refers to 'Lamy'

<a href="#">http://collection.britishmuseum.org/id/object/MCC3799/production</a>	crm:P9_consists_of	<a href="#">id:object/MCC3799/production/4</a>
<a href="#">http://collection.britishmuseum.org/id/object/MCC3799/production/4</a>	rdf:type	<a href="#">crm:E12_Production</a>
<a href="#">http://collection.britishmuseum.org/id/object/MCC3799/production/4</a>	crm:P15_was_influenced_by	<a href="#">id:person-institution/73289</a>

- The reification for **P15\_was\_influenced\_by** has the production type CW which means 'connected'. The clock has a connection to the Lamy family.

<a href="#">id:object/MCC3799/production/4/association</a>	rdf:type	<a href="#">bmo:EX_Association</a>
<a href="#">id:object/MCC3799/production/4/association</a>	bmo:PX_property	<a href="#">crm:P15_was_influenced_by</a>
<a href="#">id:object/MCC3799/production/4/association</a>	crm:P140_assigned_attribute..	<a href="#">id:object/MCC3799/production/4</a>
<a href="#">id:object/MCC3799/production/4/association</a>	crm:P141_assigned	<a href="#">id:person-institution/73289</a>
<a href="#">id:object/MCC3799/production/4/association</a>	crm:P2_has_type	<a href="#">id:thesauri/production/CW</a>

- The sub node production 6 tells us that the clock was made (has a type of making) in Augsburg which has the thesaurus id 25875.

<a href="#">http://collection.britishmuseum.org/id/object/MCC3799/production</a>	crm:P9_consists_of	<a href="#">id:object/MCC3799/production/5</a>
<a href="#">http://collection.britishmuseum.org/id/object/MCC3799/production/5</a>	rdf:type	<a href="#">crm:E12_Production</a>
<a href="#">http://collection.britishmuseum.org/id/object/MCC3799/production/5</a>	crm:P2_has_type	<a href="#">id:thesauri/production/making</a>
<a href="#">http://collection.britishmuseum.org/id/object/MCC3799</a>	crm:P7_took_place_at	<a href="#">id:place/x25875</a>

- Finally production 6 tells us that the object came from Paris, France (id 18074).

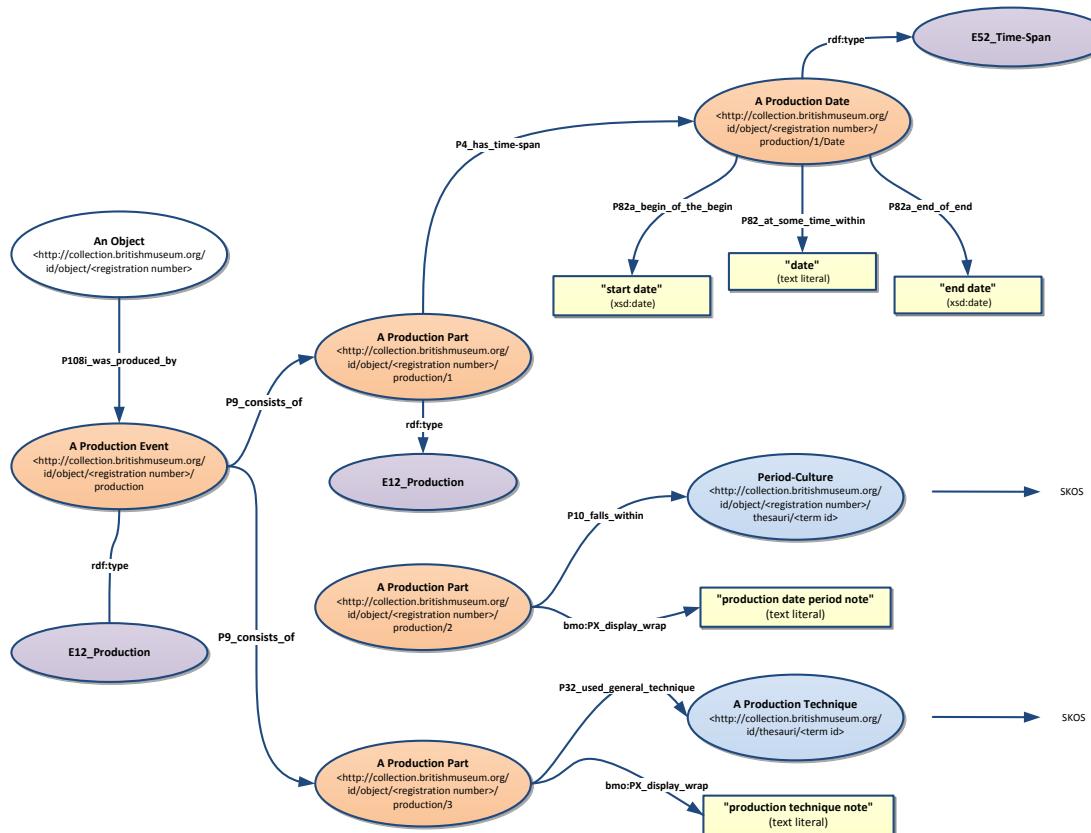
<a href="http://collection.britishmuseum.org/id/object/MCC3799/production">http://collection.britishmuseum.org/id/object/MCC3799/production</a>	crm:P9_consists_of	Id:object/MCC3799/production/6
<a href="http://collection.britishmuseum.org/id/object/MCC3799/production/6">http://collection.britishmuseum.org/id/object/MCC3799/production/6</a>	rdf:type	crm:E12_Production
<a href="http://collection.britishmuseum.org/id/object/MCC3799/production/6">http://collection.britishmuseum.org/id/object/MCC3799/production/6</a>	crm:P7_took_place_at	id:place/x18074

#### 6.6.4 Normalisation of Production Codes

The Museum's production association codes are specific to the activity and context. When talking about a person for example, the association 'designed by' is used. When we are referring to a place then we use 'designed in'. The CRM however, already provides the contextual information in the form of generalisations like, '**carried out by**' for a person and, '**took place at**' for a location. Therefore we have normalised many of the codes to reduce complexity. This means that 'designed by' and 'designed in' are normalised simply to, 'designed'. The CRM takes care of the context.

#### 6.6.5 General Production Information

In addition to information about the production process and the associated people and places other information may also be recorded. In the British Museum this may include information about the production date (which may be a range encompassing all the different production elements) a descriptive period-culture and specific techniques from the Museum's Techniques thesaurus.

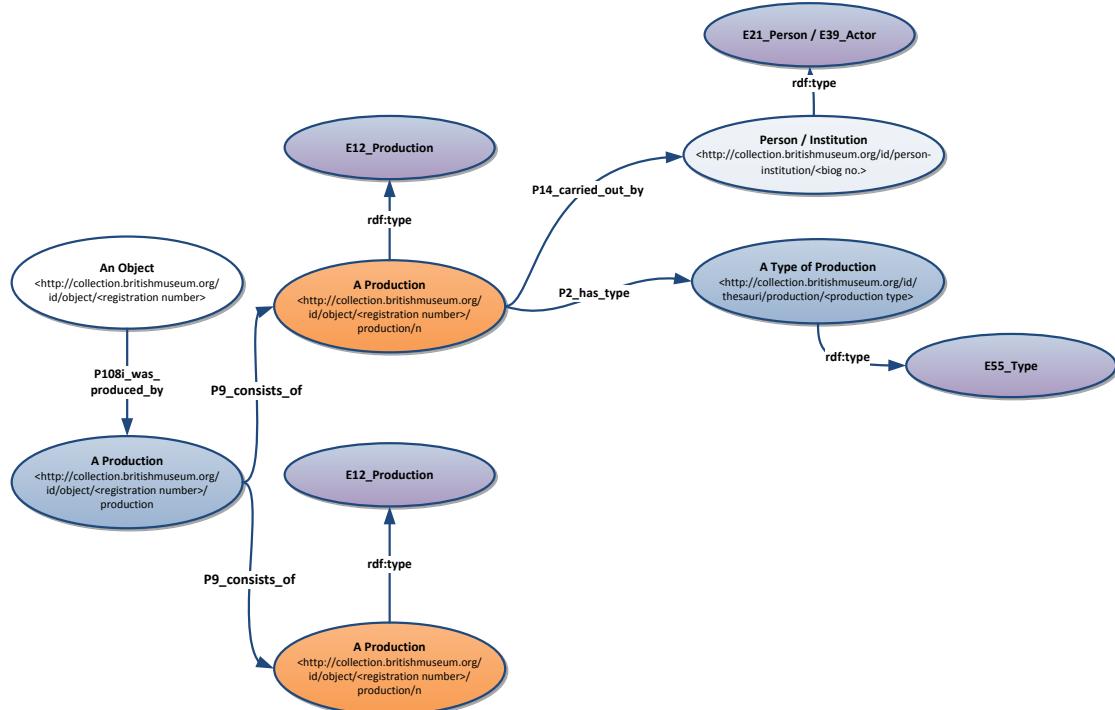


## 6.6.6 Produced By Specific Process (P14\_carried\_out\_by)

The following are simple production processes carried out by people and use the generalisation of **P14\_carried\_out\_by**. The particular production sub node is then typed using **P2\_has\_type** with British Museum internal production codes that have been organised into the SKOs format. Production codes use the URI <http://collection.britishmuseum.org/id/thesauri/production/<code>>.

BM Association code	Meaning	Normalised to
AU	Author	Author (AU)
BC	Block cut by	Block cut (BC)
CA	Calligrapher	Calligrapher (CA)
D	Designed by	Designed (D)
DE	Decorated by	Decorated (DE)
E	Engraved by	Engraved (E)
I	Issuer	Issued (I)
Z	Published by	Published (Z)
J	Modelled by	Modelled (J)
L	Lusted by	Lustered (L)
M	Made by	Made (M)
P	Painted by	Painted (P)
PH	Photographed by	Photographed (PH)
SC	Scribe	Scribe (SC)
WR	Written by	Written (W)

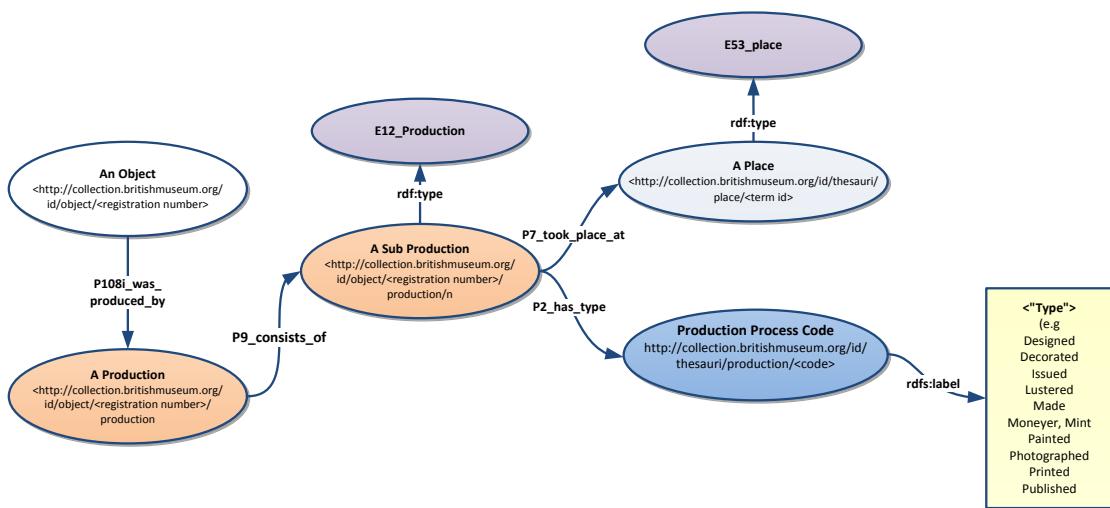
In this case this is all that is required to convey that a particular process was used by a particular person or group on a particular object.



#### 6.6.7 Produced By Specific Process At (P7\_took\_place\_at)

To specify where a specific production process took place the same normalised terms are used but with the generalisation **P7\_took\_place\_at**.

BM Internal Code	Meaning	Normalised to
<b>D</b>	Designed In	Designed (D)
<b>DE</b>	Decorated in	Decorated (DE)
<b>I</b>	Issued in	Issued (I)
<b>L</b>	Lustered in	Lustered (L)
<b>M</b>	Made in	Made (M)
<b>MI</b>	Minted in	Moneyer, Mint (MI)
<b>P</b>	Painted in	Painted (P)
<b>PH</b>	Photographed in	Photographed (PH)
<b>R</b>	Printed in	Printed (R)
<b>Z</b>	Published in	Published (Z)

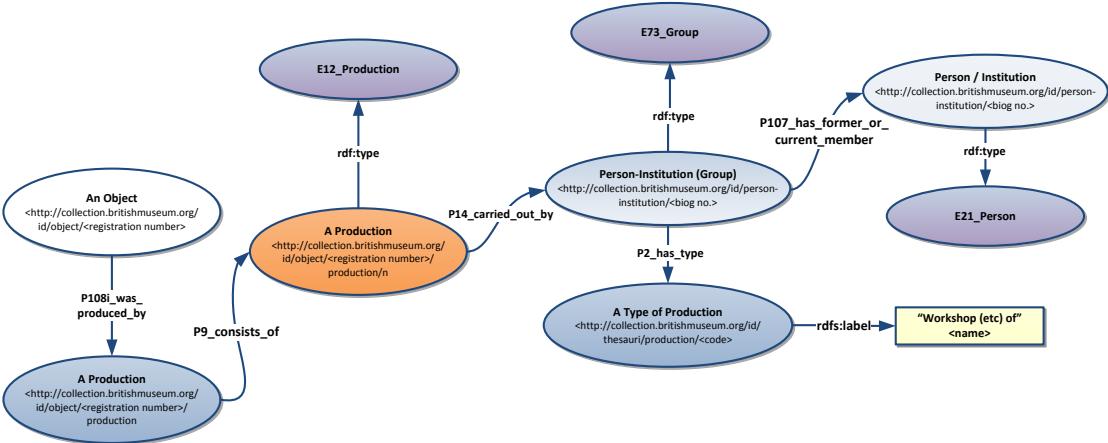


#### 6.6.8 Produced by a closely related group or pupil (P14\_carried\_out\_by)

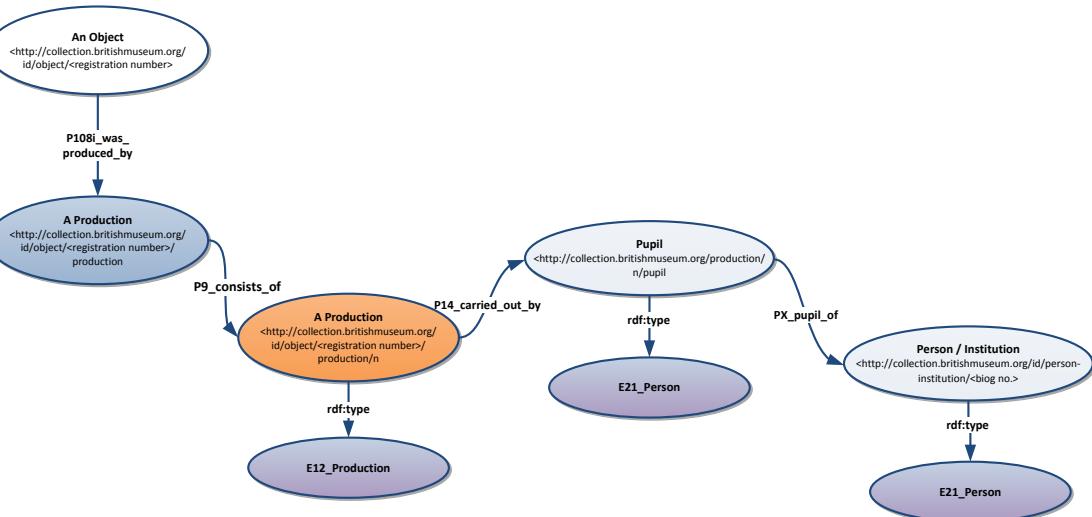
A group is treated in the same way as a person except individuals within a group may also be identified. A particular group might be further described by the identification of a particular person within that group (**P107\_has\_former\_or\_current\_member**). A different construct is used when a person is associated with their mentor (**PX\_pupil\_of**). Again, the association is designed to identify a significant person that provides additional factual context.

BM Association code	Meaning	Normalised to
AG	Office/Studio of	Office/Studio (AG)
AJ	Circle/School of	Circle/School (AJ)
F	Factory of	Factory (F)
N	Pupil of	Pupil (N)
O	Official/Office/Dept	Official/Office/Dept (O)
W	Workshop of	Workshop (W)

In this situation the object may record both the group and a particular member of that group. The only exception is that of a pupil for whom a different model is used with a specialisation **PX\_pupil\_of**.



Here the pupil has no identification. The important information is that the person who created the object was the pupil of a recognised (in BM terms) artist, artisan, etc.



The following example shows the resulting RDF for:



Semi-abstract composition, line of figures carrying banners through street, gateway behind. c.1982  
Colour etching, printed in black, orange, red, yellow and green.

Print made by Nikolaos Venturas (1982)

PRN: PPA13035

- This production event has been carried out by a group identified by thesaurus term, x17201, a group described as ‘Greek’.

Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/object/PPA13035/production">http://collection.britishmuseum.org/id/object/PPA13035/production</a>	crm:P9_consists_of	id:object/PPA13035/production/5
<a href="http://collection.britishmuseum.org/id/object/PPA13035/production/5">http://collection.britishmuseum.org/id/object/PPA13035/production/5</a>	crm:P14_carried_out_by	id:thesauri/x17201
<a href="http://collection.britishmuseum.org/id/object/PPA13035/production/5">http://collection.britishmuseum.org/id/object/PPA13035/production/5</a>	rdf:type	crm:E12_Production
<a href="http://collection.britishmuseum.org/id/object/PPA13035/production/5">http://collection.britishmuseum.org/id/object/PPA13035/production/5</a>	P2_has_type	id:thesauri/production/AJ
<a href="#">id:thesauri/production/AJ</a>	rdfs:label	“Circle/School”

Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/thesauri/x17201">http://collection.britishmuseum.org/id/thesauri/x17201</a>	rdf:type	skos:Concept
<a href="http://collection.britishmuseum.org/id/thesauri/x17201">http://collection.britishmuseum.org/id/thesauri/x17201</a>	rdf:type	crm:E74_Group
<a href="http://collection.britishmuseum.org/id/thesauri/x17201">http://collection.britishmuseum.org/id/thesauri/x17201</a>	skos:inScheme	id:thesauri/school
<a href="http://collection.britishmuseum.org/id/thesauri/x17201">http://collection.britishmuseum.org/id/thesauri/x17201</a>	skos:prefLabel	“Greek”

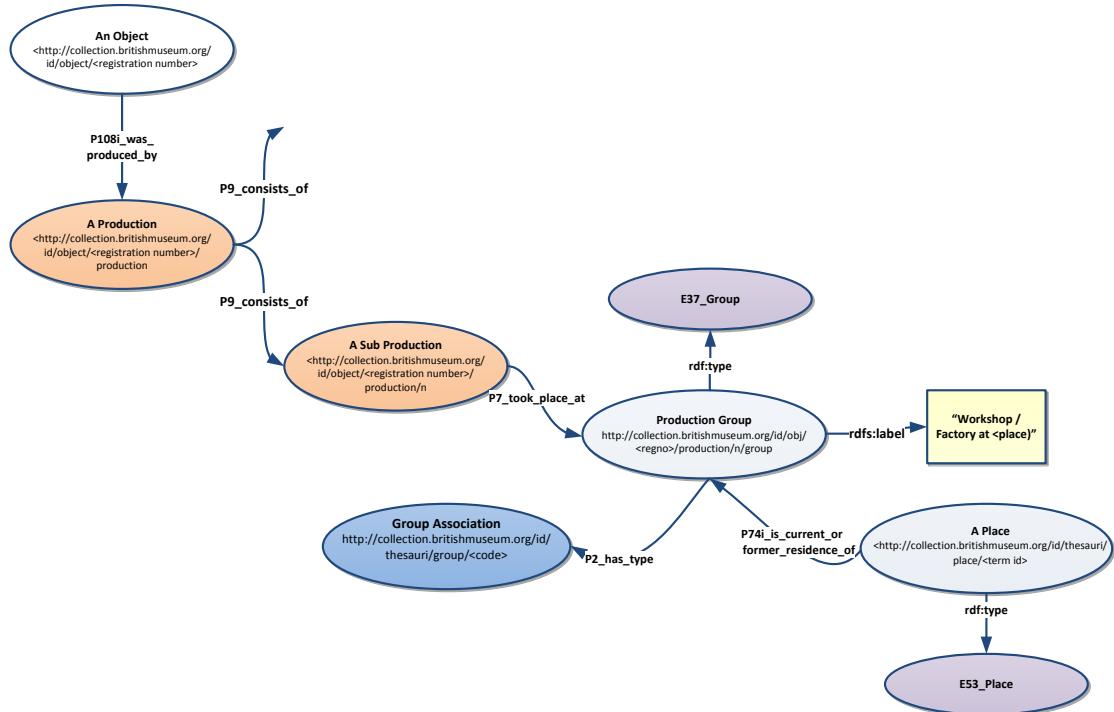
- The Code AJ refers to the SKOS label “Circle/School of”.

Subject	Predicate	Object
<a href="#">id:thesauri/production/AJ</a>	rdf:type	crm:E55_Type
<a href="#">id:thesauri/production/AJ</a>	rdf:type	skos:Concept
<a href="#">id:thesauri/production/AJ</a>	skos:inScheme	id:thesauri/production
<a href="#">id:thesauri/production/AJ</a>	skos:prefLabel	“Circle/School”

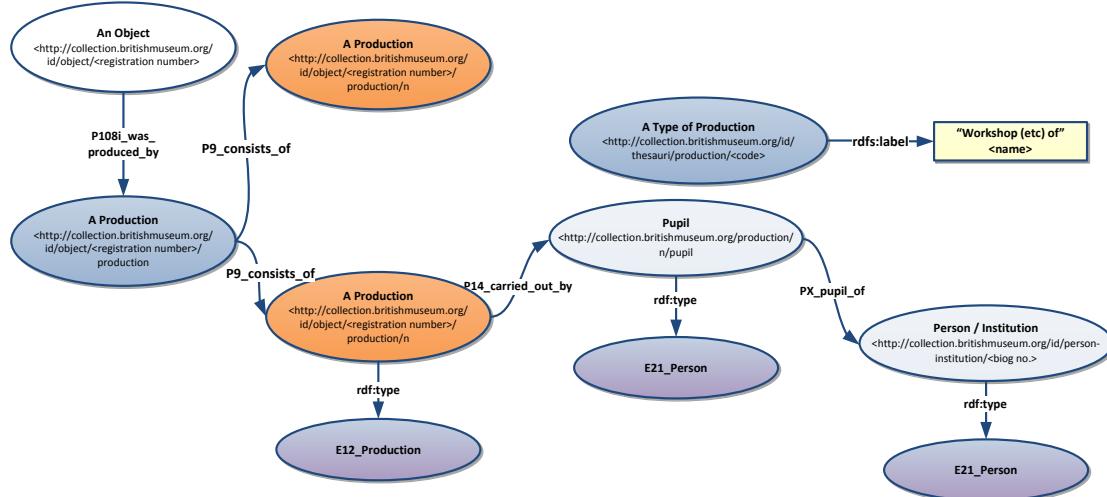
#### 6.6.9 Produced At (No specific Process – P7\_took\_place\_at)

BM Internal Code	Meaning	Normalised
F	Factory in	Factory (F)
W	Workshop in	Workshop (W)

The CRM considers a Workshop or Factory an actor (people who as a group can perform actions for which they are responsible) and in this case are classed as **E74\_Group**. In other words the object was produced at a place and more specifically in a factory or workshop consisting of a group of people who were clearly involved in the production of the object. The factory if the place in which the group resides in order to perform the production process. Residence is therefore used in its widest sense.

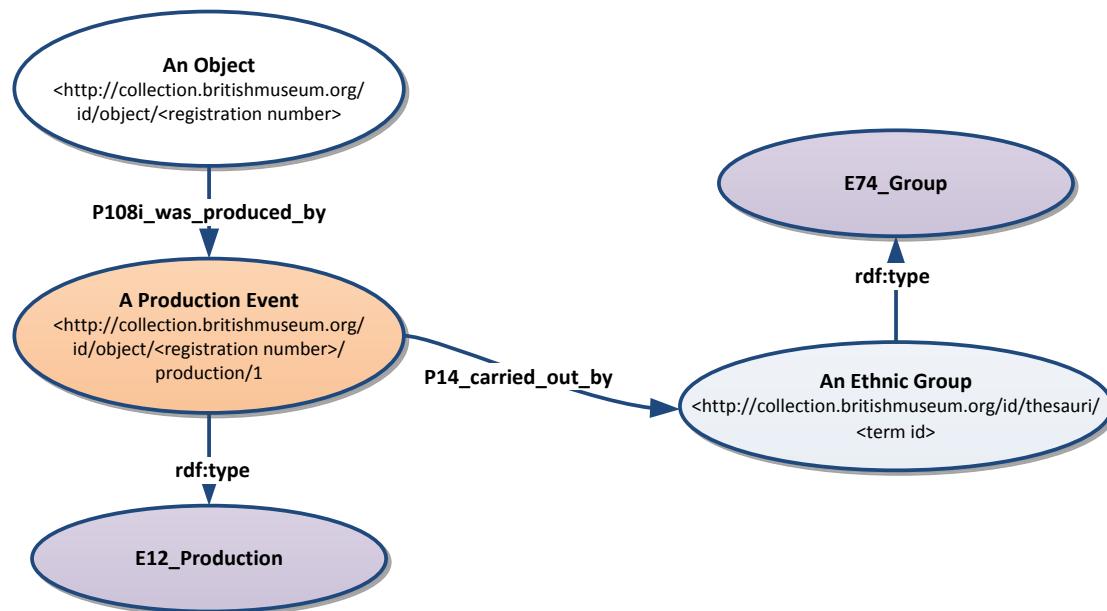


For a pupil the construct is different and requires a specialisation. In the Museum's database this model means that we don't actually know the individual who created the object, we only know that they were working under a mentor or teacher to whom which they were learning, perhaps as an apprentice.



#### 6.6.10 Production by an Ethnic group (P14\_carried\_out\_by)

Ethnic groups are mapped in the same way except that the Ethnic Group thesaurus is used instead of the person-institution authority.

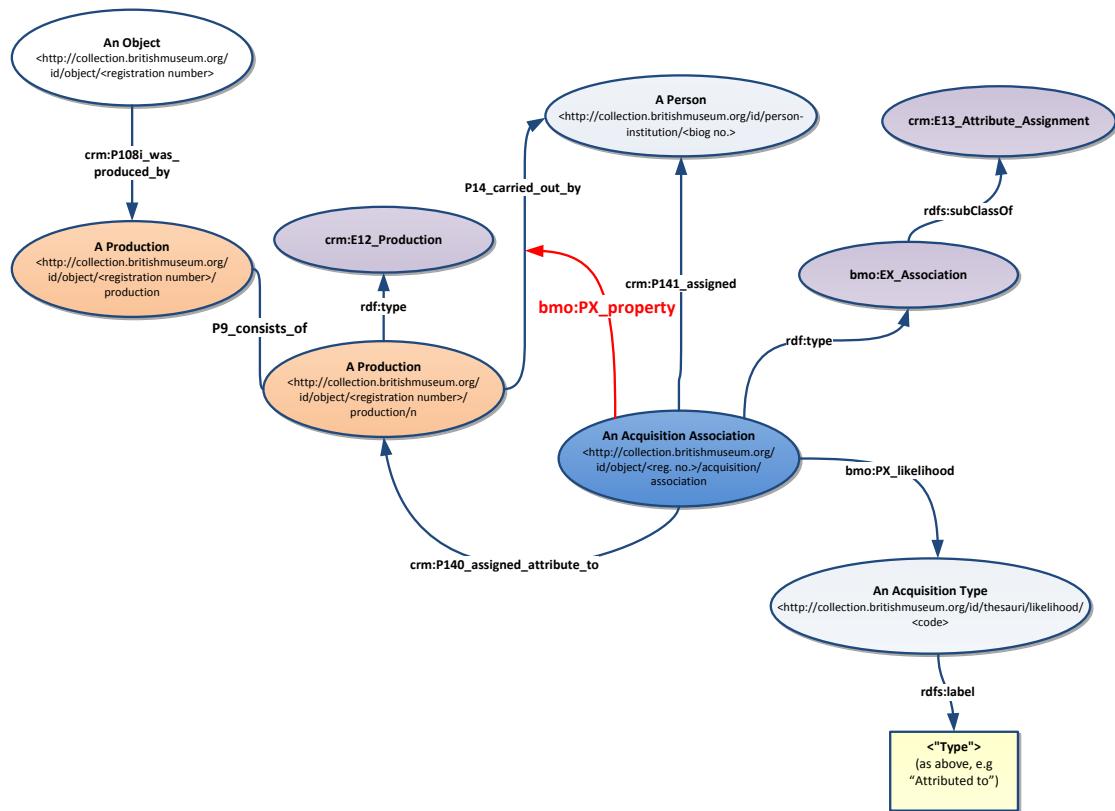


#### 6.6.11 Probably/Unlikely Produced By (Reification of P14\_carried\_out\_by)

Some association code denote a degree of probability or likelihood. The association code 'Attributed to' means that the creator is not necessarily proven and that, through connoisseurship for example, a subjective but positive opinion has been recorded although is not fully proven. These positive but subjective attributions denote a

probability. In the last example, (formerly attributed to) the semantics denote an unlikelihood. In these cases the property **P14\_carried\_out\_by** needs to be qualified. Qualification of properties is achieved through reification (described above). All association codes that describe likelihood or probability are placed in a SKOS framework using the URI <http://collection.britishmuseum.org/id/thesauri/likelihood>. The British Museum property **PX\_likelihood** is a sub-property of **P2\_has\_type** and is used for both likelihood and probability codes. The full list of association codes and their normalisation for people and places is as follows;

Association Code	Meaning	Normalised for URI
A	Attributed to	Attributed (A)
AA	Attributed to an Apprentice/Pupil of	Attributed to an Apprentice/Pupil (AA)
AB	Ascribed to	Ascribed (AB)
AC	Attributed to the Circle of	Attributed to the Circle (AC)
AD	Assigned to	Assigned (AD)
AW	Attributed to the Workshop of	Attribute to the Workshop (AW)
CB	Claimed to be by	Claimed to be (CB)
AE (unlikely)	Formerly attributed to	Formerly attributed (AE)

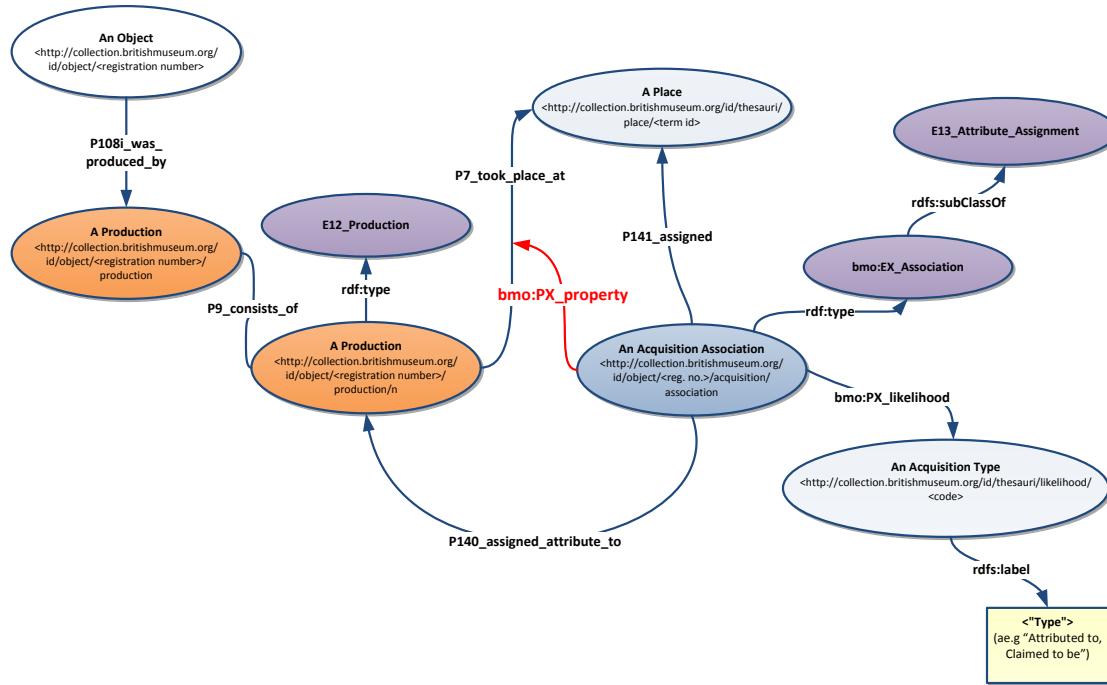


The reification construct plugs into the normal **P14\_carried\_out\_by** construct using association properties. The outcome is again a connection with the association code itself.

### 6.6.12 Probably Produced At (reification of P7\_took\_place\_at)

The construct is the same a place but for the property P7\_took\_place\_at.

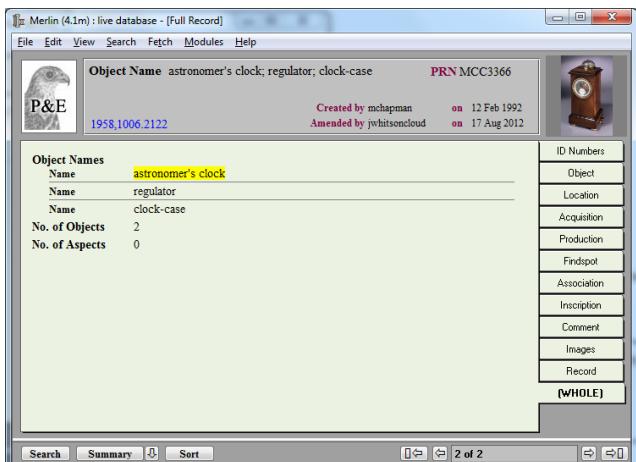
BM Internal Code	Meaning	Normalised
A	Attributed at	Attributed
CF	Claimed to be from	Claimed to be



### 6.6.13 Production Parts (by and at)

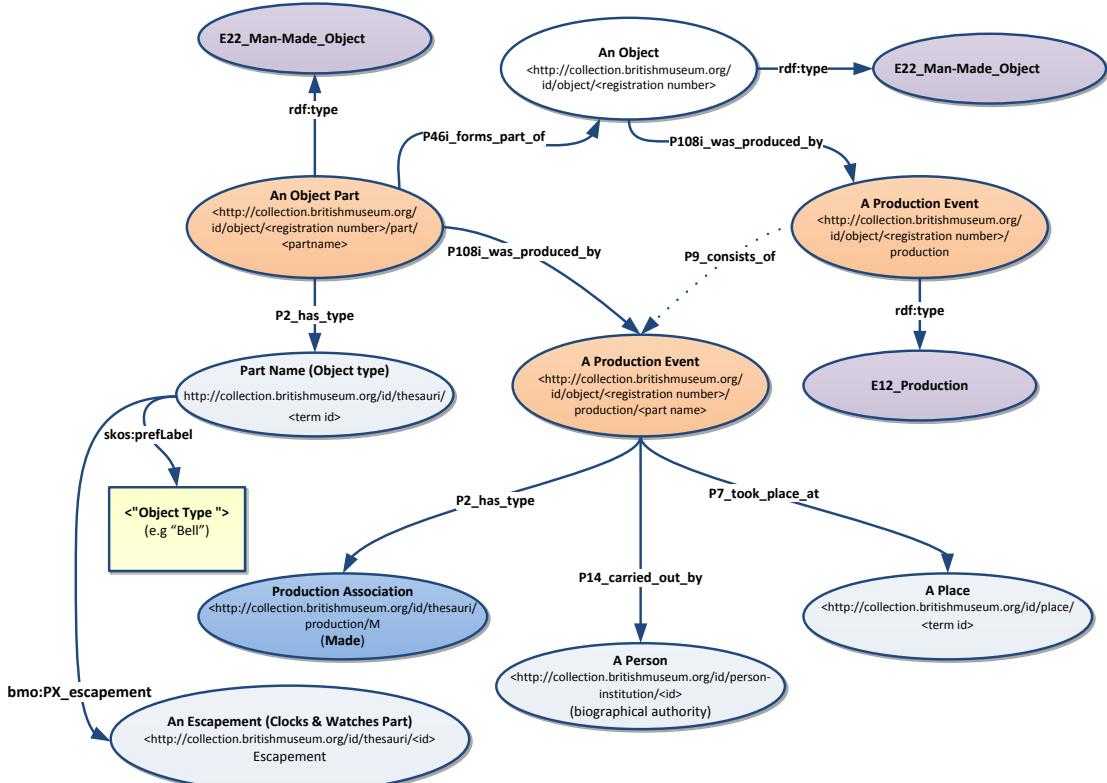
In some cases objects have parts that are recorded as objects in their own right with their own inventory number. This contrasts with the concept of ‘aspect’ described above which refers to a component of the object which can be described in more detail but is not a separate inventory number. The model below shows some of the types which are recorded as parts in the Museum database, a good example being the escapement or movement within a watch. However, once defined object parts are described in exactly the same way as any other object, including production. This means that the diagrams above (including production type reification) applies here.

Association Code	PART-NAME	URI to be used	Label for URI
MB	Bell	id:thesauri/x12541	Bell
MC	Case	id:thesauri/x5827	Case
MD	Dial	id:thesauri/x6411	Dial
ME	Ebauche	id:thesauri/x6622	Ebauche
MM	Movement	id:thesauri/object/MM	Movement
MP	Watch-Pendant	id:thesauri/object/MP	Watch Pendant
MQ	Dust-Cup	id:thesauri/x6596	Dust-cup



On this object record tab you can see that this clock has 2 objects one being the mechanical part and one being the case. There is only one object record describing both parts. The parts are derived from production place or name associations (e.g. Case made in or by). If the object has more than 1 part and the association is the code ‘MC’ then the corresponding object name term is applied – ‘Case’.

In the diagram below the part is represented with its own production event (and place and person associations are recorded in the system as part of the same production event. If it became known that the part was made as part of the production process of the main object then we made the production event a sub event of the main object event - **P9\_consists\_of** (represented as a dotted line). This information is not recorded in the BM record. Note also that escapements (for clocks and watches) has its own specialist term authority and is provided with a specialist object type through the specialisation **PX\_escapement**.



#### 6.6.14 Production Authority & Made For (Reification of P17\_motivated\_by)

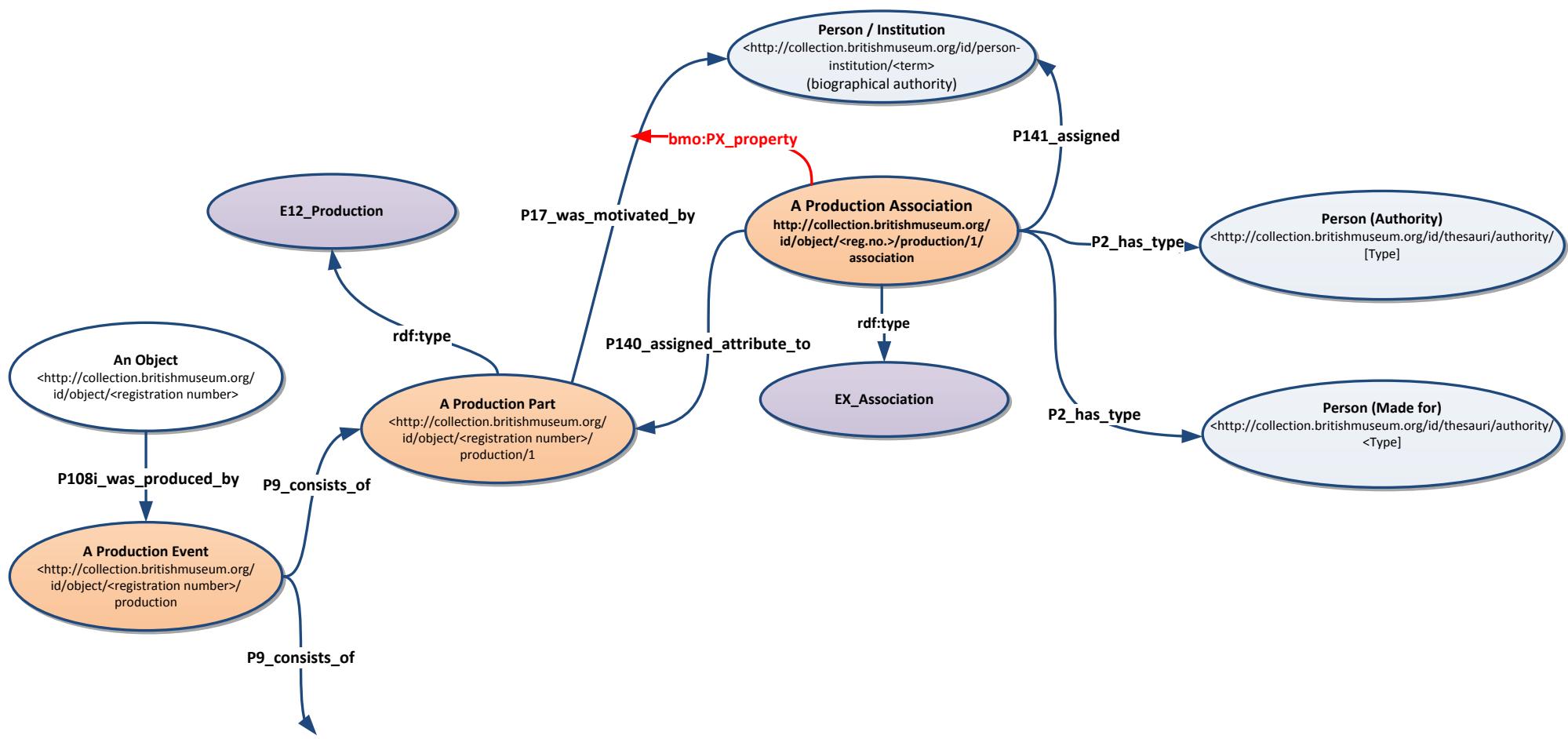
The construct below is the same for two slightly different concepts. In this case the mapping describes the motivation for the production rather than the places and people that were involved in the physical process. What does motivated mean? The CRM scope note provides examples of events unconnected with the production of objects, for example, the resignation of an official was motivated by the collapse of the organisation s/he was running, or a coronation was motivated by the death of a previous monarch. In this case we are talking about how people and places are the motivation behind an object. The motivation may be directly from a person who is in a position to directly commission an object (an authority figure) but may also have been motivated less directly if the object was made for a person who was perhaps the inspiration for the production. The final situation is where production was not initiated by a person but an involvement in the decision to produce it has been recorded.

For example,

1. The minting of a special edition coin may have been motivated by a particular person to celebrate an achievement. (Made For - F)
2. A person has ordered the production of a particular object through their authority as a Ruler (Ruler - R)
3. An sponsor is known to have agreed to a commission suggested by someone else. (Authorised/Patronised - PP)

BM Internal Code	Meaning	Normalised
E	Eponym	Eponym (E)
G	Governor	Governor (G)
I	Issuer	Issuer (I)

K	Ruler	Ruler (K)
Y	Magistrate	Magistrate (Y)
BM Internal Code      Meaning      Normalised		
F	Made For	(Made) For (F)
PP	Authorised/Patronised	Authorised/Patronised (PP)



The following example is also a coin motivated by the Governor Mihan Singh Kumedan who attempted to gain independence for Lahore. His association code, 'G' stands for Governor. The triples are also provided below.



Silver rupee minted in Kashmir (1837 (VS 1894)) under Governor Col. Mihan Singh Kumedan. (1860,1220.513)

Inscription reads: 'Abundance, power and victory (and) assistance without delay are the gift of Nanak (and) Guru Gobind Singh.'

PRN: COC193256

- The Production sub node 4 refers to a person-institution record 150956.

Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/object/COC193256/production">http://collection.britishmuseum.org/id/object/COC193256/production</a>	P9_consists_of	id:object/COC193256/production/4
<a href="http://collection.britishmuseum.org/id/object/COC193256/production/4">http://collection.britishmuseum.org/id/object/COC193256/production/4</a>	crm:P17_was_motivated_by	id:person-institution/150956
<a href="http://collection.britishmuseum.org/id/object/COC193256/production/4">http://collection.britishmuseum.org/id/object/COC193256/production/4</a>	rdf:type	crm:E12_Production

- Here the plugin reification statements associate the person authority, 'Governor', to P17\_was\_motivated\_by.

Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/object/COC193256/production/4/association">http://collection.britishmuseum.org/id/object/COC193256/production/4/association</a>	id:ontology/PX_property	crm:P17_was_motivated_by
<a href="http://collection.britishmuseum.org/id/object/COC193256/production/4/association">http://collection.britishmuseum.org/id/object/COC193256/production/4/association</a>	crm:P140_assigned_attribute_to	id:object/COC193256/production/4
<a href="http://collection.britishmuseum.org/id/object/COC193256/production/4/association">http://collection.britishmuseum.org/id/object/COC193256/production/4/association</a>	crm:P141_assigned	id:person-institution/150956
<a href="http://collection.britishmuseum.org/id/object/COC193256/production/4/association">http://collection.britishmuseum.org/id/object/COC193256/production/4/association</a>	crm:P2_has_type	id:thesauri/authority/G
<a href="http://collection.britishmuseum.org/id/object/COC193256/production/4/association">http://collection.britishmuseum.org/id/object/COC193256/production/4/association</a>	rdf:type	id:ontology/EX_Association

- The skos preferred label identifies the code 'G' as Governor.

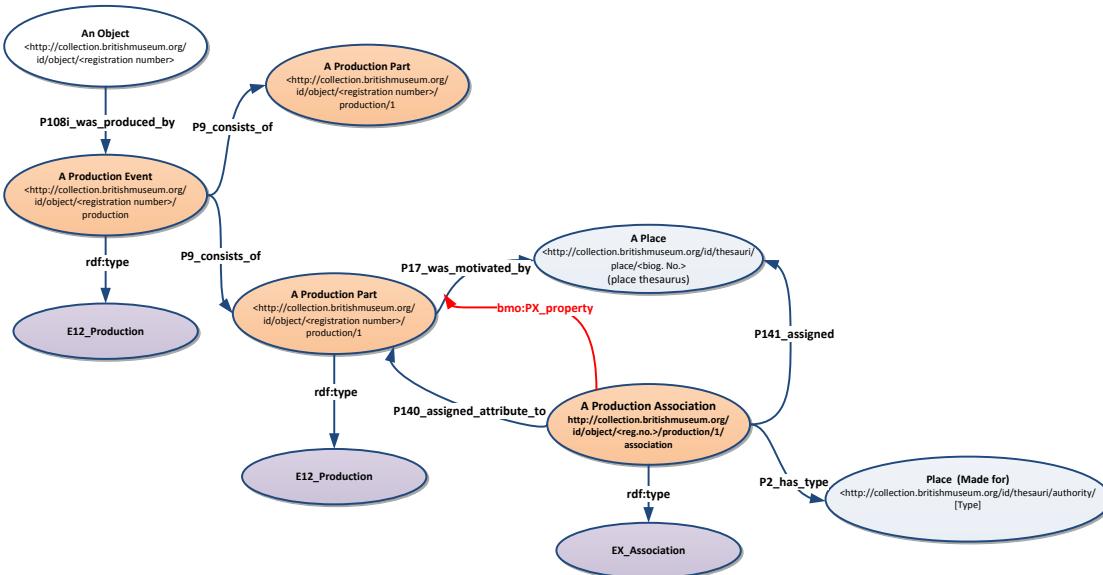
Subject	Predicate	Object
id:thesauri/authority/G	rdf:type	crm:E55_Type
id:thesauri/authority/G	rdf:type	skos:Concept
id:thesauri/authority/G	skos:inScheme	id:thesauri/authority
id:thesauri/authority/G	skos:prefLabel	"Governor"



### 6.6.15 Made for a place (Reification of P17\_was\_motivated\_by)

In the section above **P17\_was\_motivated\_by** was used to generalise a relationship with a person or institution. The same normalised associated can also be used for a place. In this case the location is the motivation for the object.

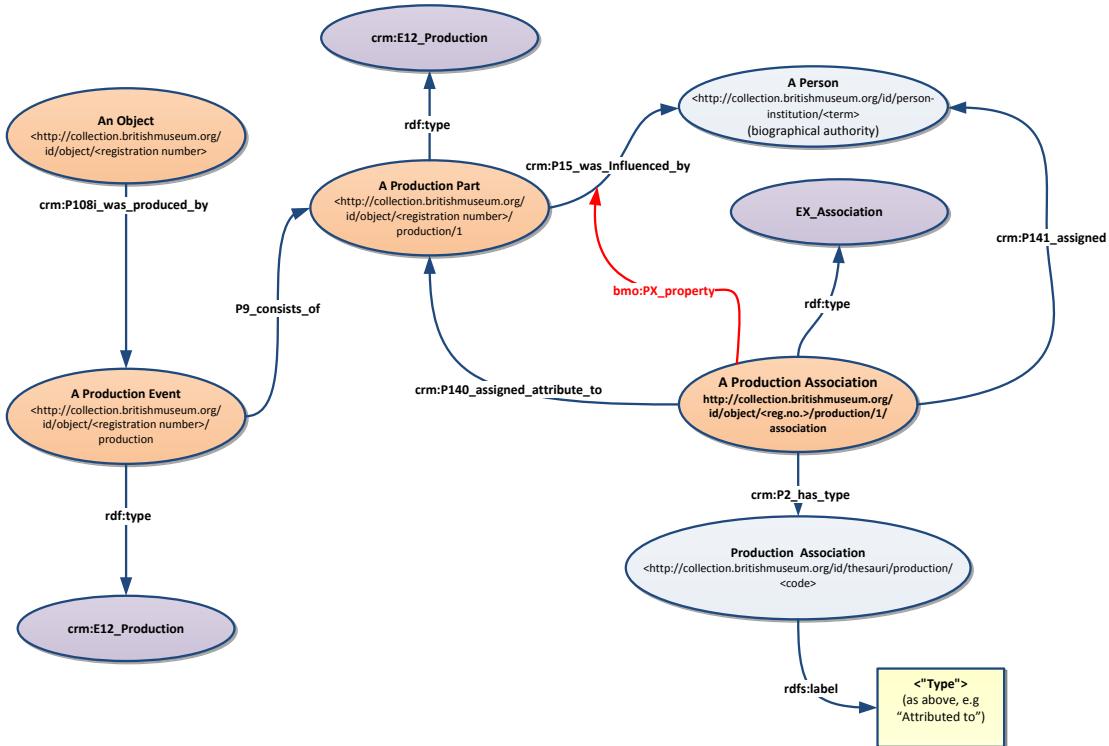
BM Internal Code	Meaning	Normalised
F	Made For	(Made) For (F)
PP	Authorised/Patronised	Authorised/Patronised (PP)



#### 6.6.16 Production Influence by (Reification of P15\_was\_influenced\_by)

The association codes below are used with the CRM generalisation, **P15\_influenced\_by**. If the creator of an object is attributed to a follower of another person (artist), then the object is said to be influenced by the artist that the creator follows. A member of the school of Rembrandt is influenced by Rembrandt, and so on. Again the reification method is used because the clarification is specifically about an actor who is not directly involved in the production of the object and not to the whole production activity directly. The same construct used for **P17\_was\_motivated** is used here.

BM Internal Code	Meaning	Normalised
AF	Attributed to a Follower of	Attributed to a Follower (AF)
AI	Attributed to an Imitator of	Attributed to a Imitator (AI)
AL	Manner/Style of	Manner/Style (AL)
AM	Attributed to the Manner of	Attributed to the Manner (AM)
AT	After	After (AT)
C	Close to	Close to (C)
CF	Compare with	Compare (CF)
CM	Connected with the Manner of	Connected with the Manner (CM)
CW	Connected with	Connected (CW)
S	School of/style of	School/Style (S)
RE	Related to	Related (RE)
NE	Near	Near (NE)
RC	Recalls	Recalls (RC)



## 6.7 Inscriptions

An inscription is a visual mark on an object ([P65\\_shows\\_visual\\_item](#)) that is a short piece of text ([E33\\_Linguistic\\_Object](#)). In many cases a museum will provide transcriptions and translations of the text as well as information about where the inscription is positioned on the object and any notes and comments made about the inscription. An inscription is produced and therefore has a creation event, which will have a type (in this case the museum distinguishes it from an engraving). If the object has an inscription then this may have occurred at a different time and place from the object production although the museum only records the person who carried out the inscription (who may have been different from the object producer). Again terminology is covered by SKOS constructs. The inscription has a type (e.g. seal, trade mark, vineyard mark, etc). The museum also records, if possible, the subject of inscription (authorised from the Subject thesaurus), and the language of the inscription, also authorised.

Note the use of typing to denote the creation of the inscription ([E65\\_Creation](#)), the translation ([E33\\_Linguistic\\_Object](#)) and the inscription itself ([E34\\_Inscription](#)).



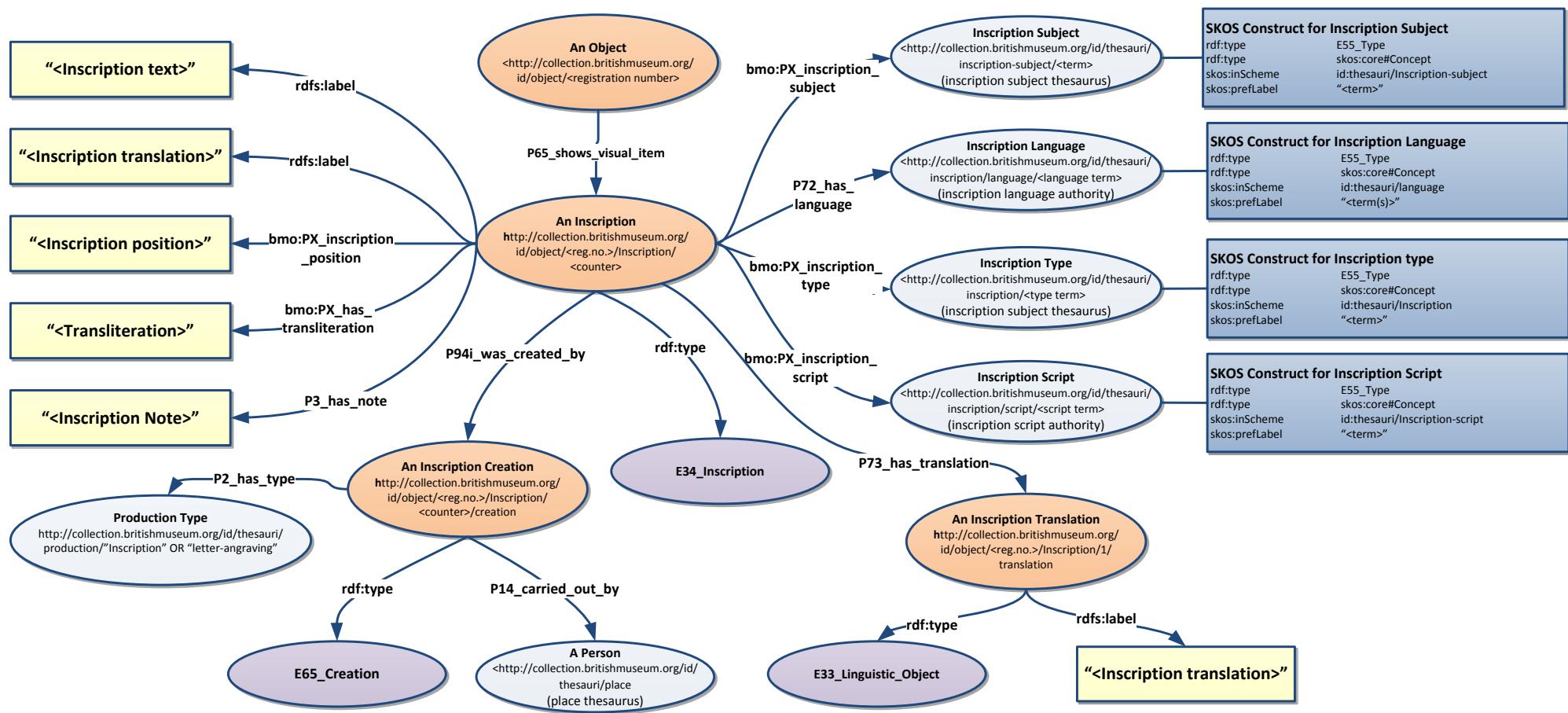
Opaque watercolour painting on mica of an orchid plant with three large flowers. The flowers are yellow with purple centres and serrated petals. The botanical name Cattleya Domiana is hand written on the paper sheet on which the painting is mounted. Part of a bound album of orchid illustrations, the painting is mounted on the album page.

PRN: RFI34126

The inscription can be clearly seen at the bottom

Subject	Predicate	Object
<a href="#">id:object/RFI34126/inscription/1</a>	<a href="#">rdf:type</a>	<a href="#">crm:E43_Inscription</a>
<a href="#">id:object/RFI34126/inscription/1</a>	<a href="#">rdfs:label</a>	"Cattleya Domiana"
<a href="#">id:object/RFI34126/inscription/1</a>	<a href="#">id:ontology/PX_display_wrap</a>	"Inscription note :: The inscription refers to the botanical name of the orchid"
<a href="#">id:object/RFI34126/inscription</a>	<a href="#">crm:P3_has_note</a>	"The inscription refers to the botanical"

ion/1		name of the orchid"
<b>id:object/RFI34126/inscript ion/1</b>	<b>id:ontology/PX_inscription_type</b>	<b>id:thesauri/association/inscription/inscription</b>
<b>id:object/RFI34126/inscript ion/1</b>	<b>id:ontology/PX_inscription_position</b>	<b>"lower border"</b>
<b>id:object/RFI34126/inscript ion/1</b>	<b>crm:P72_has_language</b>	<b>id:thesauri/language/latin</b>





Faience oinochoe decorated in high relief.  
Trefoil mouth (restored); handle modern. Hard gritty paste,  
largely composed of sand and silica, with a coating of pale blue  
enamel or faience. 220BC-200BC (circa)

On the front is a woman to the front leaning over to her right,  
with left hand on side, holding out a small patera over an altar;  
she has a high sphendone, shoes, long chiton, and himation round  
waist gathered up on the left side. The altar is square with  
pilasters round the base, and on the top are cakes of pyramidal  
form. Behind the woman is a meta in the form of a tapering  
obelisk, round which are knotted three wreaths or sashes. On the shoulder is an inscription.

PRN: GAA8229, Registration number 1856,1226.192

The Collection online web page for this object describes the inscription as follows:

**Inscription Type:** inscription

**Inscription Language:** Greek

**Inscription Content:** Βασιλέως Πτολεμαίον

Φιλοπάτορος...

**Inscription Transliteration:** Basileus Ptolemaion Philopatoros...

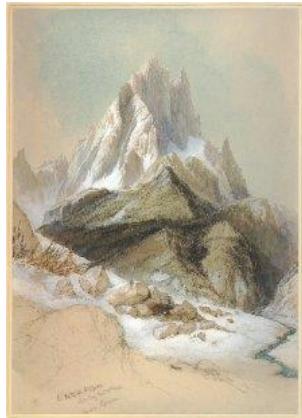
The equivalent data at the Endpoint is:

Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/object/GAA8229/incription/1">http://collection.britishmuseum.org/id/object/GAA8229/incription/1</a>	rdf:type	crm:E43_Inscription
<a href="http://collection.britishmuseum.org/id/object/GAA8229/incription/1">http://collection.britishmuseum.org/id/object/GAA8229/incription/1</a>	rdfs:label	Βασιλέως Πτολεμαίον Φιλοπάτορος...
<a href="http://collection.britishmuseum.org/id/object/GAA8229/incription/1">http://collection.britishmuseum.org/id/object/GAA8229/incription/1</a>	bmo:PX_inscription_subj ect	<a href="http://collection.britishmuseum.org/id/thesauri/inscription-subject/dedicatory">http://collection.britishmuseum.org/id/thesauri/inscription-subject/dedicatory</a>
<a href="http://collection.britishmuseum.org/id/object/GAA8229/incription/1">http://collection.britishmuseum.org/id/object/GAA8229/incription/1</a>	bmo:PX_inscription_type	<a href="http://collection.britishmuseum.org/id/thesauri/inscription/inscription">http://collection.britishmuseum.org/id/thesauri/inscription/inscription</a>
<a href="http://collection.britishmuseum.org/id/object/GAA8229/incription/1">http://collection.britishmuseum.org/id/object/GAA8229/incription/1</a>	bmo:PX_has_transliterat ion	Basileus Ptolemaion Philopatoros...
<a href="http://collection.britishmuseum.org/id/object/GAA8229/incription/1">http://collection.britishmuseum.org/id/object/GAA8229/incription/1</a>	crm:P72_has_language	<a href="http://collection.britishmuseum.org/id/thesauri/language/greek">http://collection.britishmuseum.org/id/thesauri/language/greek</a>

The additional information is the inscription subject and in this case it is 'dedicatory'. The EndPoint holds inscription subjects in its own scheme.

Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/thesauri/inscription-subject/dedicatory">http://collection.britishmuseum.org/id/thesauri/inscription-subject/dedicatory</a>	rdf:type	crm:E55_Typeskos:Concept
<a href="http://collection.britishmuseum.org/id/thesauri/inscription-subject/dedicatory">http://collection.britishmuseum.org/id/thesauri/inscription-subject/dedicatory</a>	skos:inScheme	thes:inscription-subject
<a href="http://collection.britishmuseum.org/id/thesauri/inscription-subject/dedicatory">http://collection.britishmuseum.org/id/thesauri/inscription-subject/dedicatory</a>	skos:prefLabel	dedicatory

The Prints & Drawings collection generally doesn't go to this level and inscriptions are recorded as a label but not categorised in the same way as other objects. For example:



View of the Pic du Midi d'Ossau in the Pyrenees; view on a rocky and snow-covered mountain side looking towards another wooded and sheer peak. 1851

Watercolour, heightened with white, over black chalk, on buff paper

Drawn by Clarkson Stanfield, 1851

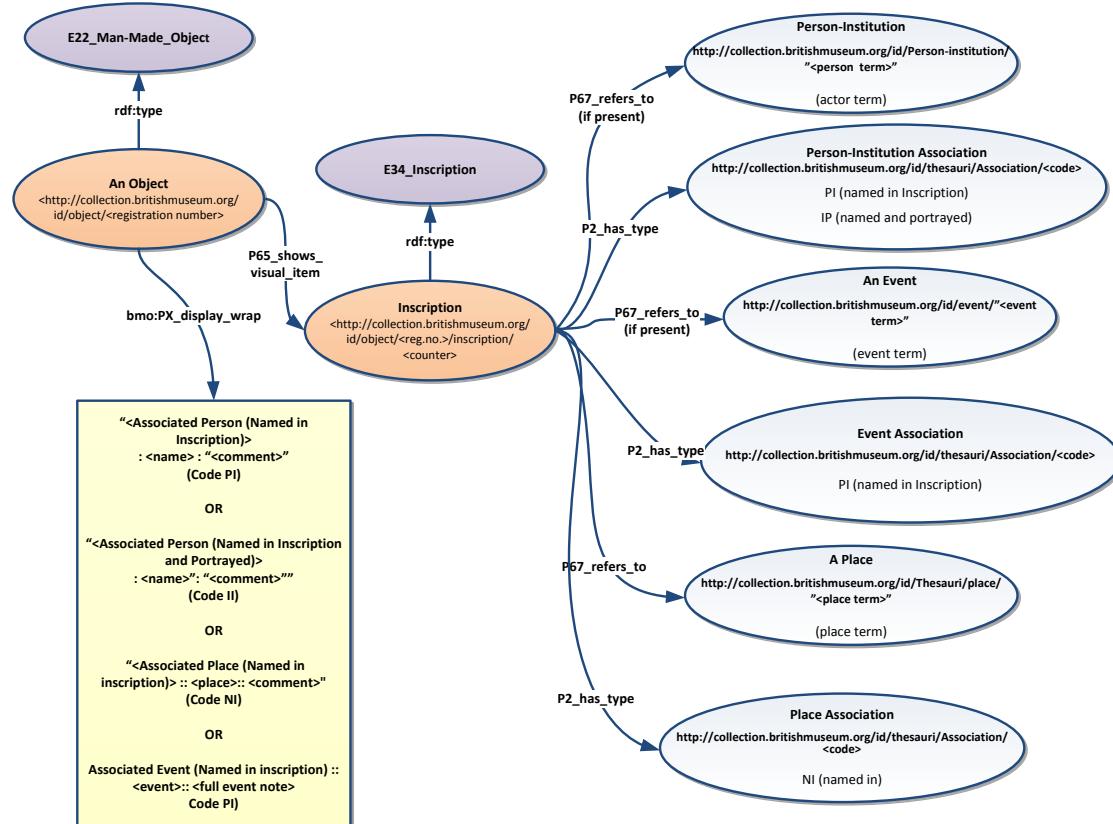
PRN: PDB15572, Registration number 1981,0328.6

The inscription node just bears a label with the text written at the bottom left of the drawing.

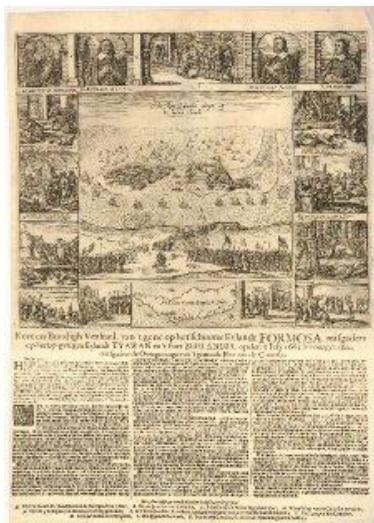
Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/object/PDB15572/inscription/1">http://collection.britishmuseum.org/id/object/PDB15572/inscription/1</a>	rdf:type	crm:E43_Inscription
<a href="http://collection.britishmuseum.org/id/object/PDB15572/inscription/1">http://collection.britishmuseum.org/id/object/PDB15572/inscription/1</a>	rdfs:label	Signed with the artist's monogram, "CS" and inscribed; "Pic du Midi d'Ossau. Saturday Novr. 8th 1851. Basses Pyrenees".

### 6.7.1 Things (people, places, events) referred to in Inscription

While an inscription may have a general subject it may also directly refer to people, groups, places or events). The entity is recorded and an association code provides some context for that reference. A person may be names in the inscription and also portrayed visually in which has two entries are made one of which will use the predicate **P138\_represents** (see Depiction below).



This Prints and Drawings department example refers to the place Fort Zeelandia



A broadside on the siege of the Dutch Fort Zeelandia in Formosa (Taiwan) by Chinese forces; with an engraving showing 17 scenes, in the centre showing an aerial view of Fort Zeelandia under siege, at the top four portraits of Dutch men, at the bottom a map of Taiwan, and on the sides various scenes of cruel acts of the Chinese against Dutch settlers; with engraved inscriptions and lettering A-K, and with letterpress title, text in three columns, and legend. (n.p.: 1661)

PRN: [PPA92389](#), Registration number 1885,1114.143

The coin below is an ancient forgery. The inscription refers to (as well as providing a visual representation of) Marcus Cocceius Nervan a Roman emperor who is described in a linked biographical record. The association code is, 'Named in Inscription' association type.



PRN: CGR91715

Silver coin; ancient forgery.

The coin is a hybrid, with obverse type of Nerva and reverse type of Trajan.

Roman Imperial period.

Subject	Predicate	Subject
<a href="http://collection.britishmuseum.org/id/object/CGR91715/inscription/3">http://collection.britishmuseum.org/id/object/CGR91715/inscription/3</a>	rdf:type	crm:E34_Inscription
<a href="http://collection.britishmuseum.org/id/object/CGR91715/inscription/3">http://collection.britishmuseum.org/id/object/CGR91715/inscription/3</a>	crm:P2_has_type	id:thesauri/association/name_dinscription
<a href="http://collection.britishmuseum.org/id/object/CGR91715/inscription/3">http://collection.britishmuseum.org/id/object/CGR91715/inscription/3</a>	crm:P67_refers_to	id:person-institution/140712

Subject	Predicate	Object
<a href="#">id:person-institution/140712</a>	rdf:type	skos:Concept
<a href="#">id:person-institution/140712</a>	rdf:type	crm:E21_Person
<a href="#">id:person-institution/140712</a>	rdfs:label	"Nerva"
<a href="#">id:person-institution/140712</a>	crm:P12i_was_present_at	<a href="#">id:person-institution/140712/activity/1</a>
<a href="#">id:person-institution/140712</a>	crm:P3_has_note	"Marcus Cocceius Nerva was born in AD 35 and held public offices under Nero (q.v.) and Vespasian (q.v.). He may have been banished to Tarentum by Domitian (q.v.), with whom he may have had a relationship. Nerva was known for his quiet lifestyle before becoming emperor and wrote poetry. Suetonius describes Nerva as feeble in health but handsome,

		with a large nose. Domitian's assassins approached Nerva as a potential emperor only after others had turned down the offer. He was known to have a kindly disposition, and he set free many who had been wrongly accused of treason. In fact, some accused Nerva of giving Romans too much freedom and abolishing too many taxes; he tempered his leniency but never put anyone, even those plotting his downfall, to death. After a year of rule, Nerva was taken captive by the angered Praetorian Guard. The Guard had been faithful to Domitian and sought to avenge his death. He survived and adopted Trajan (q.v.), naming him a Caesar and co-consul. Nerva died of an illness and was later deified by Trajan."
<a href="#">id:person-institution/140712</a>	skos:inScheme	<a href="#">id:person-institution</a>
<a href="#">id:person-institution/140712</a>	id:ontology/PX_field_of_activity_of_the_agent	"ruler"
<a href="#">id:person-institution/140712</a>	id:ontology/PX_field_of_activity_of_the_agent	"royal/imperial"
<a href="#">id:person-institution/140712</a>	id:ontology/PX_gender	<a href="#">id:thesauri/gender/male</a>
<a href="#">id:person-institution/140712</a>	crm:P107i_is_current_or_former_member_of	<a href="#">id:thesauri/nationality/Roman</a>
<a href="#">id:person-institution/140712</a>	crm:P131_is_identified_by	<a href="#">id:person-institution/140712/appellation/1</a>
<a href="#">id:person-institution/140712</a>	crm:P131_is_identified_by	<a href="#">id:person-institution/140712/appellation/2</a>
<a href="#">id:person-institution/140712</a>	crm:P93i_was_taken_out_of_existence_by	<a href="#">id:person-institution/140712/death</a>

Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/thesauri/association/namedescription">http://collection.britishmuseum.org/id/thesauri/association/namedescription</a>	rdf:type	skos:Concept
<a href="http://collection.britishmuseum.org/id/thesauri/association/namedescription">http://collection.britishmuseum.org/id/thesauri/association/namedescription</a>	rdf:type	crm:E55_Type
<a href="http://collection.britishmuseum.org/id/thesauri/association/namedescription">http://collection.britishmuseum.org/id/thesauri/association/namedescription</a>	skos:inScheme	<a href="#">id:thesauri/association</a>
<a href="http://collection.britishmuseum.org/id/thesauri/association/namedescription">http://collection.britishmuseum.org/id/thesauri/association/namedescription</a>	skos:prefLabel	"Named in inscription"

## 6.8 Subject Mapping: Depiction, Representation & Reference

The British Museum's mapping to CRM, as an example, is both useful and problematic. Useful because Museum's collection system serves a whole range of object types and can therefore provide a range of different examples to describe object record mapping to the CRM. However, this can also be problematic because the metadata used in the system is available universally to all the different Museum departments. This has, over time, given some interesting insight into the practice of these departments in the way that they have used the system and making use of metadata not initially designed for a particular object record. This can also lead to some confusion when viewed by other museums, particularly more specialist museums. This precursor may shed some light onto the reasons

why we have mapped certain information in this section and the use of the following property concepts.

### **British Museum subject mapping**

Depiction	P62_depicts	(Flows from Object node)
Representation	P138_represents	(Flows from Visual Item node)
Reference	P67_refers_to	(Flows from Concept node)
Subject	P129_is_about	(Flows from Concept node)

### **Rembrandt (painting) database Mapping**

Depiction	P62_depicts	(Not used)
Representation	P138_represents	(Not used)
Reference	P67_refers_to	(Not used)
Subject	P129_is_about	(Flows from Visual item node)

#### **6.8.1 Depiction and representation**

In the Museum mapping depiction (**P62\_depicts**) and representation (**P138\_represents**) are reserved for identifying places, people, institutions and ethnic group that are visually represented by the objects themselves. They are not used to apply more general subject concepts or to make reference to things that are only implied or alluded to. When we consider reference (**P67\_refers\_to**) we will consider the same descriptive entities but they are referenced indirectly from the object and often with the aid of additional curatorial knowledge. The notion of ‘subject’ is also used in a more conceptual way and uses the property **P128\_is\_about**.

**P138\_represents** is used to document people, places and groups which are typed against their association codes (below). These are representations that directly flow from a visual item. For example, if an object shows a pictorial scene of Venice then Venice is represented on the visual item. This makes the use of the ‘visual item’ a much more likely vehicle for documenting subject matter for an art history museum particular when mapping classical paintings. The use of **P62\_depicts** is simply a shortcut to the same things documented by **P138\_represents** and comes about because of the more generic approach to the wide ranging British Museum collection.

More specifically though the use of **P62\_depicts** and **P138\_represents** is used for person if the following association codes are applied;

- Illustration of/Depicted (AB),
- Portrait of (IP),

- Representation of (IR),
- Emblem of (EE),
- Named in inscription & portrayed (II)

For place, depiction is used with the following place associations;

- Topographic representation of (IT)
- Emblem of (EE)
- PA?

For ethnographic depiction where the association is;

- Representation of (IR),

This print is of a church in Ipswich, Suffolk. The place is internally coded as a ‘topographical representation’ and ‘Ipswich’ is mapped as a place which is both depicted and visually represented.



A parish church with a square tower with pointed windows, a row of arched windows between buttresses in the aisle wall, the church enclosed with iron railings, with a graveyard in front of it, and another church tower in the background. 1841

Etching

Print made by Henry Davy

*PRN: PPA121052, Registration number 1871,0812.2976*

This triple is a shortcut directly to a place that has been depicted. In this case x26872 is the place name, Ipswich in Suffolk.

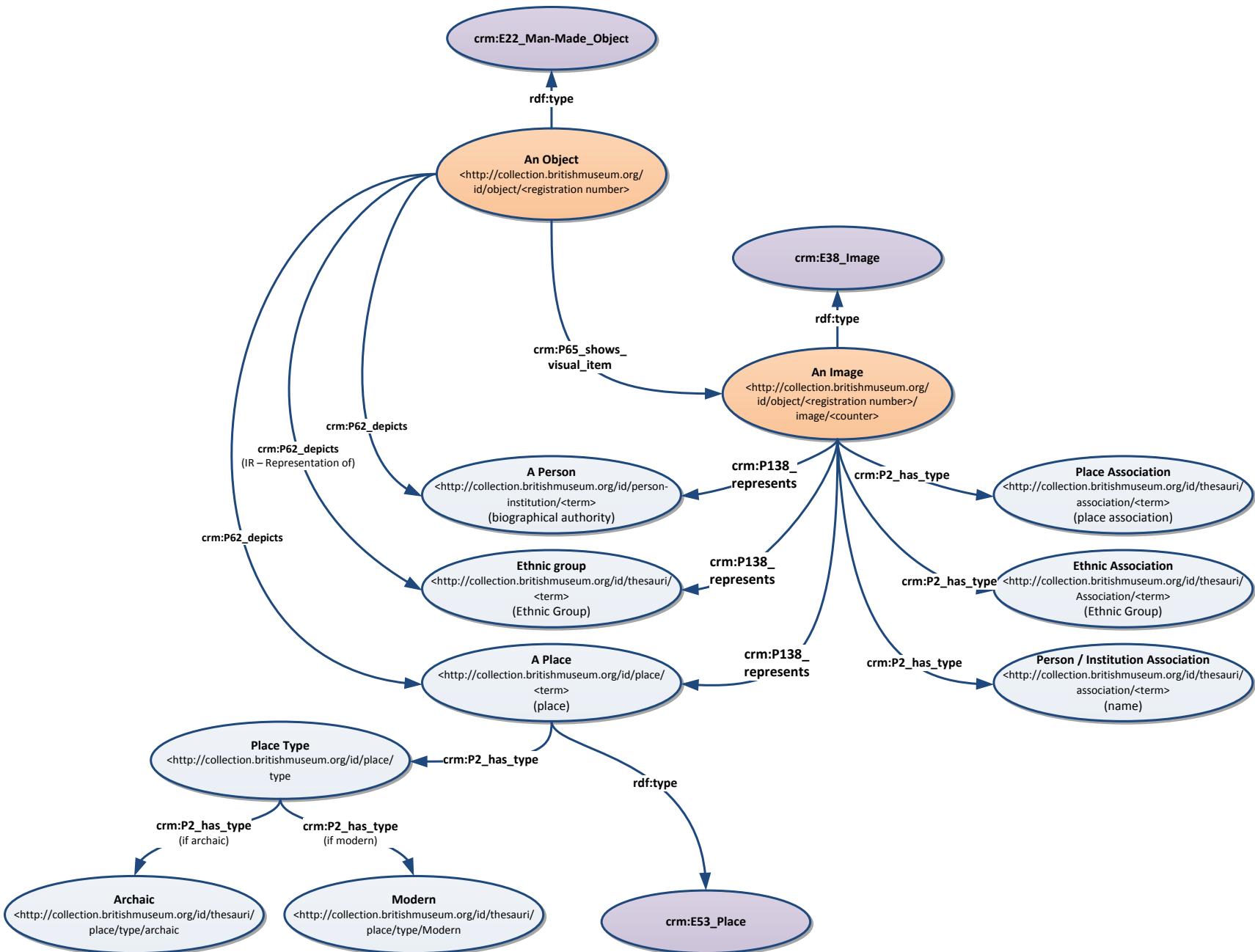
Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/object/PPA121052">http://collection.britishmuseum.org/id/object/PPA121052</a>	crm:P62_depicts	<a href="http://collection.britishmuseum.org/id/place/x26872">http://collection.britishmuseum.org/id/place/x26872</a>

The representation to this place is also made through visual item (an image of) that represents (**P138\_represents**) the same place. The graph diagram below shows both the short cut and the full path.

Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/object/PPA121052">http://collection.britishmuseum.org/id/object/PPA121052</a>	crm:P65_shows_visual_item	<a href="http://collection.britishmuseum.org/id/object/PPA121052/image/1">http://collection.britishmuseum.org/id/object/PPA121052/image/1</a>
<a href="http://collection.britishmuseum.org/id/object/PPA121052/image/1">http://collection.britishmuseum.org/id/object/PPA121052/image/1</a>	rdf:type	crm:E38_Image
<a href="http://collection.britishmuseum.org/id/object/PPA121052/image/1">http://collection.britishmuseum.org/id/object/PPA121052/image/1</a>	crm:P2_has_type	<a href="http://collection.britishmuseum.org/id/thesauri/association/IT">http://collection.britishmuseum.org/id/thesauri/association/IT</a>
<a href="http://collection.britishmuseum.org/id/object/PPA121052/image/1">http://collection.britishmuseum.org/id/object/PPA121052/image/1</a>	crm:P138_represents	<a href="http://collection.britishmuseum.org/id/place/x26872">http://collection.britishmuseum.org/id/place/x26872</a>

The forge coin above had an inscription that referred the name Marcus Cocceius Nervan. Since he is also portrayed in an image on the coin the triples above would also be used to depict, not a place, but a person, again with a full path to denote the visual representation of the Roman emperor.

**Note:** Some objects have illustrations that are considered as an emblem (e.g. coat of arms, company logo, etc), these don't necessary directly depict a group or place but are closely related. Officially these should be mapped slightly differently but for the time being we have treated these symbols like more explicit depictions or representations. Clearly those researchers who are interested in these specific types of representation would benefit from further qualification and a further model may be included in the future. Note also that places are differentiated into modern and archaic.



## 6.8.2 References

In Inscriptions above we saw that text on an object will often refer to people, places and events. While objects themselves may provide direct representations or depictions they may also provide some less obvious references to these types of entity. These references would require some additional knowledge to understand their association. As such they have been classified as concepts and instead of using the visual item node we have created an artificial node called ‘concept’. For example, the patterns used to decorate a pot may indicate and imply a particular ethnic group that may not be apparent to someone without knowledge of the particular design. It would refer to an ethnic group but not explicitly.

A concept may be applied even though something has been specifically identified through different means. In other words, concepts are applied independently of any other documentation that may indicate the same thing. For example, take a painting of Hadleigh Castle. The mapping may say that the painting depicts Hadleigh Castle as a place. A place term is not a subject term and the painting itself does not directly indicate what the place, Hadleigh Castle, is (even though the place name has the word ‘castle’ in it). To record the more conceptual subject of the painting it would carry a concept node (**P128\_carries**) from which a connection is made to the subject authority terms, a ‘castle/fort’, using **P129\_is\_about**.

For places, instead of **P129\_is\_about** the property **P67\_refers\_to** is used. This property also applies to an event or for a person although events may also be used with **bmo:PX\_commemorates** (one of the few specialisations created). The Museum associations used in these instances are;

Person-Institution	Associated with (person) (PO)
Place	Associated with (place) (AW)
Event	Associated Event (IW)
Event	Commemoration of (IC)
Ethnic group	Attributed to the Workshop of (AW)

These are all codes that denote a slightly weaker reference. However, in the case of subject, this is automatically considered a more conceptual reference and therefore subjects (from the Museum’s subject authority) are almost always recorded as a carried concept using the property **P129\_is\_about**. In the previous example of Hadleigh castle, the triples displayed below show a concept node which is connected to the preferred subject term, castle/fort. This is a concept that is not completely explicit from the drawing itself.

Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/object/PPA7794">http://collection.britishmuseum.org/id/object/PPA7794</a>	crm:P128_carr ies	<a href="http://collection.britishmuseum.org/id/object/PPA7794/concept/1">http://collection.britishmuseum.org/id/object/PPA7794/concept/1</a>

Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/object/PPA7794">http://collection.britishmuseum.org/id/object/PPA7794</a>	rdf:type	crm:E73_Information Object
<a href="http://collection.britishmuseum.org/id/object/PPA7794">http://collection.britishmuseum.org/id/object/PPA7794</a>	crm:P129_is_a bout	thes:x12597

Subject	Predicate	Object
thes:x12597	skos:prefLabel	castle/fort

The following book illustration shows another example of depiction, representation and reference.



Four head studies, on white ground: on the left two Black men, bare headed; on the right, two men with turbans; illustration to Denon's 'Voyage dans la Basse et la Haute Egypte' (Paris, 1802), volume III, plate 106. c.1799/1802  
Etching

1952,0405.84

Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/object/PPA97286">http://collection.britishmuseum.org/id/object/PPA97286</a>	<a href="#">crm:P65_shows_visual_item</a>	<a href="http://collection.britishmuseum.org/id/object/PPA97286/inscription/1">http://collection.britishmuseum.org/id/object/PPA97286/inscription/1</a>
<a href="http://collection.britishmuseum.org/id/object/PPA97286">http://collection.britishmuseum.org/id/object/PPA97286</a>	<a href="#">crm:P65_shows_visual_item</a>	<a href="http://collection.britishmuseum.org/id/object/PPA97286/image/1">http://collection.britishmuseum.org/id/object/PPA97286/image/1</a>
<a href="http://collection.britishmuseum.org/id/object/PPA97286">http://collection.britishmuseum.org/id/object/PPA97286</a>	<a href="#">crm:P62_depicts</a>	<a href="http://collection.britishmuseum.org/id/person-institution/25019">http://collection.britishmuseum.org/id/person-institution/25019</a>
<a href="http://collection.britishmuseum.org/id/object/PPA97286">http://collection.britishmuseum.org/id/object/PPA97286</a>	<a href="#">crm:P128_carries</a>	<a href="http://collection.britishmuseum.org/id/object/PPA97286/concept/1">http://collection.britishmuseum.org/id/object/PPA97286/concept/1</a>
<a href="http://collection.britishmuseum.org/id/object/PPA97286">http://collection.britishmuseum.org/id/object/PPA97286</a>	<a href="#">crm:P128_carries</a>	<a href="http://collection.britishmuseum.org/id/object/PPA97286/concept/2">http://collection.britishmuseum.org/id/object/PPA97286/concept/2</a>

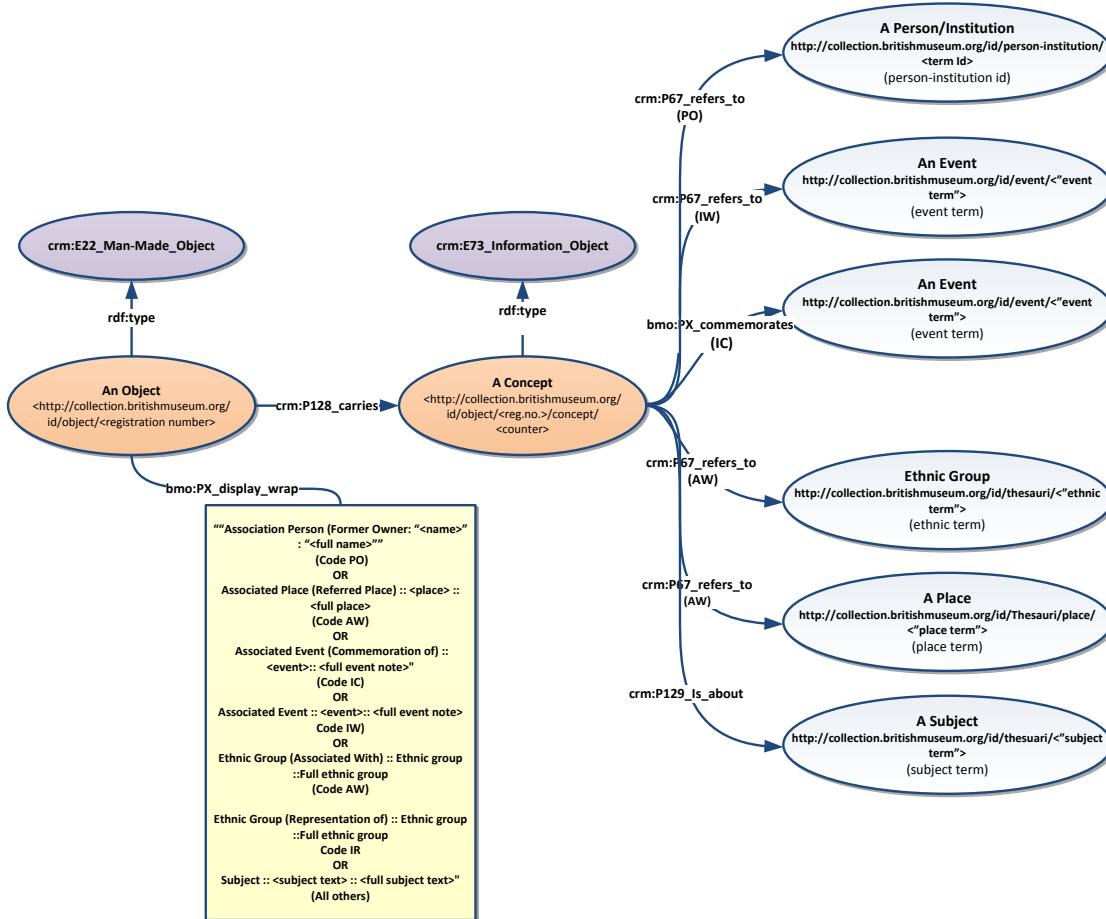
In this case the illustration depicts a particular person, Denon himself, which is recorded with the association code 'depicted'. It shows a visual item, which again is Denon who is directly represented in the drawing, so <http://collection.britishmuseum.org/id/object/PPA97286/image/1>, as a **subject**, will have a **predicate** of **P138\_represents** and an **object** which is the person-institution term id for Denon (as with depiction). There are two concepts. The first is 'black', referring to ethnic group as a subject (**P129\_is\_about**), and the second is the place Egypt. From the drawing there is no overt indication (or representation) that the scene is set in Egypt, but we know that it is. In summary:

A person is directly depicted.

The person is also a visual item which has been represented (is an illustration of or depiction of the person).

A subject has been assigned (a concept) to give some information about what the drawing is about.

A place, Egypt, though not obvious and not directly represented, is referenced as a concept.



In this last example, the print below has a reference to Joseph of Arimathea, Sir Robert Ainslie and to Palestine. The last two are not obvious from the title, while Joseph of Arimathea may not be obvious unless the title was known. Ainslie commissioned Luigi Mayer (an important German ‘Orientalist’ artist to produce various drawings a collection of which formed ‘Views in Palestine’.



Tomb of Joseph of Arimathea (1803)

Published by Robert Bowyer

After Luigi Mayer

Print made by Thomas Milton

Plate 7 in volume II: a group of men on the right, standing and looking towards the tomb on the left; a man descending steps in the right foreground; another man at a window in the

centre, three men on the other side of the tomb; after Mayer; published state. 1803  
Hand-coloured aquatint with etching.

PRN: PPA264910

Concept 1 refers to the biographical record for Robert Ainslie;

Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/object/PPA264910/concept/1">http://collection.britishmuseum.org/id/object/PPA264910/concept/1</a>	rdf:type	crm:E73_Information_Object
<a href="http://collection.britishmuseum.org/id/object/PPA264910/concept/1">http://collection.britishmuseum.org/id/object/PPA264910/concept/1</a>	crm:P67_refer_s_to	id:person-institution/16977

Which contains the following:

Subject	Predicate	Object
<a href="#">id:person-institution/16977</a>	id:ontology/PX_field_of_activity_of_the_agent	"collector"
<a href="#">id:person-institution/16977</a>	id:ontology/PX_field_of_activity_of_the_agent	"official"
<a href="#">id:person-institution/16977</a>	id:ontology/PX_gender	id:thesauri/gender/male
<a href="#">id:person-institution/16977</a>	crm:P107i_is_current_or_former_member_of	id:thesauri/nationality/British
<a href="#">id:person-institution/16977</a>	crm:P131_is_identified_by	id:person-institution/16977/appellation/1
<a href="#">id:person-institution/16977</a>	crm:P3_has_note	"Ambassador and numismatist. Coins from his collection came to the BM as part of the collection of William Marsden (q.v.)."
<a href="#">id:person-institution/16977</a>	crm:P92i_was_brought_into_existence_by	id:person-institution/16977/birth
<a href="#">id:person-institution/16977</a>	crm:P93i_was_taken_out_of_existence_by	id:person-institution/16977/death
<a href="#">id:person-institution/16977</a>	rdf:type	crm:E21_Person
<a href="#">id:person-institution/16977</a>	rdf:type	skos:Concept
<a href="#">id:person-institution/16977</a>	rdfs:label	" Sir Robert Ainslie "
<a href="#">id:person-institution/16977</a>	skos:inScheme	id:person-institution

Concept two also refers to a biographical record.

Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/object/PPA264910/concept/2">http://collection.britishmuseum.org/id/object/PPA264910/concept/2</a>	rdf:type	crm:E73_Information_Object
<a href="http://collection.britishmuseum.org/id/object/PPA264910/concept/2">http://collection.britishmuseum.org/id/object/PPA264910/concept/2</a>	crm:P67_refer_s_to	id:person-institution/79152

With the details;

Subject	Predicate	Object
<a href="#">id:person-institution/79152</a>	id:ontology/PX_field_of_activity_of_the_agent	"saint/martyr"
<a href="#">id:person-institution/79152</a>	id:ontology/PX_gender	id:thesauri/gender/male
<a href="#">id:person-</a>	crm:P131_is_identified_by	id:person-

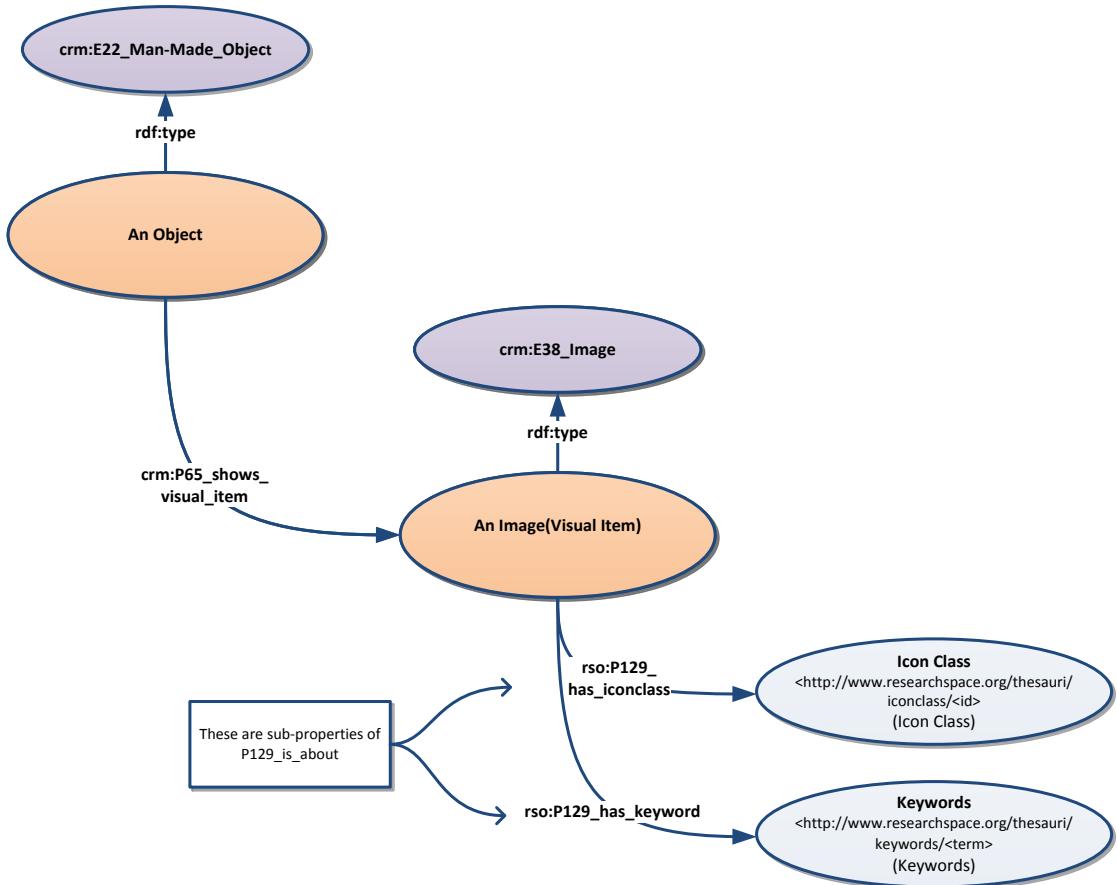
<b>institution/79152</b>		institution/79152/appellation/1
<b>id:person-institution/79152</b>	crm:P131_is_identified_by	id:person-institution/79152/appellation/2
<b>id:person-institution/79152</b>	crm:P131_is_identified_by	id:person-institution/79152/appellation/3
<b>id:person-institution/79152</b>	crm:P3_has_note	"Christian saint and disciple; present at the Deposition, laying Christ's body in his own tomb; reputed to have founded the first church at Glastonbury."
<b>id:person-institution/79152</b>	crm:P92i_was_brought_into_existence_by	id:person-institution/79152/birth
<b>id:person-institution/79152</b>	rdf:type	crm:E21_Person
<b>id:person-institution/79152</b>	rdf:type	skos:Concept
<b>id:person-institution/79152</b>	rdfs:label	"St Joseph of Arimathaea"
<b>id:person-institution/79152</b>	skos:inScheme	id:person-institution

Lastly a reference to Palestine is documented as follows:

Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/object/PPA264910/concept/3">http://collection.britishmuseum.org/id/object/PPA264910/concept/3</a>	rdf:type	crm:E73_Information_Object
<a href="http://collection.britishmuseum.org/id/object/PPA264910/concept/3">http://collection.britishmuseum.org/id/object/PPA264910/concept/3</a>	crm:P67_refer_s_to	id:place/x32436

Subject	Predicate	Object
<b>id:place/x32436</b>	crm:P2_has_type	id:place/name/type/archaic
<b>id:place/x32436</b>	crm:P2_has_type	id:place/type/C
<b>id:place/x32436</b>	crm:P88i_forms_part_of	id:place/x25602
<b>id:place/x32436</b>	rdf:type	crm:E53_Place
<b>id:place/x32436</b>	rdf:type	skos:Concept
<b>id:place/x32436</b>	skos:altLabel	"Near East"
<b>id:place/x32436</b>	skos:altLabel	"Palestine"
<b>id:place/x32436</b>	skos:broader	id:place/x25602
<b>id:place/x32436</b>	skos:inScheme	id:place
<b>id:place/x32436</b>	skos:prefLabel	"Palestine"

The mapping of Rembrandt paintings from the RKD's Rembrandt database are different. The RKD have specific term authorities that relate specially for art history. These are their icon-class vocabulary and there keyword system. The more specific nature of these vocabularies means that instead of using a conceptual node the two types of subject authority are used directly against the visual item node. The icon class authority is identifying things that are both conceptual but directly represented. The keyword system is also identifying key things about the painting. In these two cases **P129\_is\_about** is used but the class has been extended so that we have two sub-properties of **P129\_is\_about** called **P129\_has\_keywords** and **P129\_has\_iconclass**. Note that sub properties can use the same CRM number of the property they are extending. It may be that some keywords are more conceptual than others but these are not differentiated and the majority of terms have obvious associations with the painting. Here is the example for a Rembrandt painting from the RKD.



'Aristotle with a bust of Homer' by Rembrandt.		
Icon Class Aristotle Homer		Keywords bust - sculpture, hip piece, head left, classical history, man
'The toilet of Bathsheba' by Rembrandt		
Icon Class David, from the roof (or balcony) of his palace, sees Bathsheba bathing@en Bathsheba (not in biblical context)@en		Keywords Old Testament

Icon Class and keywords contain a whole range of different subjects, including people and places. However, these different terms do not have types. On the whole they refer to the painting directly (and therefore the visual item). Therefore instead of creating a conceptual node as the Museum have done, the subject terms are mapped directly against the visual item node. Although semantically some terms may be more conceptual this fits the intentions of the terminologies better in this case. Ultimately these terms match the museums under the **P129\_is\_about** generalisation.

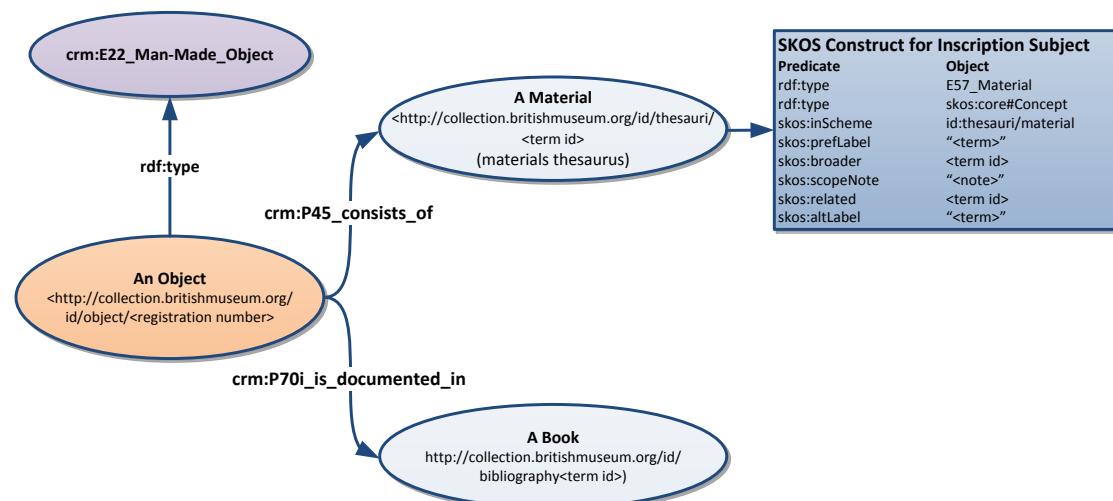
## 6.9 Materials from which objects are made from (P45\_consists\_of)

### 6.9.1 What is the material of an object?

The British Museum materials thesaurus contains a hierarchy of raw materials used in the manufacture and creation of objects. Some tablets are made of clay, a figurine may have been carved from wood and that wood may be identified to a particular type, oak, pine, etc. A weapon may be forged from a particular kind of steel. Objects are often made from more than one material. The extent to which all materials for an object are recorded is variable and would depend upon a number of factors including significance and knowledge at the time of recording.

The CRM records these materials through the use of **P45\_consists\_of**. This relationship requires an actual object (a man-made object **E22**) for which **P45** is allowed to apply and has the inverse relationship **P45i\_is\_incorporated\_in**. This should not be confused with **P46\_is\_composed\_of** which is used to identify components (parts) of an object (a physical thing) rather than the raw materials.

Material has a specific CRM type, **E57\_Material**.



For an object from the series known as the Benin Bronzes, the object consists of the thesaurus term <http://collection.britishmuseum.org/id/thesauri/x10411> which provides the following output confirming that the material used is brass rather than bronze.



Example from the Benin Bronzes (16thC-17thC) – not bronze!

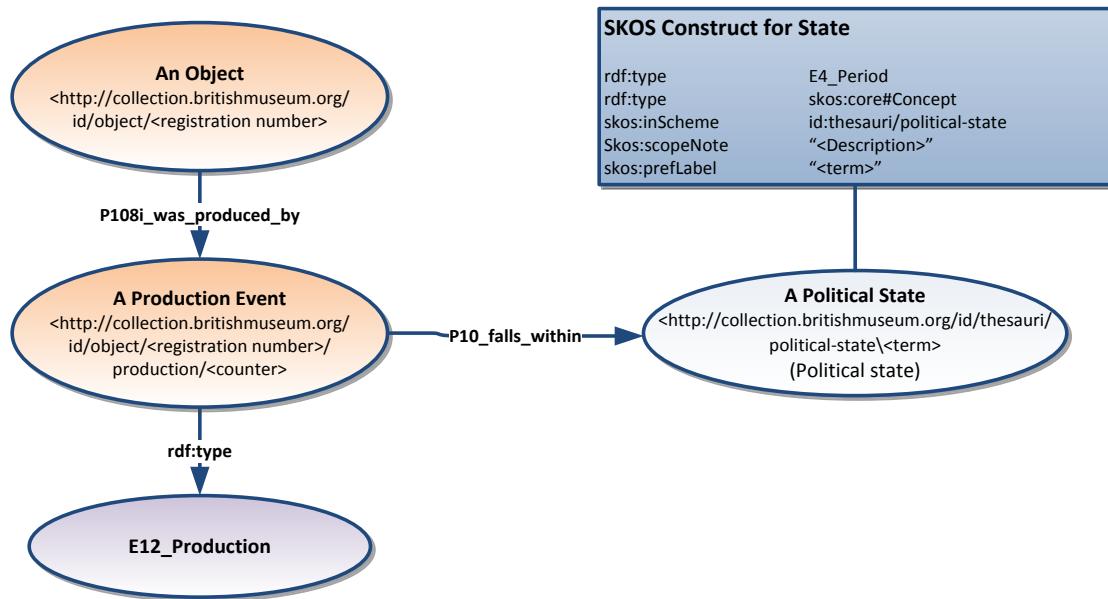
Relief plaque made of brass cast using the 'cire perdue' (lost wax) technique. Rectangular in form with side flanges (largely missing). Holes for attachment at top and bottom right. Background surface is decorated with stylised quatrefoil (river leaf) patterns and stippling.

The relief brass plaques that used to decorate the Oba's (King's) palace are among the most well-known of all the royal arts of Benin. Although frequently described as 'Benin Bronzes' most plaques are made of leaded brass in various compositions.

Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/thesauri/x10411">http://collection.britishmuseum.org/id/thesauri/x10411</a>	rdf:type	skos:Concept
<a href="http://collection.britishmuseum.org/id/thesauri/x10411">http://collection.britishmuseum.org/id/thesauri/x10411</a>	rdf:type	crm:E57_Material
<a href="http://collection.britishmuseum.org/id/thesauri/x10411">http://collection.britishmuseum.org/id/thesauri/x10411</a>	skos:inScheme	id:thesauri/material
<a href="http://collection.britishmuseum.org/id/thesauri/x10411">http://collection.britishmuseum.org/id/thesauri/x10411</a>	skos:prefLabel	"brass"
<a href="http://collection.britishmuseum.org/id/thesauri/x10411">http://collection.britishmuseum.org/id/thesauri/x10411</a>	skos:scopeNote	"The term copper alloy should be searched for full retrievals on objects made of bronze or brass. This is because bronze and brass have at times been used interchangeably in the old documentation, and copper alloy is the Broad Term of both. In addition, the public may refer to certain collections by their popular name, such as 'The Benin Bronzes' most of which are actually made of brass."
<a href="http://collection.britishmuseum.org/id/thesauri/x10411">http://collection.britishmuseum.org/id/thesauri/x10411</a>	skos:broader	id:thesauri/x10627

## 6.10 Political State

Throughout history different administrative and political states have emerged, expanded and in many cases disappeared. These different states and empires under which the object was produced (this is another aspect of production) provide further contextual and historical information to the objects and in some cases are recorded. They include, for example, Persia; the Lordship of Ireland; and the Latin Empire of Constantinople. A full list can be displayed on the SPARQL Endpoint querying the political-state scheme recorded as a SKOS concept terminology. Political state is incorporated using **P10\_falls\_within**.



## 6.11 Series

Objects of a particular type can form a series of objects. For example, Egyptian funerary cones are baked clay ornaments on which hieroglyphs were inscribed onto round end. They are documented in, 'A Corpus of Inscribed Egyptian Funerary Cones' (Davies and Macadam), where different types of cone are described (particular types were reproduced for different burials creating many examples of the same type). The Museum records a type for funerary cones that conform to the reference used in the corpus described by Davies and Macadam. For example, a number of funerary cones will have the same Davies-MacAdam corpus number; e.g. <http://collection.britishmuseum.org/id/thesauri/series-type/Davies-Macadam-374>, and form a series.

### Funerary Cone

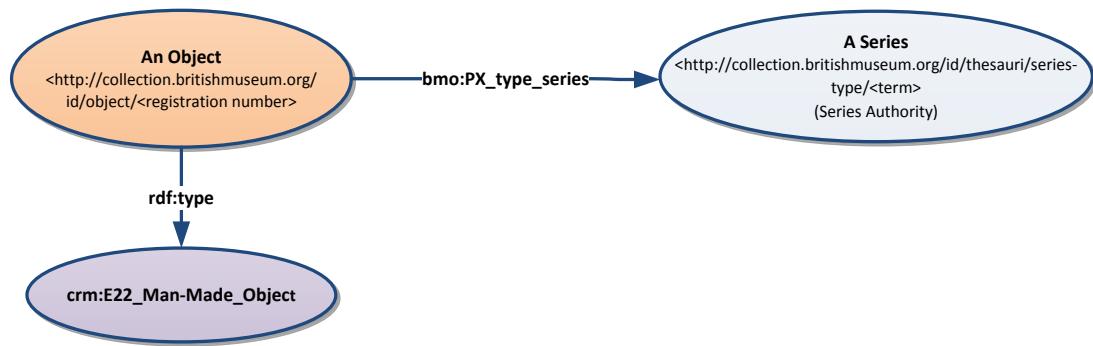


Pottery funerary cone. The circular end bears a hieroglyphic inscription, in raised relief, created by stamping the cone prior to firing. The text reads: "One blessed before Osiris, the scribe and grain-[accountant] of Amun, Netjerymes, true of voice, and the Lady of the House Mutnofret"

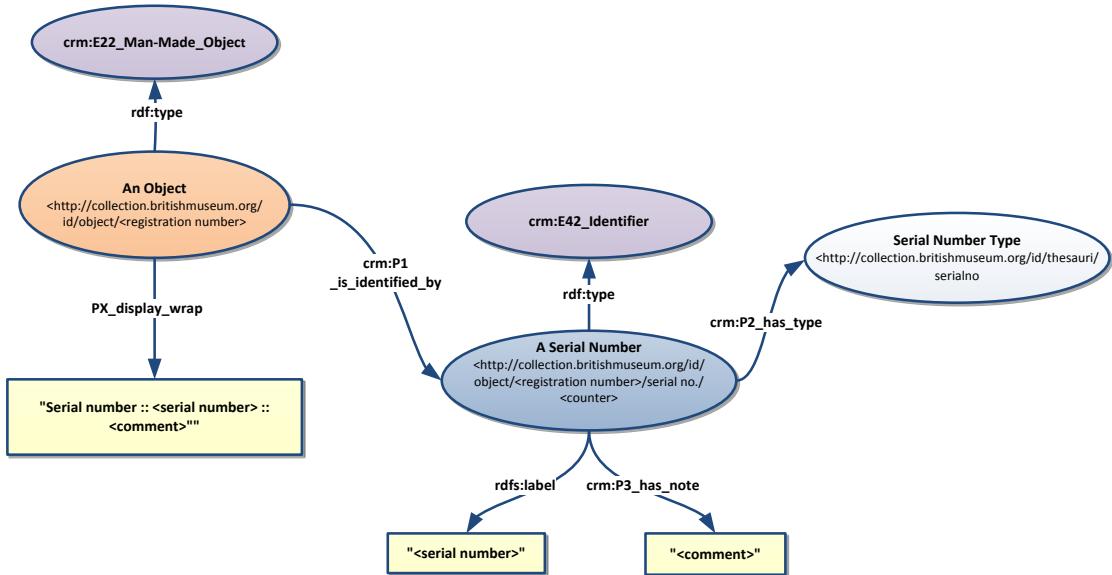
PRN: EA62871

This, in turn, is described through normal a normal SKOS schema.

Subject	Predicate	Object
<a href="#">id:thesauri/series-type/Davies-Macadam-374</a>	rdf:type	skos:Concept
<a href="#">id:thesauri/series-type/Davies-Macadam-374</a>	rdf:type	crm:E55_Type
<a href="#">id:thesauri/series-type/Davies-Macadam-374</a>	skos:inScheme	<a href="#">id:thesauri/series-type</a>
<a href="#">id:thesauri/series-type/Davies-Macadam-374</a>	skos:prefLabel	"Davies-Macadam 374"



A separate serial number is also applied to objects within a particular type series so that they are differentiated. The number and any associated comment are recorded as literals and combined in a delimited display wrap. The resulting model uses the same **P1\_is\_identified\_by** as was used for object identifiers and is then typed (**P2\_has\_type**) to say that the identifier is a serial number, again, the same as object identifiers.



## 6.12 Repair

A repair is a type of modification (**E11\_Modification**) and therefore an object repair is documented using (**P31i\_was\_modified\_by**). Although there is currently only one code in the modification terminology it is nevertheless covered by a SKOS construct for consistency. In the following case the object has been repaired by two people in different places.



SILVER PAIR-CASED VERGE WATCH.

Verge escapement.

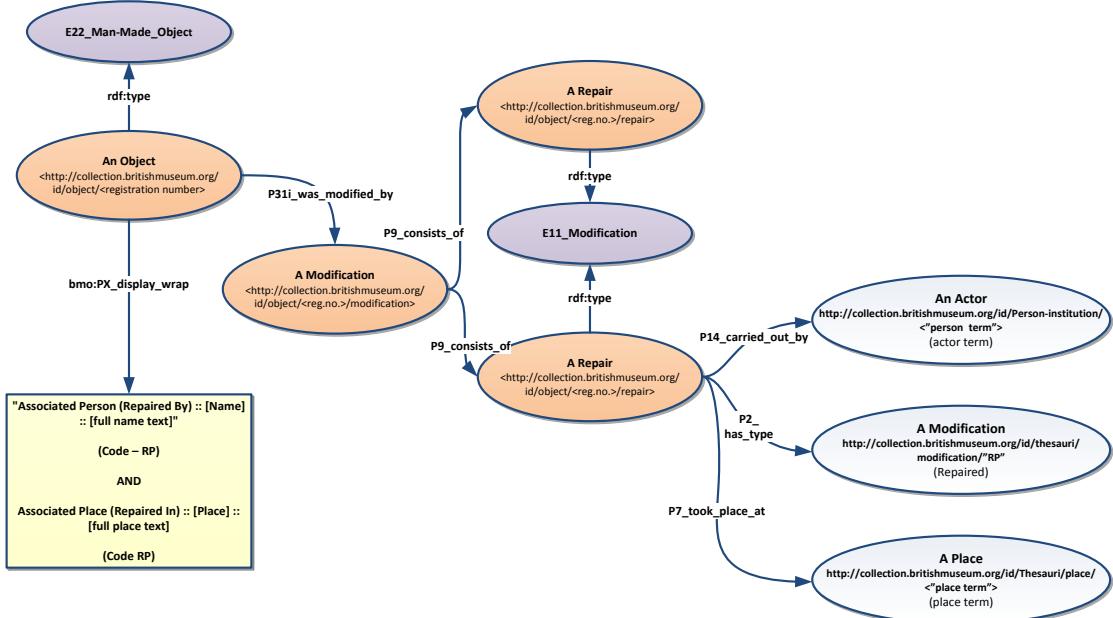
Coloured enamel dial centre with inscription.

Silver pair cases.

Gold hands.

Four watch-papers; pink, green, yellow and white; pink and green with Royal Arms with supporters and motto, white once a betting-ticket.

PRN: MCC2567



The triples for the watch above are:

Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/object/MCC2567/repair">http://collection.britishmuseum.org/id/object/MCC2567/repair</a>	crm:P14_carried_out_by	id:person-institution/65345
<a href="http://collection.britishmuseum.org/id/object/MCC2567/repair">http://collection.britishmuseum.org/id/object/MCC2567/repair</a>	crm:P14_carried_out_by	id:person-institution/66492
<a href="http://collection.britishmuseum.org/id/object/MCC2567/repair">http://collection.britishmuseum.org/id/object/MCC2567/repair</a>	crm:P2_has_type	id:thesauri/modification/RP
<a href="http://collection.britishmuseum.org/id/object/MCC2567/repair">http://collection.britishmuseum.org/id/object/MCC2567/repair</a>	crm:P7_took_place_at	id:place/x34209
<a href="http://collection.britishmuseum.org/id/object/MCC2567/repair">http://collection.britishmuseum.org/id/object/MCC2567/repair</a>	crm:P7_took_place_at	id:place/x34210
<a href="http://collection.britishmuseum.org/id/object/MCC2567/repair">http://collection.britishmuseum.org/id/object/MCC2567/repair</a>	rdf:type	crm:E11_Modification

Here is the biographical record for one of the repairers.

Subject	Predicate	Subject
<a href="http://collection.britishmuseum.org/id/person-institution/66492">http://collection.britishmuseum.org/id/person-institution/66492</a>	id:ontology/PX_field_of_activity_of_the_agent	"clockmaker/watchmaker"
<a href="http://collection.britishmuseum.org/id/person-institution/66492">http://collection.britishmuseum.org/id/person-institution/66492</a>	id:ontology/PX_gender	id:thesauri/gender/male
<a href="http://collection.britishmuseum.org/id/person-institution/66492">http://collection.britishmuseum.org/id/person-institution/66492</a>	crm:P12i_was_present_at	id:person-institution/66492/activity/1
<a href="http://collection.britishmuseum.org/id/person-institution/66492">http://collection.britishmuseum.org/id/person-institution/66492</a>	crm:P131_is_identified_by	id:person-institution/66492/appellation/1
<a href="http://collection.britishmuseum.org/id/person-institution/66492">http://collection.britishmuseum.org/id/person-institution/66492</a>	crm:P3_has_note	"Watchmaker and jeweller."
<a href="http://collection.britishmuseum.org/id/person-institution/66492">http://collection.britishmuseum.org/id/person-institution/66492</a>	rdf:type	crm:E21_Person
<a href="http://collection.britishmuseum.org/id/person-institution/66492">http://collection.britishmuseum.org/id/person-institution/66492</a>	rdfs:label	"Frederick Burton"
<a href="http://collection.britishmuseum.org/id/person-institution/66492">http://collection.britishmuseum.org/id/person-institution/66492</a>	skos:inScheme	id:person-institution

### 6.12.1 SPARQL – Finding Repair by Biographical record

PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>

PREFIX crm: <http://erlangen-crm.org/current/>

SELECT ?Repair ?Predicate ?Object

WHERE

{

?Repair rdf:type crm:E11\_Modification .

#Subject is ther Repair node - use ?Repair as the variable normally

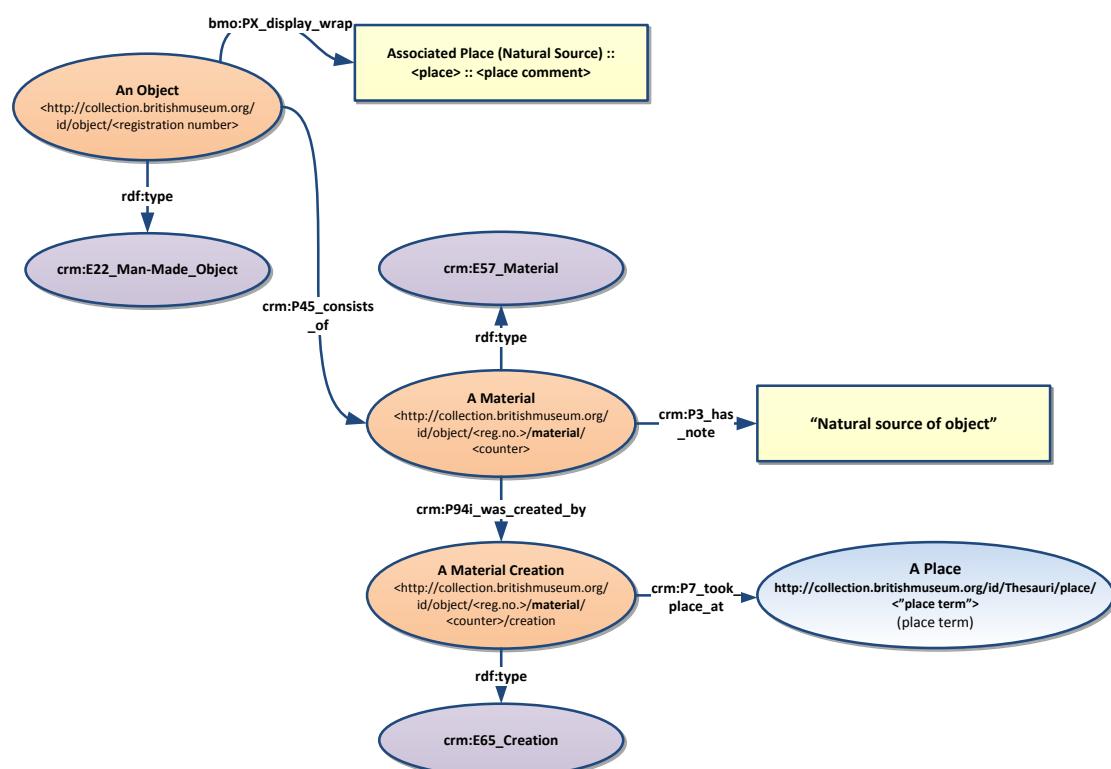
?Repair crm:P14\_carried\_out\_by <http://collection.britishmuseum.org/id/person-institution/65345> .

?Repair ?Predicate ?Object .

}

### 6.13 Material with a Natural Source

This is triggered by the BM association code, NS (Natural Source). An object is made of one or more materials. In some circumstances the source of the natural material that was used in the production of the object is known and is recorded. For this situation a creation event is used to denote the process of sourcing the material. There is no typing of the creation.





Sample of lapis lazuli (semi-precious stone)

This sample was excavated at the Royal Cemetery at Ur in modern Iran and collected to show materials used by craftspeople. Lapis lazuli is a semi precious stone which we know was being mined in the Badakhshan region from the 3<sup>rd</sup> millennium BC and is the natural source of the collection object.

Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/object/WCO24441/ma">http://collection.britishmuseum.org/id/object/WCO24441/ma</a> terial/1/creation	rdf:type	crm:E65_Crea tion
<a href="http://collection.britishmuseum.org/id/object/WCO24441/ma">http://collection.britishmuseum.org/id/object/WCO24441/ma</a> terial/1/creation>	crm:P7_took_pla ce_at	id:place/x105 253

Subject	Property	Object
<a href="http://collection.britishmuseum.org/id/place/x1">http://collection.britishmuseum.org/id/place/x1</a> 05253	crm:P2_has_type	id:place/name/type/mod ern
<a href="http://collection.britishmuseum.org/id/place/x1">http://collection.britishmuseum.org/id/place/x1</a> 05253	crm:P2_has_type	id:place/type/E
<a href="http://collection.britishmuseum.org/id/place/x1">http://collection.britishmuseum.org/id/place/x1</a> 05253	crm:P88i_forms_part _of	id:place/x20767
<a href="http://collection.britishmuseum.org/id/place/x1">http://collection.britishmuseum.org/id/place/x1</a> 05253	rdf:type	crm:E53_Place
<a href="http://collection.britishmuseum.org/id/place/x1">http://collection.britishmuseum.org/id/place/x1</a> 05253	rdf:type	skos:Concept
<a href="http://collection.britishmuseum.org/id/place/x1">http://collection.britishmuseum.org/id/place/x1</a> 05253	skos:broader	id:place/x20767
<a href="http://collection.britishmuseum.org/id/place/x1">http://collection.britishmuseum.org/id/place/x1</a> 05253	skos:inScheme	id:place
<a href="http://collection.britishmuseum.org/id/place/x1">http://collection.britishmuseum.org/id/place/x1</a> 05253	skos:prefLabel	"Badakhshan"
<a href="http://collection.britishmuseum.org/id/place/x1">http://collection.britishmuseum.org/id/place/x1</a> 05253	crm:P67_refers_to	-



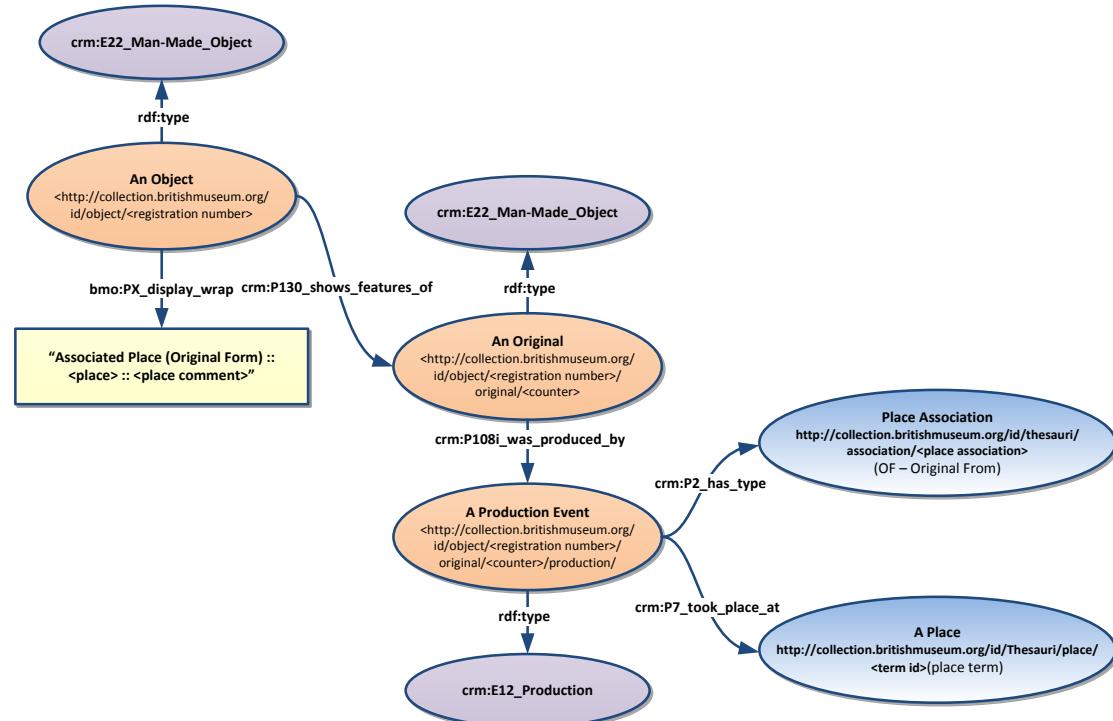
This unfired clay prayer-stone produced with materials that came from earth near to the sacred place where it was found. The natural source is recorded as Meshed 'Ali (a shrine and a small town).

Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/object/WCO87081/material/1/creation">http://collection.britishmuseum.org/id/object/WCO87081/material/1/creation</a>	rdf:type	crm:E65_Creation
<a href="http://collection.britishmuseum.org/id/object/WCO87081/material/1/creation">http://collection.britishmuseum.org/id/object/WCO87081/material/1/creation</a>	crm:P7_took_place_at	id:place/x103544

Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/place/x103544">http://collection.britishmuseum.org/id/place/x103544</a>	crm:P2_has_type	id:place/name/type/arc_haic
<a href="http://collection.britishmuseum.org/id/place/x103544">http://collection.britishmuseum.org/id/place/x103544</a>	crm:P2_has_type	id:place/type/K
<a href="http://collection.britishmuseum.org/id/place/x103544">http://collection.britishmuseum.org/id/place/x103544</a>	crm:P88i_forms_part_of	id:place/x103543
<a href="http://collection.britishmuseum.org/id/place/x103544">http://collection.britishmuseum.org/id/place/x103544</a>	rdf:type	crm:E53_Place
<a href="http://collection.britishmuseum.org/id/place/x103544">http://collection.britishmuseum.org/id/place/x103544</a>	rdf:type	skos:Concept
<a href="http://collection.britishmuseum.org/id/place/x103544">http://collection.britishmuseum.org/id/place/x103544</a>	skos:broader	id:place/x103543
<a href="http://collection.britishmuseum.org/id/place/x103544">http://collection.britishmuseum.org/id/place/x103544</a>	skos:inScheme	id:place
<a href="http://collection.britishmuseum.org/id/place/x103544">http://collection.britishmuseum.org/id/place/x103544</a>	skos:prefLabel	"Meshed 'Ali"

## 6.14 Original From

The Museum has objects where the production place is unknown and there is not enough evidence to state a production place categorically. However, the object does bear a feature that is typical of objects from a particular place. In this case a production node is required that records this place (or places) achieved by using a URI with the word 'original' after the object identifier. The node is typed with the association code OF (Original From). In effect the production information is not for an object that the Museum owns but for a type of object that was typically produced in a particular place and for which the object in question bears a feature of similarity. The model is as follows:



Examples might include plaster casts or moulds for objects, replicas or an object where the provenance is not fully known. For example, a terracotta head (Reg no. CRS.28) is described as;

"Original terracotta head has no known provenance. However, Willett (2004: T737) comments that 'it seems most likely to have come from the Iwinrin Grove where a great many sculptures stood exposed in the early part of the twentieth century'. The original head is in the Guennol collection, housed in the Brooklyn Museum, USA."

In the example below the a replica of the Parthenon frieze is based on an original from Athens.



Replica

One of a set of eight wooden frames containing plaster casts of John Henning's miniature reproduction of the Parthenon and Phigalia friezes. This frame has six plaster casts depicting blocks I-XVI of the West Frieze of the Parthenon.

## 6.15 Associated Event

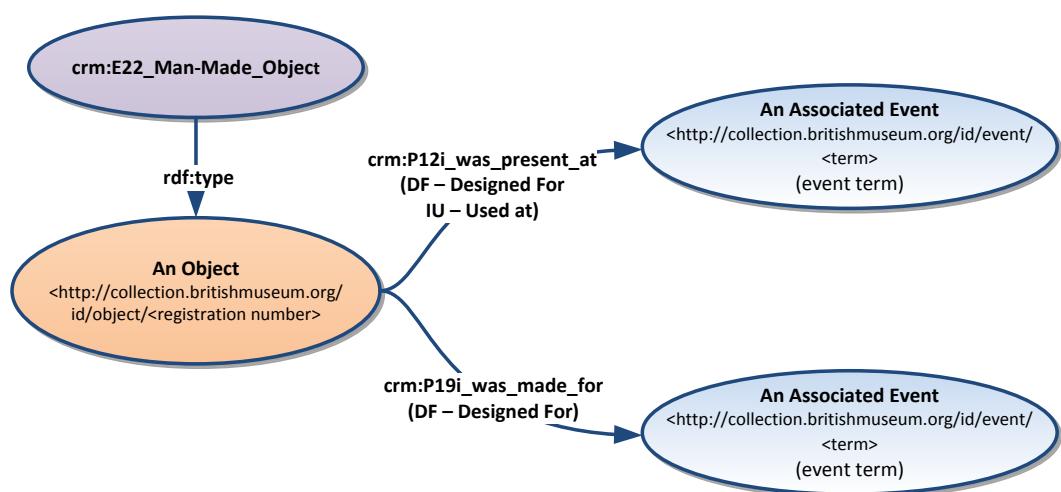
Some objects are used at and/or made for a particular event. This commemorative plate might be made for a coronation but not actually present at the event. A royal crown may be commissioned for a coronation and be a fundamental part of the ceremony.

The object below is a South American human effigy acquired by the Museum in 1975. It was made for (**P19i\_was\_made\_for**) and was present at (**P12i\_was\_present\_at**) exorcism ceremonies designed to heal the sick.



Balsa wood effigy of a human-like figure, with arms flexed and fists over the belly. Stained black on the back, skirt, legs and feet, and red in the eyes and along the nose. Used in a special exorcising ceremony for village epidemics by the 'Absogedi' ('medicine man'). 'Nuchu' in Cuna.

Subject	Predicate	Object
<a href="#">id:object/ESA25104</a>	crm:P12i_was_present_at	<a href="#">id:event/Exorcising-healing-ceremonies</a>
<a href="#">id:object/ESA25104</a>	crm:P19i_was_made_for	<a href="#">id:event/Exorcising-healing-ceremonies</a>



Other event examples include;

<a href="#">id:event/New-Year</a>	<a href="#">id:event/Preparation-of-the-Assai</a>
<a href="#">id:event/National-Palace-Museum-International-Conference</a>	<a href="#">id:event/Weddings</a>

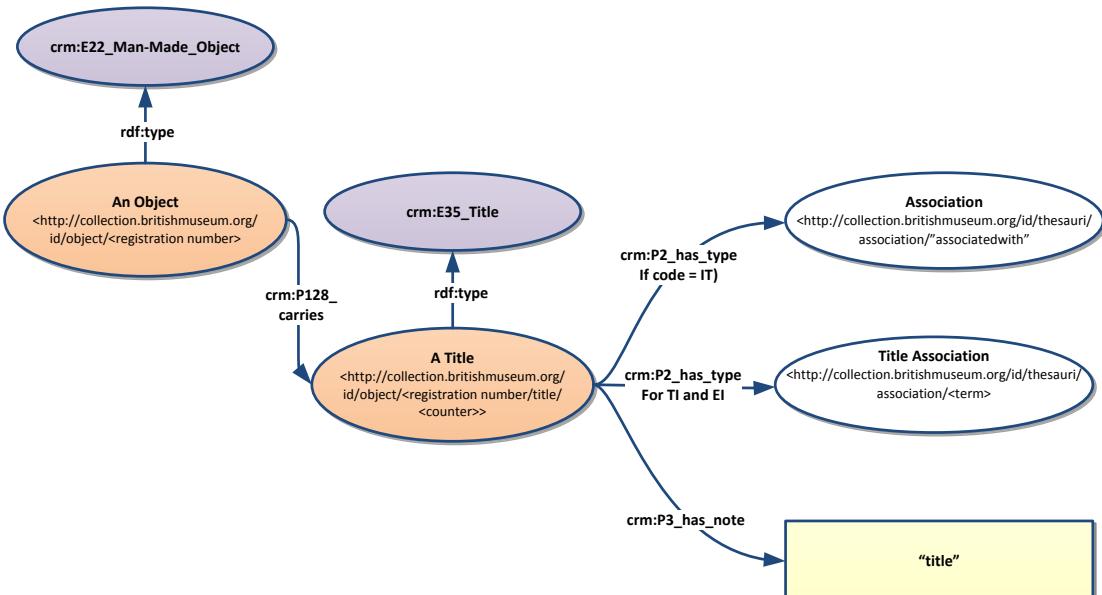
<a href="#">id:event/Indian-and-Colonial-Exhibition-of-1886</a>	<a href="#">id:event/Exorcising-healing-ceremonies</a>
<a href="#">id:event/Return-of-Hong-Kong-to-Chinese-Rule</a>	<a href="#">id:event/Vaini-Tini-show-December-2001</a>
<a href="#">id:event/Coronation-Durbar-of-King-George-V-at-Delhi</a>	<a href="#">id:event/Christmas</a>
<a href="#">id:event/Paris-Exhibition</a>	<a href="#">id:event/Southern-Sudan-Referendum</a>
<a href="#">id:event/Year-of-the-Snake</a>	<a href="#">id:event/Sande-secret-society</a>
<a href="#">id:event/Japan-British-Exhibition</a>	<a href="#">id:event/Gy-d-ceremony</a>
<a href="#">id:event/1964-Olympic-Games</a>	<a href="#">id:event/Boys-Day</a>
<a href="#">id:event/Great-Exhibition</a>	<a href="#">id:event/Holy-Year-1933-1934</a>
<a href="#">id:event/International-Exhibition-London</a>	<a href="#">id:event/Holy-Year-1925</a>
<a href="#">id:event/Day-of-the-Dead</a>	<a href="#">id:event/Eucharistic-Congress-of-Rome-1922</a>
<a href="#">id:event/Harvest-Festival</a>	<a href="#">id:event/Holy-year-1925</a>
<a href="#">id:event/Boy-s-Initiation</a>	<a href="#">id:event/Eucharistic-Congress-of-Dublin-1932</a>
<a href="#">id:event/Initiation-Ceremonies</a>	And so on....
<a href="#">id:event/Wai-a-Ceremony</a>	
<a href="#">id:event/Wamnnovo-Dance-Mask</a>	
<a href="#">id:event/Celebration-of-the-Wai-a</a>	

## 6.16 Associated Title

The Museum has three association codes for title. The first is a default

IT	Associated Title	An associated publication title but not a specific citation. For example, a papyri (spell) that is associated with the Book of the Dead.
TI	Inscription from	A title derived from an inscription on the object.
EI	Title	An alternative title commonly used.

An associated title is not the primary title but is an alias that has a varying degree of significant (and formality) as a title for the object. The reason for the title may be known and recorded in a notes field. A specific source of the title may be from an inscription on the object itself. It is differentiated from the main title through the relationship **P128\_carries** rather than **P102\_has\_title**, and is typed (**P2\_has\_type**) with the association code and associated SKOS description.





3. Teaching of Amenemhat

Papyrus; Hieratic literary text: Teaching of King Amenemhat (19th Dynasty)

#### Associated Titles

1. Hymn to the Inundation
2. Poem of the battle of Qadesh

Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/object/YCA63193/title/1">http://collection.britishmuseum.org/id/object/YCA63193/title/1</a>	crm:P2_has_ty pe	id:thesauri/associatio n/EI
<a href="http://collection.britishmuseum.org/id/object/YCA63193/title/1">http://collection.britishmuseum.org/id/object/YCA63193/title/1</a>	rdf:type	crm:E35_Title
<a href="http://collection.britishmuseum.org/id/object/YCA63193/title/1">http://collection.britishmuseum.org/id/object/YCA63193/title/1</a>	rdfs:label	"Teaching of Amenemhat"
	crm:P128_carri es	-

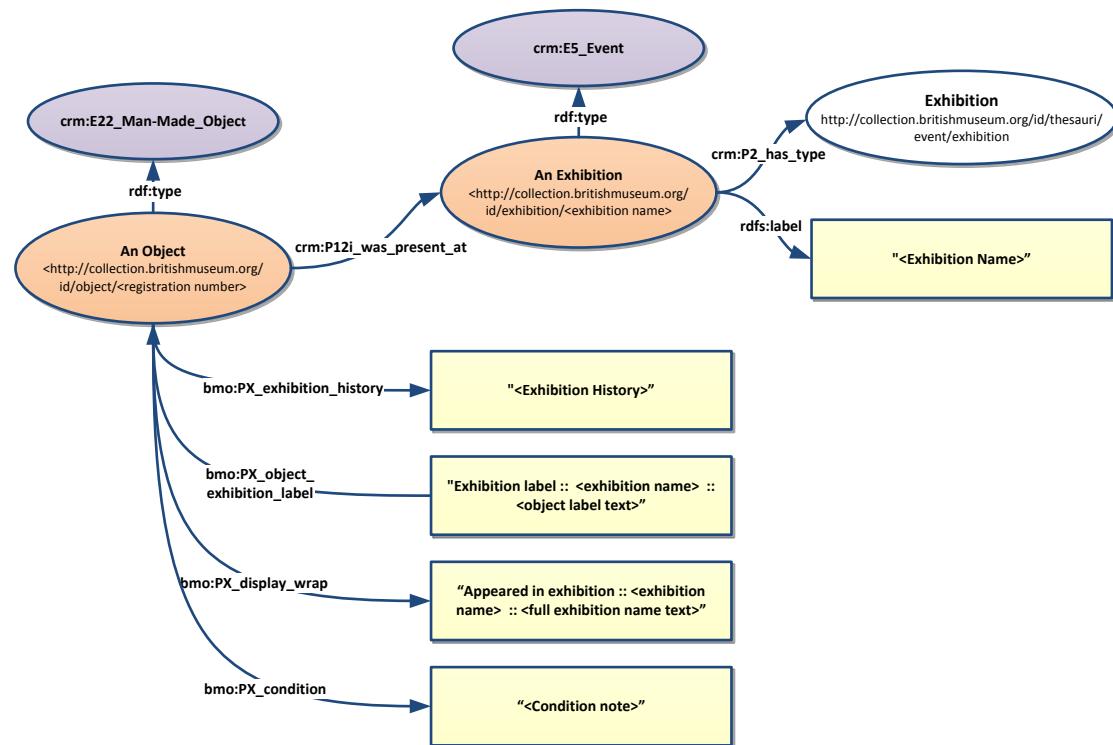
Subject	Predicate	Object
<a href="#">id:thesauri/association/EI</a>	rdf:type	crm:E55_Type
<a href="#">id:thesauri/association/EI</a>	rdf:type	skos:Concept
<a href="#">id:thesauri/association/EI</a>	skos:inScheme	<a href="#">id:thesauri/association</a>
<a href="#">id:thesauri/association/EI</a>	skos:prefLabel	"Title"

Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/object/YCA63193/title/2">http://collection.britishmuseum.org/id/object/YCA63193/title/2</a>	crm:P2_has_type	<a href="#">id:thesauri/association/EI</a>
<a href="http://collection.britishmuseum.org/id/object/YCA63193/title/2">http://collection.britishmuseum.org/id/object/YCA63193/title/2</a>	rdf:type	crm:E35_Title
<a href="http://collection.britishmuseum.org/id/object/YCA63193/title/2">http://collection.britishmuseum.org/id/object/YCA63193/title/2</a>	rdfs:label	"Hymn to the Inundation"

Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/object/YCA63193/title/3">http://collection.britishmuseum.org/id/object/YCA63193/title/3</a>	crm:P2_has_type	<a href="#">id:thesauri/association/EI</a>
<a href="http://collection.britishmuseum.org/id/object/YCA63193/title/3">http://collection.britishmuseum.org/id/object/YCA63193/title/3</a>	rdf:type	crm:E35_Title
<a href="http://collection.britishmuseum.org/id/object/YCA63193/title/3">http://collection.britishmuseum.org/id/object/YCA63193/title/3</a>	rdfs:label	"Poem of the battle of Qadesh"

## 6.17 Display label

The process for including an object in an exhibition usually includes a condition report and the production of a display label. The result is a record of the exhibition in which the object was displayed (**P12i\_was\_present\_at**). We have elected to use a extension of **P3\_has\_note** for the text of the display label itself. Text related to the inclusion of the object in the exhibition is also recorded along with a note on condition (again as an extension of **P3\_has\_note**).



The Lamentation at the Foot of the Cross; the body of Christ supported on the knees of the Virgin at right, surrounded by other figures behind, Mary Magdalene crouching at his feet, the lower part of the crosses and the ladder behind. c.1634-1635

Pen and brown ink and brown wash, with red and perhaps some black chalk, reworked in oils 'en grisaille'; framing lines in thin black oil paint; the sheet made up of cut sections of paper. Rembrandt 1634-1635 (circa)

PRN PDO13945

Subject	Predicate	Object
<a href="#">id:object/PDO13945</a>	bmo:PX_object_exhibition_label	"Exhibition label :: G90 Prints and Drawings Gallery :: The 1992 Exhibition label text:The drawing is related to the oil sketch of about 1634-35 in the National Gallery. Rembrandt

	probably first sketched the composition on the present sheet in pen and ink. He then worked up the design on a second sheet of paper that forms the central part of the National Gallery's version. He seems to have experienced some difficulty in elaborating the design and returned to the present sheet, cutting and pasting it onto a larger piece of paper. This is subsequently reworked with the brush loaded with oil paint. Finally, he returned to the National Gallery's sketch, which was later mounted on panel. Both works belonged to Sir Joshua Reynolds, whose master, Jonathan Richardson, owned the present sheet before him. According to an inscription on the old mount, written by Richardson's son, it was then believed to consist of 17 separate pieces of paper. It has only recently emerged that the drawing is made up of only three sheets, cut and reassembled. Bequeathed by Richard Payne Knight, 1824"
<a href="#">id:object/PDO13945</a>	bmo:PX_exhibition_history
	"1899 London BM, no.A33 (1642; at least 16 pieces of paper)1938 London BM, no.60 (c.1642)1956 London BM, p.22, no.1 bis1969 Amsterdam no.53 (c.1640, for National Gallery painting)1978 London BM, 'Gainsborough and Reynolds in the BM', no.2821982 Manchester, Whitworth Art Gallery, 'Payne Knight', no.1571984 London BM, 'Rembrandt and the Passion', no.91988-9 London, National Gallery, 'Art in the Making: Rembrandt', pp.66 ff. and 160 1992, BM, 'Drawings by Rembrandt and his Circle', no.122003-4 Boston-Chicago, Museum of Fine Arts, 'Rembrandt's Journey...', pp.110-11, no.43 2006 Amsterdam-Berlin, 'Rembrandt: The Quest for Genius', p.180 (Amsterdam only).2012 Sep-Nov, Glasgow, Hunterian, Rembrandt's Entombment PROMISED"
<a href="#">id:object/PDO13945</a>	bmo:PX_condition
	"The work in brown ink and wash is much faded, and the sheet is discoloured to a pale brown tone; the oil pigment threatens to flake at the extreme edges of the various sections of the paper."

## 6.18 An Object Subtype – Ware



**Object types:** bowl

**Materials:** pottery

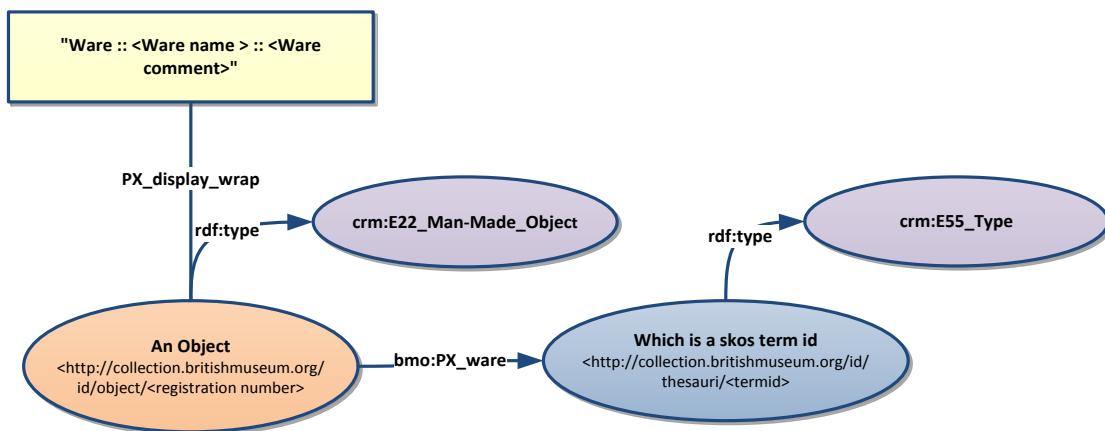
**Ware:** Gaulish Red Slip Ware

**Type Series:** Dragendorff 42

**Period/Culture:** Romano-British

**Description:** Samian Ware bowl.

Every object in the Museum's collection has an object type. The Museum has also developed a specialist vocabulary to describe object types that are known as a 'ware'. This is a specific type of pottery. This means that pottery objects will often have two types, an object type and a 'ware' type. To differentiate this the extension of **P2\_has\_type** has been created, as an object sub-type, called **PX\_ware**. This is exposed by a query of **P2\_has\_type**. Ware is also a CRM **E55\_Type**. A Ware will also have separate text comments.

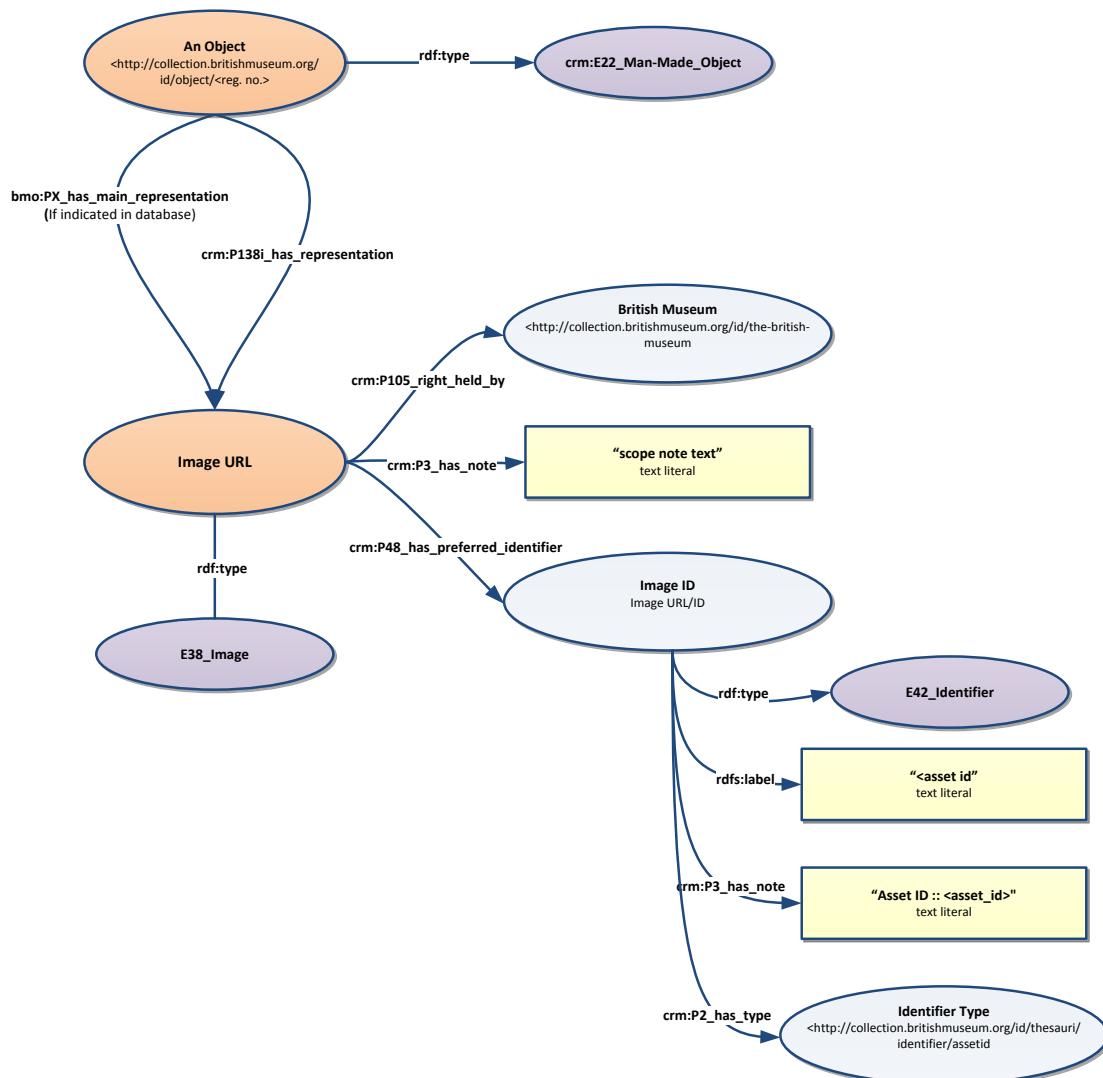


## 6.19 Object Image

The British Museum SPARQL production Endpoint provides a link to object image files. These are the same images that are available on the main britishmuseum.org site (currently over 700,000 images are available). Some objects have more than one image particularly those with obligatory front and back views, like coins. Other objects may simply have different image representations and the Museum keeps an internal sequence number for these. At the time of writing the licensing provisions for images are different from that of data and information about their use is available on the Endpoint web site (<http://collection.britishmuseum.org>). With the inclusion of images it is now possible to create rich semantic applications that extend and compliment the Museum's own web presence. More importantly it provides the means for developers to bring together data from different sites with Museum data and images.

The image has its own asset identifier incorporated into its own stable URI (**P48\_has\_preferred\_identifier**, as you would expect the URI can be used with html to display the image on a web page. Where more than one published image is available an extension has been used (**PX\_has\_main\_representation**) to designate the main image for the object. Some asset metadata is also available and this will be extended in the future.

Copyright is reserved through the property **P105\_right\_held\_by**.



## 6.20 Object Location

Where objects are displayed in the Museum's galleries their location is included in the dataset. A location URI is used attached to the object via **P55\_has\_current\_location** which then provides a label with a text description of the gallery. For convenience all the label information including comments are bundled into a note at the object level. Location is typed as CRM E53\_Place.

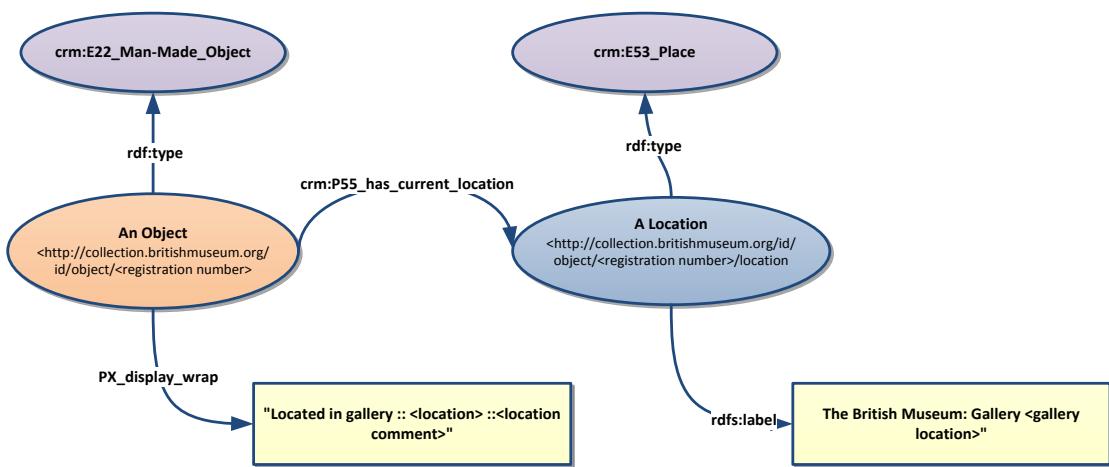
The colossal statue of Ramesses II is located in the Egyptian Sculpture Gallery (Room 4)



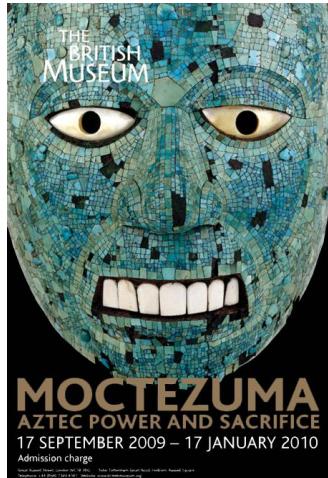
Head and upper body of pink/grey granite monumental statue of Ramses II (one of a pair placed before the door of the Ramesseum) wearing nemes head-cloth and circlet of uraei (about half now lost), the sculptor has exploited the bichrome nature of the stone to emphasise the division between body and face; the dorsal pillar is inscribed with vertical registers of hieroglyphs - giving the name and titles of the king and part of a dedication to Amun-Ra; in 1817 it was noted that there were traces of colour upon the statue and it may have, therefore, been painted red in antiquity.

Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/object/YCA62956">http://collection.britishmuseum.org/id/object/YCA62956</a>	crm:P52_has_current_owner	id:the-british-museum
<a href="http://collection.britishmuseum.org/id/object/YCA62956">http://collection.britishmuseum.org/id/object/YCA62956</a>	crm:P55_has_current_location	id:object/YCA62956/location

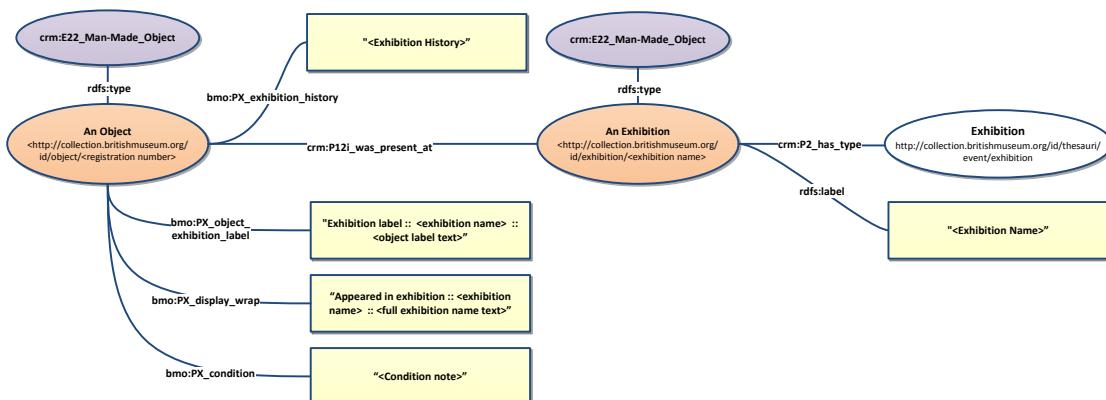
Subject	Predicate	Predicate
<a href="http://collection.britishmuseum.org/id/object/YCA62956/location">http://collection.britishmuseum.org/id/object/YCA62956/location</a>	rdf:type	crm:E53_Place
<a href="http://collection.britishmuseum.org/id/object/YCA62956/location">http://collection.britishmuseum.org/id/object/YCA62956/location</a>	rdfs:label	"The British Museum: Gallery G4/B9"



## 6.21 Exhibition Information



The property, **P12i\_was\_present\_at** was previously used to record the presence of an object at a particular event. An exhibition is a type of event and the event authority is used to type (**P2\_has\_Type**) an exhibition. However, each individual object is recorded separately providing its own URI. Although the recording of exhibitions (and an objects participation in them) can be inconsistent the model is straightforward. Text nodes are provided to record exhibition history, labels, condition notes (made prior to exhibition) and the exhibition name.



Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/object/PDO12993">http://collection.britishmuseum.org/id/object/PDO12993</a>	bmo:PX_exhibition_history	"1858-1860, London, British Museum, no.120 (Bol; for the etching);1956, London, British Museum, p.31, no.2;1992, London, British Museum, Drawings by Rembrandt and his Circle, (ex-catalogue)."
<a href="http://collection.britishmuseum.org/id/object/PDO12993">http://collection.britishmuseum.org/id/object/PDO12993</a>	bmo:PX_object_exhibition_label	"Exhibition label :: G90 Prints and Drawings Gallery :: The 1992 Exhibition label text:The study for Bol's etching of 1643.The composition is reminiscent of a painting 'The Holy Family' (dated 1640) in the Louvre, which although traditionally attributed to Rembrandt is now also thought to be by Bol."



The Holy Family in an interior; study for a print, a room with a canopied hearth at left foreground and a tall window behind, a cat in front, the Virgin seated on the ground suckling the Child, Joseph behind, an open basket and wicker cradle at centre, a chair, and a wicker bed propped against a chest at right.

Pen and brown ink with black chalk, touched with red and yellow ochre chalks, with grey and brown wash, heightened with white; the outlines indented for transfer.

## 6.22 Aspects

Aspects are part of objects that do not have their own inventory number, and are therefore not recorded as objects in their own right, but are of sufficient interest that they have their own set of metadata. The Museum's collection system allows these aspects to be recorded with the same information as an inventory item and therefore potentially, all of the fields that might be used to describe an object can be used to describe an aspect. In practice the level of information recorded about an aspect is relatively small and specific.

They are always modelled using **E25\_Man-Made\_Feature** (instead of **E22\_Man-Made\_Object**).

**Subject:** <http://collection.britishmuseum.org/id/object/<reg no.>>

**Predicate:** crm:P56\_bears\_feature

**Object:** <http://collection.britishmuseum.org/id/object/<reg no.>/<aspect no>>

An object can have multiple aspects (hence aspect no.) – for example a coin will have an obverse and reverse aspect.



Gold coin.

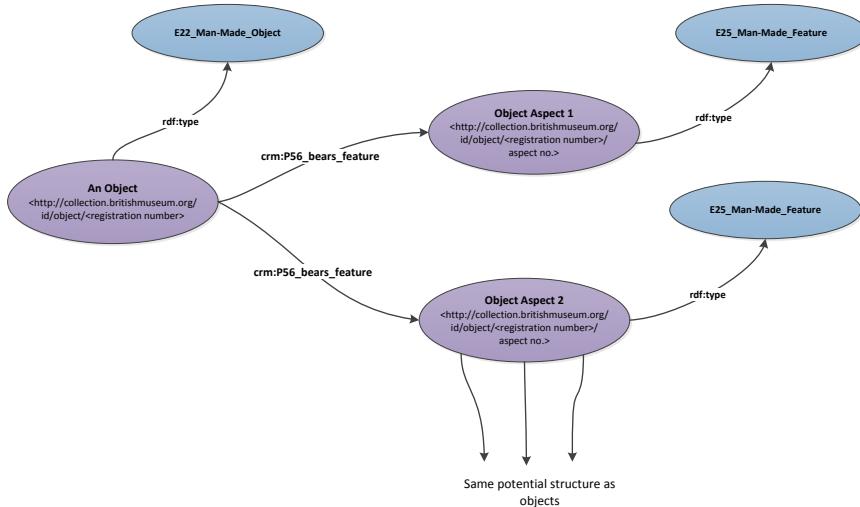
(obverse) Head of Octavian, bare, right.  
(reverse) Victory, draped, standing on a globe, holding wreath in right hand and vexillum in left hand over left shoulder.

Minted in Italy

29BC-27BC

Subject	Predicate	Object
<a href="#">id:object/CGR87820</a>	<a href="#">crm:P56_bears_feature</a>	<a href="#">id:object/CGR87820/obverse</a>
<a href="#">id:object/CGR87820</a>	<a href="#">crm:P56_bears_feature</a>	<a href="#">id:object/CGR87820/reverse</a>

Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/object/CGR87820/obverse">http://collection.britishmuseum.org/id/object/CGR87820/obverse</a>	<a href="#">id:ontology/PX_physical_descripion</a>	"Head of Octavian, bare, right."
<a href="http://collection.britishmuseum.org/id/object/CGR87820/obverse">http://collection.britishmuseum.org/id/object/CGR87820/obverse</a>	<a href="#">rdf:type</a>	<a href="#">crm:E25_Man-Made_Feature</a>



Many of the aspects or features currently supported relate to money, coins and medals and are contained in a SKOS concept, <http://collection.britishmuseum.org/id/thesauri/aspect>:

## Aspects

- <http://collection.britishmuseum.org/id/thesauri/aspect/obverse>
- <http://collection.britishmuseum.org/id/thesauri/aspect/reverse>
- <http://collection.britishmuseum.org/id/thesauri/aspect/lower-obverse>
- <http://collection.britishmuseum.org/id/thesauri/aspect/upper-obverse>
- <http://collection.britishmuseum.org/id/thesauri/aspect/inset>
- <http://collection.britishmuseum.org/id/thesauri/aspect/inset-lower-reverse>
- <http://collection.britishmuseum.org/id/thesauri/aspect/lower-reverse>
- <http://collection.britishmuseum.org/id/thesauri/aspect/upper-reverse>
- <http://collection.britishmuseum.org/id/thesauri/aspect/front>
- <http://collection.britishmuseum.org/id/thesauri/aspect/edge>
- <http://collection.britishmuseum.org/id/thesauri/aspect/back>
- <http://collection.britishmuseum.org/id/thesauri/aspect/flap>

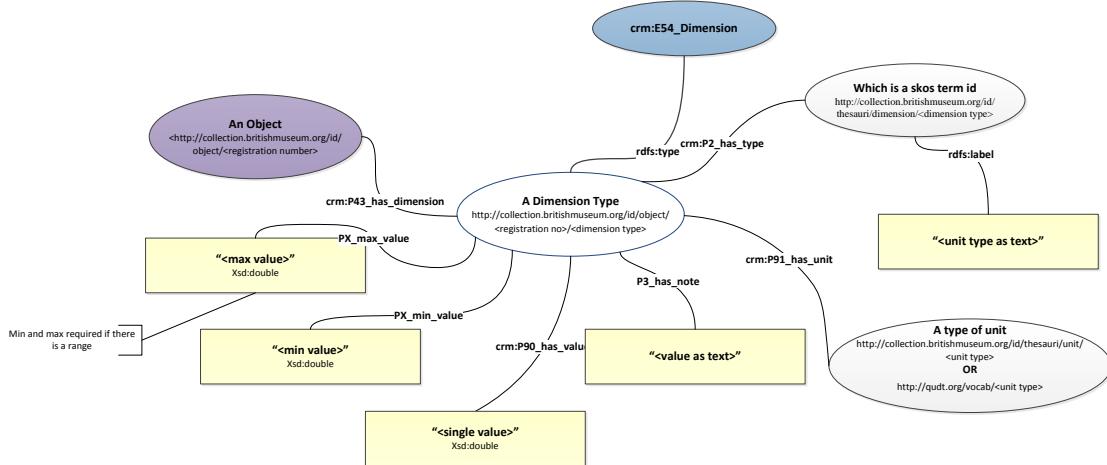
## 6.23 Dimensions

Although there are a limited number of dimension types the convention of using SKOS to record unit vocabulary is continued here. In this case the units are described mostly by the QUDT (Quantities, Units, Dimensions and Types) ontology and this is utilised to include some standardisation of unit terms with other organisations.

<http://collection.britishmuseum.org/id/thesauri/unit/percentage-of-rim>  
<http://qudt.org/vocab/unit#Centimeter>  
<http://qudt.org/vocab/unit#Foot>  
<http://qudt.org/vocab/unit#Gram>  
<http://qudt.org/vocab/unit#Grain>  
<http://qudt.org/vocab/unit#Inch>  
<http://qudt.org/vocab/unit#Kilogram>  
<http://qudt.org/vocab/unit#PoundMass>  
<http://qudt.org/vocab/unit#Meter>  
<http://qudt.org/vocab/unit#Gram>  
<http://qudt.org/vocab/unit#Liter>  
<http://qudt.org/vocab/unit#Millimeter>  
<http://collection.britishmuseum.org/id/thesauri/unit/oclock>  
<http://qudt.org/vocab/unit#OunceMass>

In the model an object will have a dimension type node

(<http://collection.britishmuseum.org/id/object/<registration no>/<dimension type>>) of CRM type **E54\_Dimension** for mapping the details. The CRM provides a specific property of describing a dimension called **P91\_has\_unit** and this will use either the qudt ontology or the Museum's terminology. The mapping also uses **P2\_has\_type** (as is consistent with the other models) for using the Museum's terminology. The remaining triples describe the actual values using literals as well as data typed values (xsd:double). Where there is one value then **P90\_has\_value** is used. Where there is a range then specialisations of P90 have been created to provide a minimum and maximum value (**PX\_max\_value** and **PX\_min\_value**). As ever notes are exposed.



NB: Coins have a separate (additional mapping to dimension) bmo:PX\_currency (sub of p2\_has\_type).

## 6.24 Object Copyright

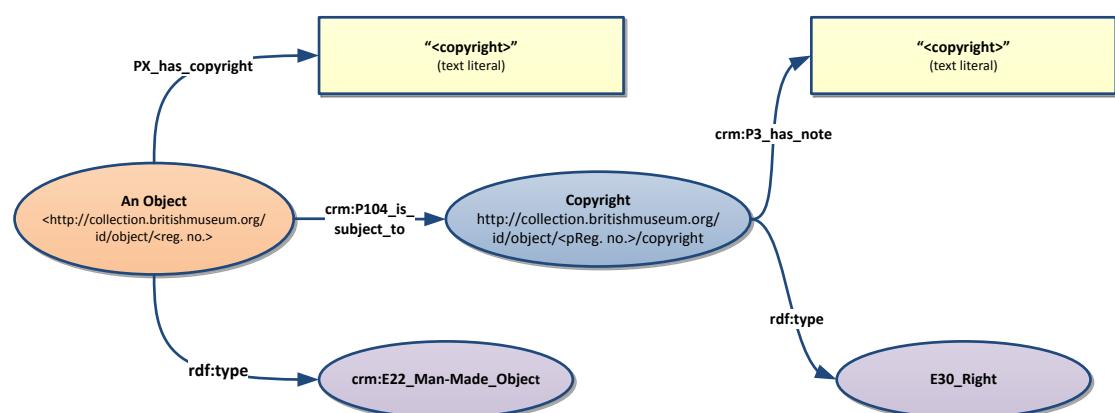
In some circumstances, particularly if an object has been provided for long term loan to the museum, it is possible that certain conditions are attached to its use that are more restrictive than permanent British Museum objects. In this event this copyright status is written into the record and is published as part of the record. The mapping is dealt with by providing an explicit property extension under the **P3\_has\_note** class. The following describes the implementation.

Copyright is just a text field attached to the object (**E22\_man-made\_object**)

With text fields we create a sub-property of **P3\_has\_note** or use **rdfs:label** depending upon whether it is considered a note or a simple name.

We have created a sub property of **P3\_has\_note** called **PX\_has\_copyright** and have put the copyright information as a literal.

Where there is no copyright statement then



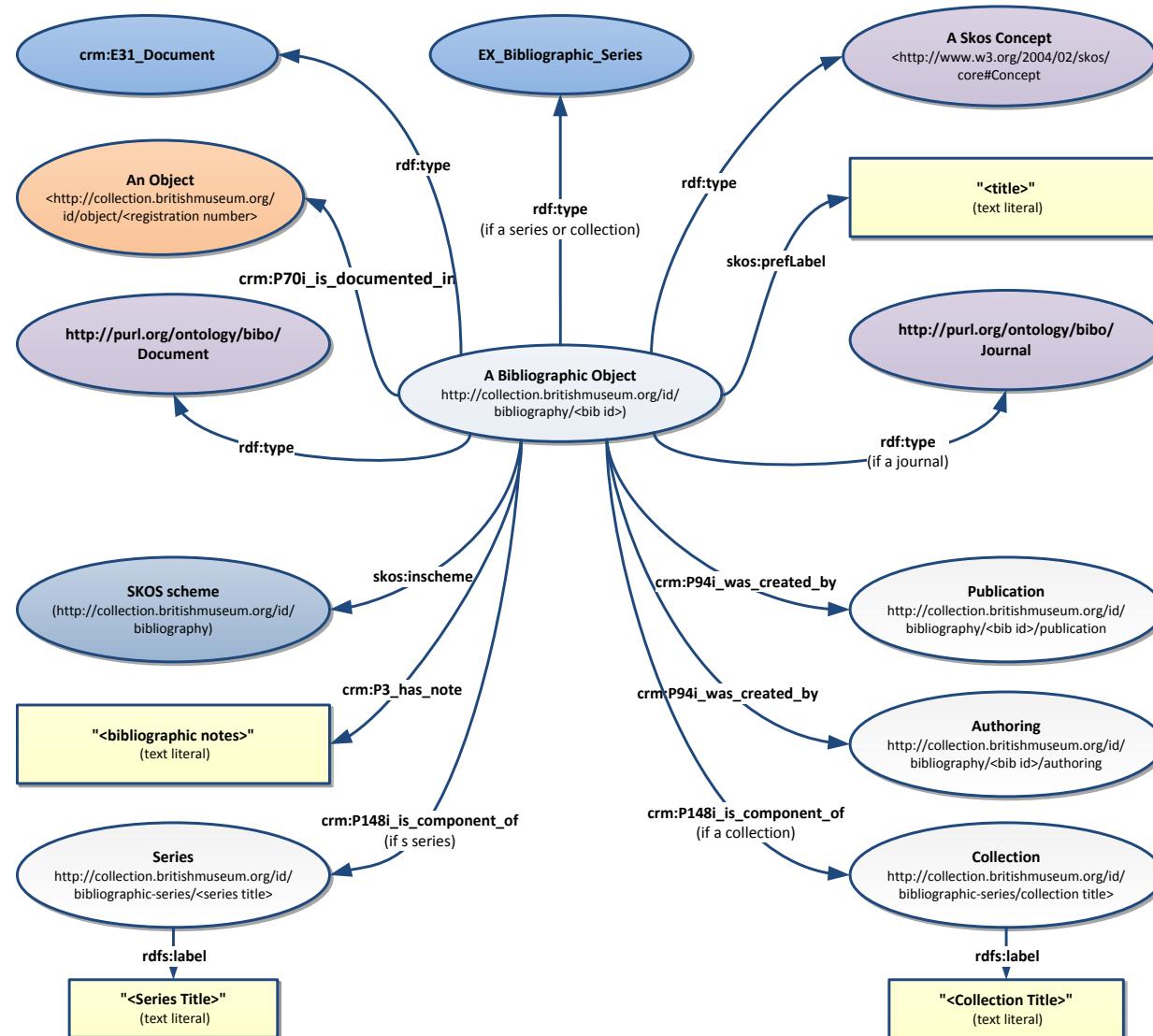
## 7 Places and Actors

### 7.1 Bibliographic Mapping

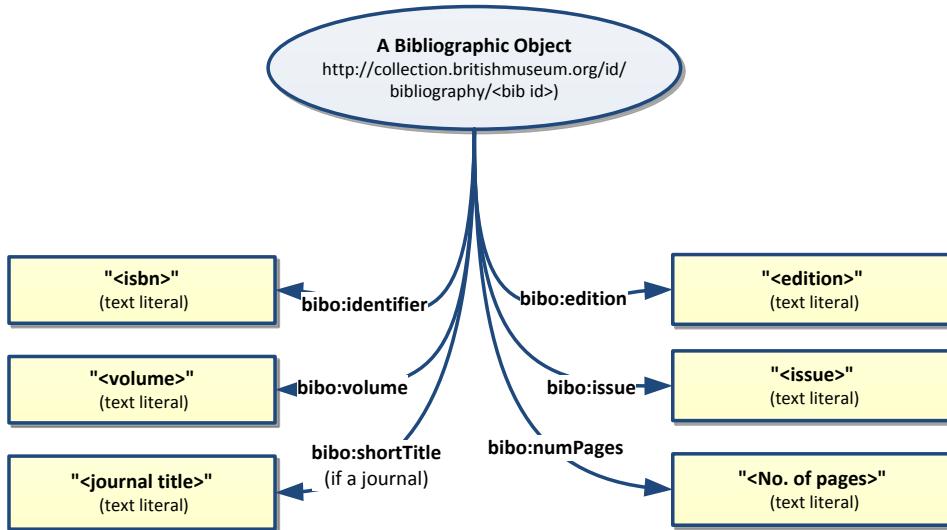
#### 7.1.1 Introduction

A collection management system is not a library system and although there are good bibliographic features in the Museum's collection system the data may not be captured at the same level as a specialist library. One of the aims of the Museum's mapping work would be to use linked data library catalogues on the web through ISBN identifiers and other co-referencing mechanisms. Bibliographic data is processed separately from the main object mappings but is aligned by way of identifiers used within the object record themselves. The instances of bibliographic data mapped to the models below may have limited data available

An object references a bibliographic record using, **P70i\_is\_documented\_in**. The bibliographic node is typed by the CRM (**E31\_Document** for book and **EX\_Bibliographic\_Series** for a journal) and by the BIBO ontology. Where mapping overlaps two ontologies it is important to do this to maximise the chances of harmonisation with other datasets. In addition, bibliography is also designated a SKOS concept scheme and the title documented within a SKOS label. The main connected events for the core bibliographic model are for publishing and authoring. We also record whether the bibliographic object is part of a collection as a material object as opposed to whether it (as a journal) forms part of a series.



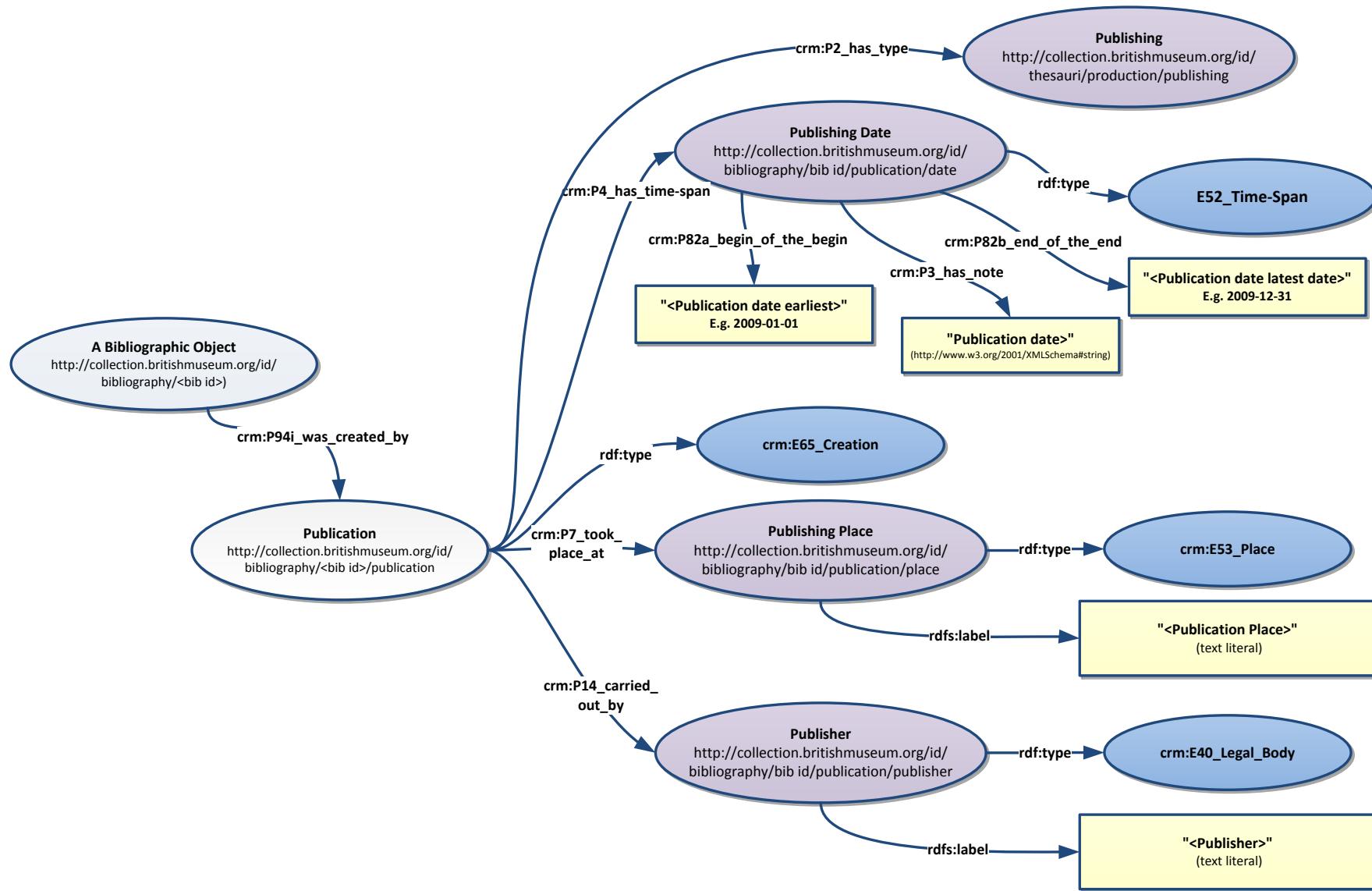
### 7.1.2 BIBO Citation information



The BIBO ontology provides some of the details that the CRM does not provide (as would a FRBRoo implementation). The totality of the model provides sufficient information for a complete bibliographic citation.

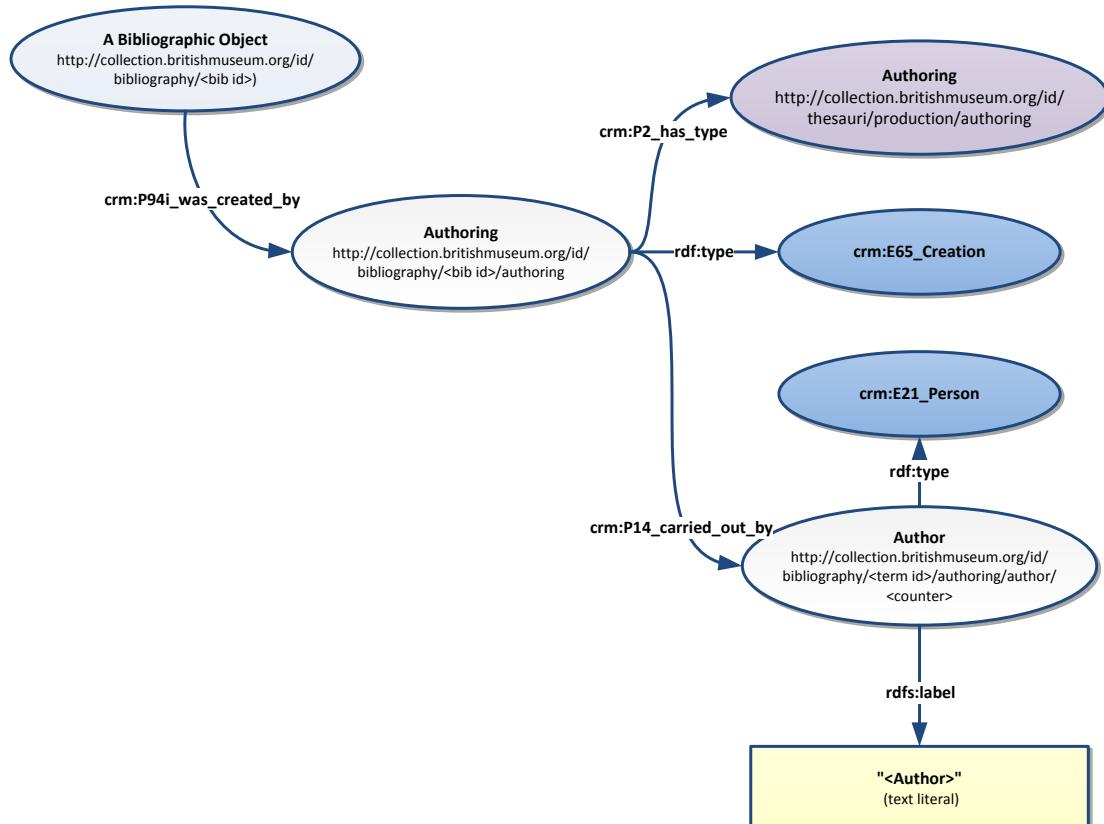
### 7.1.3 Publication is a type of Production

Publication is a creation event and typed as **E65\_Creation**. The Museum also has a named production type of 'publishing' (<http://collection.britishmuseum.org/id/thesauri/production/publishing>) that is associated using **P2\_has\_type**. The main purpose for the publishing model is to provide information on the publishing date, the publishing organisation (actor), and the place of publication. The publishing date node uses the method already documented above for general time-spans. Publication is a type of production event and uses the same properties for associating places and actors (**P7\_took\_place\_at** and **P14\_carried\_out\_by**) – see Production below. The publishing house will normally be a company that has a legal entity.



#### 7.1.4 Authoring

The authoring construct is similar except that less detailed information is available. The period during which the author wrote the publication, for example, is not recorded. Likewise the place of authorship is usually unknown. The author will have a biographical record and a counter is used on this URI for multiple (**P14\_carried\_out\_by**) authors.

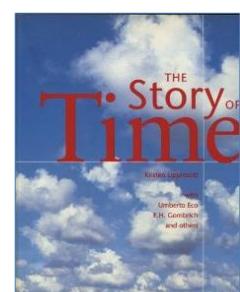


Rattle

Wooden raven rattle, bird-shaped with bird-headed man lying on top. Belly has a carved face and beak. Painted red, blue and black.

Reg no.: Am1976,03.19

It is documented in this book that has a museum URI of the following:



Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/bibliography/7996">http://collection.britishmuseum.org/id/bibliography/7996</a>	crm:P94i_was_created_by	id:bibliography/7996/authoring
<a href="http://collection.britishmuseum.org/id/bibliography/7996">http://collection.britishmuseum.org/id/bibliography/7996</a>	crm:P94i_was_created_by	id:bibliography/7996/publication
<a href="http://collection.britishmuseum.org/id/bibliography/7996">http://collection.britishmuseum.org/id/bibliography/7996</a>	< <a href="http://purl.org/ontology/bibo/identifier">http://purl.org/ontology/bibo/identifier</a> >	"1-85894-073-7"
<a href="http://collection.britishmuseum.org/id/bibliography/7996">http://collection.britishmuseum.org/id/bibliography/7996</a>	rdf:type	crm:E31_Document
<a href="http://collection.britishmuseum.org/id/bibliography/7996">http://collection.britishmuseum.org/id/bibliography/7996</a>	rdf:type	< <a href="http://purl.org/ontology/bibo/Document">http://purl.org/ontology/bibo/Document</a> >
<a href="http://collection.britishmuseum.org/id/bibliography/7996">http://collection.britishmuseum.org/id/bibliography/7996</a>	rdfs:label	"The Story of Time"

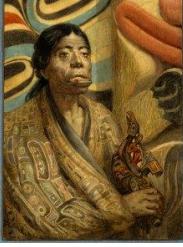
The subject of <http://collection.britishmuseum.org/id/bibliography/7996/authoring> reveals another layers of triples:

Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/bibliography/7996/authoring">http://collection.britishmuseum.org/id/bibliography/7996/authoring</a>	crm:P14_carried_out_by	id:bibliography/7996/authoring/author/1
<a href="http://collection.britishmuseum.org/id/bibliography/7996/authoring">http://collection.britishmuseum.org/id/bibliography/7996/authoring</a>	crm:P2_has_type	id:thesauri/production/authoring
<a href="http://collection.britishmuseum.org/id/bibliography/7996/authoring">http://collection.britishmuseum.org/id/bibliography/7996/authoring</a>	rdf:type	crm:E65_Creation

Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/bibliography/7996/publication">http://collection.britishmuseum.org/id/bibliography/7996/publication</a>	crm:P2_has_type	id:thesauri/production/publicising
<a href="http://collection.britishmuseum.org/id/bibliography/7996/publication">http://collection.britishmuseum.org/id/bibliography/7996/publication</a>	crm:P4_has_time-span	id:bibliography/7996/publication/date
<a href="http://collection.britishmuseum.org/id/bibliography/7996/publication">http://collection.britishmuseum.org/id/bibliography/7996/publication</a>	crm:P7_took_place_at	id:bibliography/7996/publication/place
<a href="http://collection.britishmuseum.org/id/bibliography/7996/publication">http://collection.britishmuseum.org/id/bibliography/7996/publication</a>	rdf:type	crm:E65_Creation

### 7.1.5 A note on data harmonisation

Examples of Raven rattles are available from many different museums and CRM mapping can ensure that these rattles, in whatever form they manifest themselves and within whatever object or through different people and place associations, can be easily located and compared. CRM relationships allow both broad and narrow relationships so that exploration can continue into other periods, cultures

			
World Art Collections – Sainsbury Centre for Visual Arts	Metropolitan Museum, New York	Brooklyn Museum	
			
British Museum  Drawing – Norman Hardy  (Am2006,Drg.129)	British Museum (Am,B21.24)  Postcard	British Museum  Blanket with Raven decoration  (Am1919,1216.12)	

Find all objects  with images    is/has/about    rattle    and    is/has/about    bird    +

[Search](#) [Add To Data Basket](#) [Export](#) [Print](#)

19 Results

1 2 [»](#)

[List](#) [Thumbnails](#) [Timeline](#)

**Object Type**  
19 rattle  
9 religious/ritual equipment  
6 toy

**Creator**  
15 (missing this field)  
1 Haida  
1 Mixtec  
2 Northwest Coast Peoples  
1 Tarahumara

**Places**  
16 North America ▾  
16 Mexico ▾  
1 Chihuahua  
6 Guanajuato state ▾  
1 Celaya  
5 Santa Cruz de Juventino Rosas

**Created**  
1 (missing this field)  
1 -1500-12-31  
1 1800-01-01  
16 1970-01-01

**Technique**  
9 carved  
1 cut  
2 dyed  
2 lacquered

sorted by: Title; then by...

  
[EN13195 Cedar wood shaman's rattle in the shape of...](#)  
religious/ritual equipment; rattle: ENA13195 Cedar wood shaman's rattle in the shape of...; **Created:** Northwest Coast Peoples;  
**Material:** cedar wood; **Technique:** carved; painted

  
[ENA7832 Chief's rattle in the shape of a bird made...](#)  
rattle: ENA7832 Chief's rattle in the shape of a bird made...; **Created:** Haida; Northwest Coast Peoples, 1800-01-01; **Material:** ivory;  
sinew; wood; **Technique:** carved; painted

  
[ESA33584 Rattle; made of gourd; round gourd mounted...](#)  
rattle: ESA33584 Rattle; made of gourd; round gourd mounted...; **Created:** Mixtec, Pinotepa de Don Luis, 1970-01-01; **Material:**  
gourd; seed; stone; wood; **Technique:** cut; painted

  
[ESA81112 Rattle \(matraca in Spanish\); carved from...](#)  
religious/ritual equipment; rattle: ESA81112 Rattle (matraca in Spanish); carved from...; **Created:** San Antonio de la Isla,  
1970-01-01; **Material:** horn; **Technique:** painted

  
[ESA81120 Rattle \(matraca in Spanish\); carved from...](#)  
religious/ritual equipment; rattle: ESA81120 Rattle (matraca in Spanish); carved from...; **Created:** Santa Cruz de Juventino Rosas,  
1970-01-01; **Material:** wood; **Technique:** carved; painted

  
[ESA81123 Rattle \(matraca in Spanish\) \(one of four\)...](#)  
religious/ritual equipment; rattle: ESA81123 Rattle (matraca in Spanish) (one of four)...; **Created:** Santa Cruz de Juventino  
Rosas, 1970-01-01; **Material:** wood; **Technique:** carved; painted

x Find:  [Next](#) [Previous](#)  Highlight all  Match case

A ResearchSpace search for object type 'rattle' and subject 'bird' starts to show different examples from different cultures

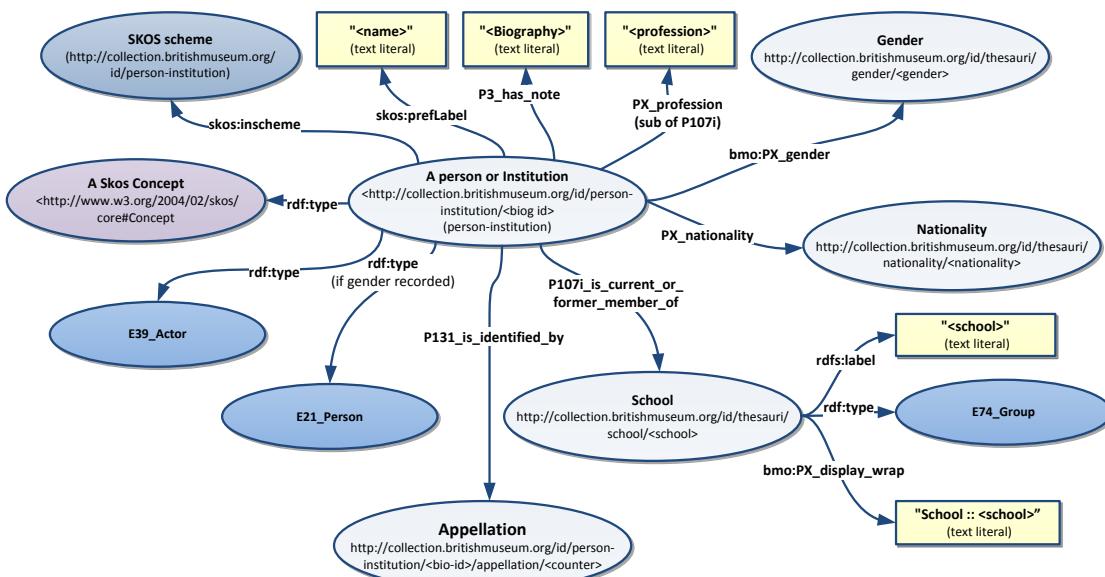
## 7.2 Biographical Model – A Person-Institution (or a CRM Actor)

The Museum's biographical authority is called 'person-institution' because it records both people and institutions using the same database entities. A Museum biographical record, which is flat, looks like this when viewed from the Museum's collection interface.



A biographical record is not an ordinary authority but an important part of the knowledge base in its own right and the subject of many central authority projects. Although we assign biography a SKOS concept scheme and a label with the name of the person or organisation this is only to provide consistency of access across all authorities that are part of the 'thesauri' URI resources. The CRM itself provides the necessary framework to describe biographical metadata. Although people and organisations are mixed in the BM database the only differentiating field in the biographical record is 'gender', and this requires completion to confirm that we are talking about a person rather than an organisation. If this is the case then we use **E21\_Person** to type the person-institution node but regardless it is typed a **E39\_Actor**.

Other information of note is for 'profession' which is a text node using a BM property extension called **PX\_field\_of\_activity\_of\_the\_agent** and the property **P107i\_is\_current\_or\_former\_member\_of**. The British Museum Ontology (BMO) extension is a sub-property of **P3\_has\_note**. The use of **P107i** is used to assign actors to, in this diagram, two groups. One group is 'Nationality' and the other is the thesaurus concept scheme, 'School' (an artistic group). Lastly there is a relationship to support different names for the same person. The use of the CRM concept 'Appellation' allows us to record the different aliases associated with an actor and potentially the periods in which they were known by that alias.



The next part of the model shows how different appellations are applied. Below are triple statements for Emperor Augustus (bibliographic reference <http://collection.britishmuseum.org/id/person-institution/57074>) as they have been described in the model above. The extended property **PX\_nationality** (sub-property of **P107i\_is\_current\_or\_former\_member\_of**) describes Augustus as a ruler, with a nationality of, 'Roman'. At this level you can see the starting nodes for documenting the dates for birth and death and five different appellations.

Predicate	Object
<a href="#">rdf:type</a>	<a href="#">crm:E21_Person</a> <a href="#">kos:Concept</a>
<a href="#">crm:P3_has_note</a>	Born Gaius Octavius, adopted by Julius Caesar (q.v.) as C. Julius Caesar in 44 BC, then Imperator Caesar Divi Filius (known as Octavian). Took new name of Augustus in 27 BC. Became first Roman emperor. Died 19 August AD 14. Deified 17 September AD 14. In the years immediately after Caesar's assassination in 44 BC, Augustus and Mark Antony (q.v., Caesar's closest friend and ally) set out to avenge his murder. Within a decade, however, relations between the two had broken down and the Roman World was plunged into civil war. By 31 BC Augustus had emerged as the undisputed victor: Rome's first emperor. Rome had been a republic for centuries since the fall of its kings and was ruled by the Senate (its supreme political body) and the Roman people. Augustus was anxious that his political position was acceptable to everyone. He based his powers on traditional political offices and presented himself as the 'first man' of the Senate rather than as a king. In this way he cleverly preserved the ideals of the Roman Republic. In about 23 BC, Augustus reformed the coinage. He continued to produce the gold aureus and the silver denarius, but introduced a series of new copper-alloy denominations. The new coinage system was more advanced than anything the ancient world had seen.
<a href="#">skos:inScheme</a>	<a href="#">thesIdentifier:person-institution</a>
<a href="#">skos:prefLabel</a>	Augustus (Octavian)
<a href="#">bmo:PX_gender</a>	<a href="http://collection.britishmuseum.org/id/thesauri/gender/male">http://collection.britishmuseum.org/id/thesauri/gender/male</a>

<a href="#">bmo:PX_nationality</a>	<a href="http://collection.britishmuseum.org/id/thesauri/nationality/Roman">http://collection.britishmuseum.org/id/thesauri/nationality/Roman</a>
<a href="#">bmo:PX_profession</a>	<a href="http://collection.britishmuseum.org/id/thesauri/profession/royal/imperial">http://collection.britishmuseum.org/id/thesauri/profession/imperial</a> <a href="http://collection.britishmuseum.org/id/thesauri/profession/ruler">http://collection.britishmuseum.org/id/thesauri/profession/ruler</a>
<a href="#">crm:P131_is_identified_by</a>	<a href="http://collection.britishmuseum.org/id/person-institution/57074/appellation/1">http://collection.britishmuseum.org/id/person-institution/57074/appellation/1</a> <a href="http://collection.britishmuseum.org/id/person-institution/57074/appellation/2">http://collection.britishmuseum.org/id/person-institution/57074/appellation/2</a> <a href="http://collection.britishmuseum.org/id/person-institution/57074/appellation/3">http://collection.britishmuseum.org/id/person-institution/57074/appellation/3</a> <a href="http://collection.britishmuseum.org/id/person-institution/57074/appellation/4">http://collection.britishmuseum.org/id/person-institution/57074/appellation/4</a> <a href="http://collection.britishmuseum.org/id/person-institution/57074/appellation/5">http://collection.britishmuseum.org/id/person-institution/57074/appellation/5</a>
<a href="#">crm:P92i_was_brought_into_existence_by</a>	<a href="http://collection.britishmuseum.org/id/person-institution/57074/birth">http://collection.britishmuseum.org/id/person-institution/57074/birth</a>
<a href="#">crm:P93i_was_taken_out_of_existence_by</a>	<a href="http://collection.britishmuseum.org/id/person-institution/57074/death">http://collection.britishmuseum.org/id/person-institution/57074/death</a>

## 7.2.1 Appellation

Actors can acquire different titles or names during their existence and these are recorded as different appellations (CRM speak). The model below shows how appellation is ‘assigned’ and ‘de-assigned’ if this information is known. Appellation is distinguished as a type distinct from the person itself through the use of **E82\_Actor\_Appellation**. The assignment nodes are typed by **E15\_Identifier\_Assignment** to denote that there has been assignment of an identifier - which in this case is a name! These assignments have a time span with a starting date and an end date for the de-assignment. Literal representations accompany the nodes that have been typed as a date (if dates are known).

### Appellation 1

Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/person-institution/57074/appellation/1">http://collection.britishmuseum.org/id/person-institution/57074/appellation/1</a>	<a href="#">id:ontology/PX_display_wrap</a>	"Name Date :: 27BC-14 ::"
<a href="http://collection.britishmuseum.org/id/person-institution/57074/appellation/1">http://collection.britishmuseum.org/id/person-institution/57074/appellation/1</a>	<a href="#">crm:P37i_was_assigned_by</a>	<a href="http://collection.britishmuseum.org/id/person-institution/57074/appellation/1/assigned">id:person-institution/57074/appellation/1/assigned</a>
<a href="http://collection.britishmuseum.org/id/person-institution/57074/appellation/1">http://collection.britishmuseum.org/id/person-institution/57074/appellation/1</a>	<a href="#">crm:P38i_was_deassigned_by</a>	<a href="http://collection.britishmuseum.org/id/person-institution/57074/appellation/1/deassigned">id:person-institution/57074/appellation/1/deassigned</a>
<a href="http://collection.britishmuseum.org/id/person-institution/57074/appellation/1">http://collection.britishmuseum.org/id/person-institution/57074/appellation/1</a>	<a href="#">crm:P3_has_note</a>	"Emperor Augustus"
<a href="http://collection.britishmuseum.org/id/person-institution/57074/appellation/1">http://collection.britishmuseum.org/id/person-institution/57074/appellation/1</a>	<a href="#">rdf:type</a>	<a href="#">crm:E82_Actor_Appellation</a>
<a href="http://collection.britishmuseum.org/id/person-institution/57074/appellation/1">http://collection.britishmuseum.org/id/person-institution/57074/appellation/1</a>	<a href="#">rdfs:label</a>	"Augustus"

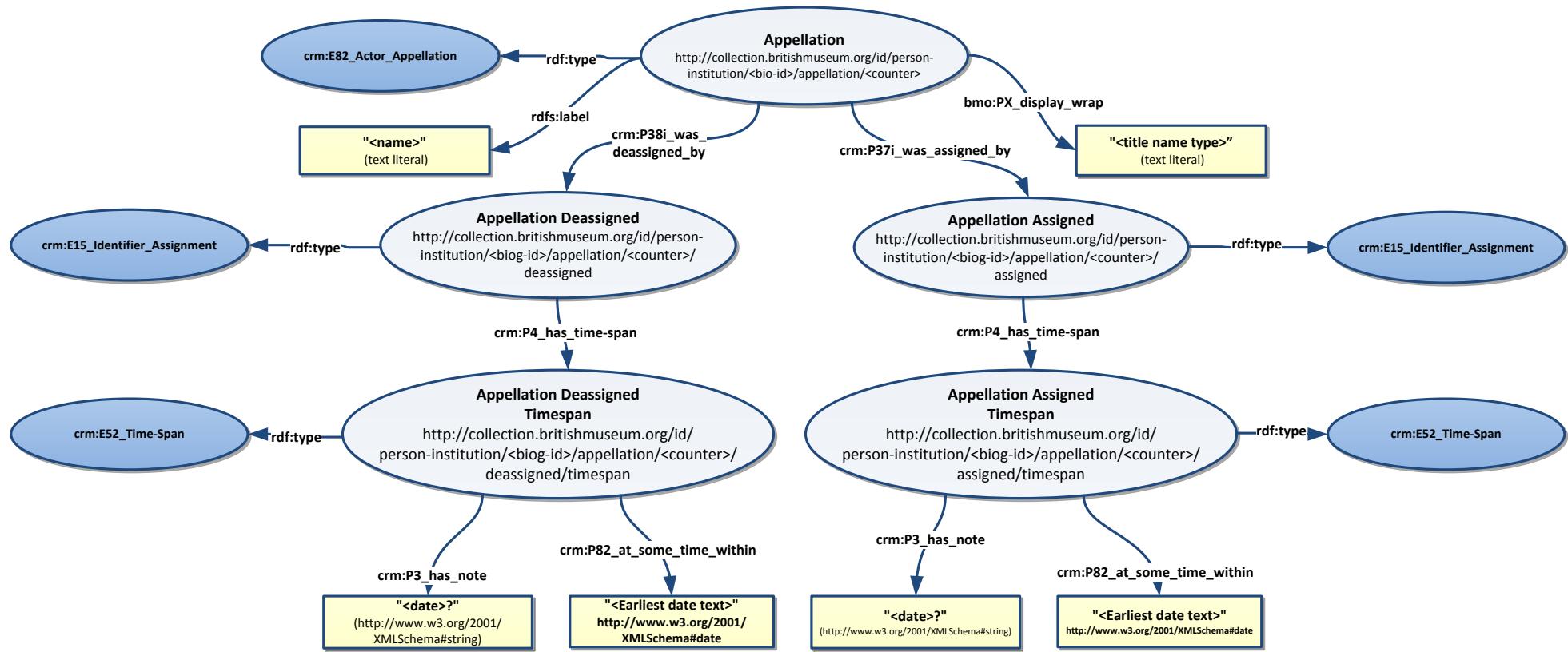
### Appellation 2

Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/person-institution/57074/appellation/2">http://collection.britishmuseum.org/id/person-institution/57074/appellation/2</a>	<a href="#">crm:P3_has_note</a>	"Augustus Caesar"
<a href="http://collection.britishmuseum.org/id/person-institution/57074/appellation/2">http://collection.britishmuseum.org/id/person-institution/57074/appellation/2</a>	<a href="#">rdf:type</a>	<a href="#">crm:E82_Actor_Appellation</a>

<a href="#">institution/57074/appellation/2</a>		
<a href="#">http://collection.britishmuseum.org/id/person-</a>	rdfs:label	"Augustus Caesar"
<a href="#">institution/57074/appellation/2</a>		

Appellation 3

Subject	Predicate	Object
<a href="#">http://collection.britishmuseum.org/id/pers</a> <a href="#">on-institution/57074/appellation/3</a>	<a href="#">crm:P3 has note</a>	"Octavian"
<a href="#">http://collection.britishmuseum.org/id/pers</a> <a href="#">on-institution/57074/appellation/3</a>	<a href="#">rdf:type</a>	<a href="#">crm:E82 Actor Appellation</a>
<a href="#">http://collection.britishmuseum.org/id/pers</a> <a href="#">on-institution/57074/appellation/3</a>	<a href="#">rdfs:label</a>	"Octavian"



Appellation 4

Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/person-institution/57074/appellation/4">http://collection.britishmuseum.org/id/person-institution/57074/appellation/4</a>	crm:P3 has note	"Octavianus"
<a href="http://collection.britishmuseum.org/id/person-institution/57074/appellation/4">http://collection.britishmuseum.org/id/person-institution/57074/appellation/4</a>	rdf:type	crm:E82 Actor Appellation
<a href="http://collection.britishmuseum.org/id/person-institution/57074/appellation/4">http://collection.britishmuseum.org/id/person-institution/57074/appellation/4</a>	rdfs:label	"Octavianus"

Appellation 5

Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/person-institution/57074/appellation/5">http://collection.britishmuseum.org/id/person-institution/57074/appellation/5</a>	crm:P3 has note	"Caesar, C"
<a href="http://collection.britishmuseum.org/id/person-institution/57074/appellation/5">http://collection.britishmuseum.org/id/person-institution/57074/appellation/5</a>	rdf:type	crm:E82 Actor Appellation
<a href="http://collection.britishmuseum.org/id/person-institution/57074/appellation/5">http://collection.britishmuseum.org/id/person-institution/57074/appellation/5</a>	rdfs:label	"Caesar, C"

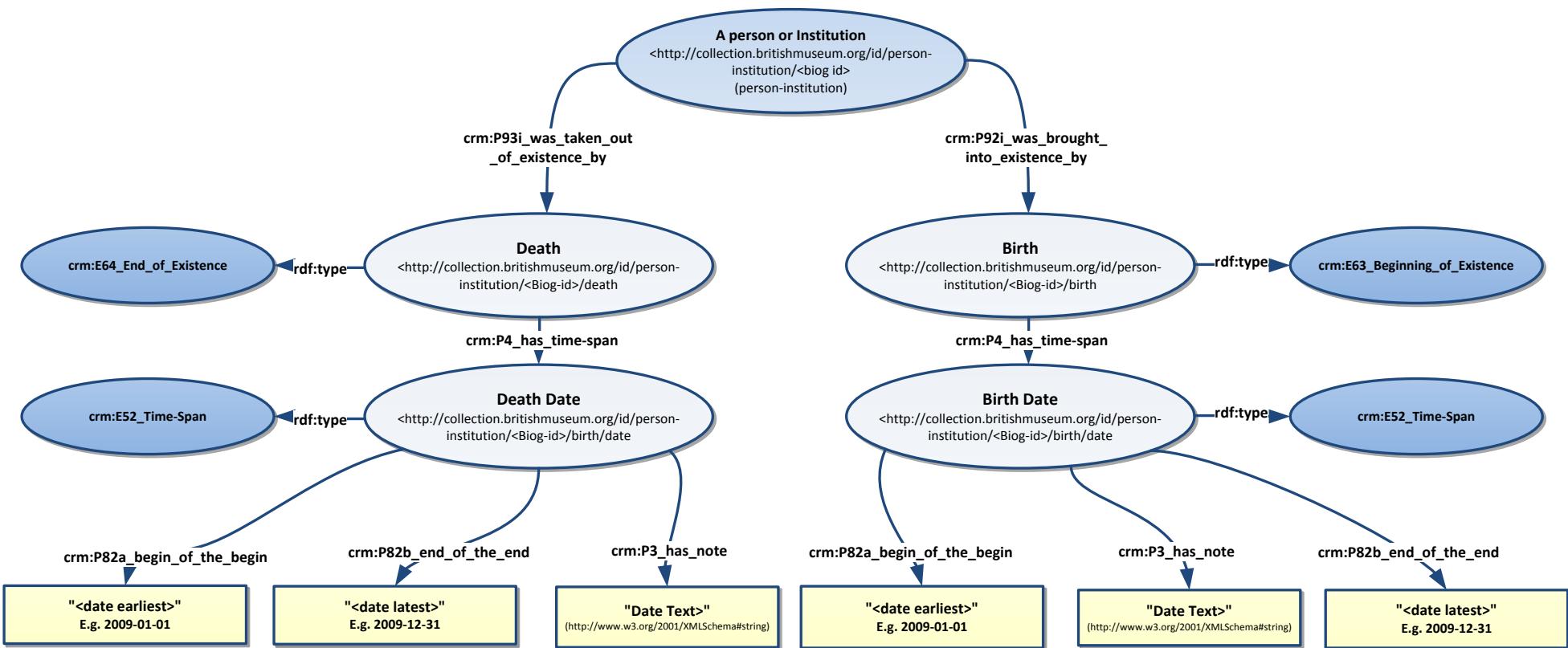
### 7.2.2 Brought into Existence

Unless immortal real people will have a birth date and a death date. They were brought into existence through birth (**P92i\_was\_brought\_into\_existence\_by**) and eventually die. Birth and death mark the period of their existence from the beginning (**E63**) to the end (**E64**) and this is measured by **E53\_Time\_Span**.

For birth the triples look like this.

Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/person-institution/57074/birth">http://collection.britishmuseum.org/id/person-institution/57074/birth</a>	crm:P4_has_time-span	id:person-institution/57074/birth/date
<a href="http://collection.britishmuseum.org/id/person-institution/57074/birth">http://collection.britishmuseum.org/id/person-institution/57074/birth</a>	rdf:type	crm:E63_Beginning_of_Existence

Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/person-institution/57074/birth/date">http://collection.britishmuseum.org/id/person-institution/57074/birth/date</a>	crm:P82a_begin_of_the_begin	"63 BC"^^xsd:string
<a href="http://collection.britishmuseum.org/id/person-institution/57074/birth/date">http://collection.britishmuseum.org/id/person-institution/57074/birth/date</a>	crm:P82b_end_of_the_end	"63 BC"^^xsd:string
<a href="http://collection.britishmuseum.org/id/person-institution/57074/birth/date">http://collection.britishmuseum.org/id/person-institution/57074/birth/date</a>	rdf:type	crm:E52_Time-Span
<a href="http://collection.britishmuseum.org/id/person-institution/57074/birth/date">http://collection.britishmuseum.org/id/person-institution/57074/birth/date</a>	rdfs:label	"63BC"^^xsd:string



## **8 Practical Applications**

### **8.1 The difference between mapping to CRM and developing with CRM**

You have reached the end of our account of the British Museum's mapping to the Conceptual Reference Model. Hopefully you have considered both the peculiarities of the British Museum's digital object documentation and also how they might be used in your own environment with or without modifications and additions. However, one of the things that we hope is apparent (even if you are not a computer programmer) is that once you have a published implementation of the CRM, it is incredibly easy to develop rich applications. In many museum web applications glossy yet limited user interfaces cover up layers of technical complexity. The Museum's CRM mapping makes it possible for experts and novices alike to produce impressive contextually aware applications that can expose relationships between different museum collections.

At the time of writing students at Yale University are creating web applications using CRM data from the British Museum and Yale Center for British Art to show case the data and illustrate the point above. Also ongoing is the activity of turning this work into an accessible community research environment able to bridge the current divides between museum's digital collections and provide the means for both discovery and enrichment of knowledge as a collaborative activity.

Below is a selection of screen shots from this work that we hope will be available soon.

Projects Tools Dominic Bookmark web link in RS Databasket

Rembrandt search

Dashboard Forum Rembrandt PDO10606 A young woman sleeping (Hendrickje Stoffels) PDO12495 The Last Supper, after an Italian drawing...

Find all objects with images created/modified by Rembrandt +

Search Add To Data Basket Export Print

500 Results 1 2 3 4

List Thumbnails Timeline

**Object Type**

- 1 album
- 4 book-illustration
- 3 counterproof
- 187 drawing
- 1 forgery
- 48 illustration

**Creator**

- 9 Abraham Furerius
- 3 Abraham van Dijck
- 2 Anonymous
- 2 Anthonie van Borssom
- 3 Anthony de Haen
- 2 Anneta Onder

**Places**

- 77 Europe
  - 1 British Isles
    - 1 England
      - 1 London England
- 75 Gaul
  - 75 France

**Created**

- 1 1600-01-01
- 1 1625-12-31
- 3 1626-01-01
- 13 1628-01-01
- 1 1629

Find: rembrandt Next Previous Highlight all Match case

sorted by: Title; then by...

The ResearchSpace semantic search system using condensed CRM relationships known as 'Fundamental Relationships'.



## **Appendix**

## 1 Extensions to the CRM

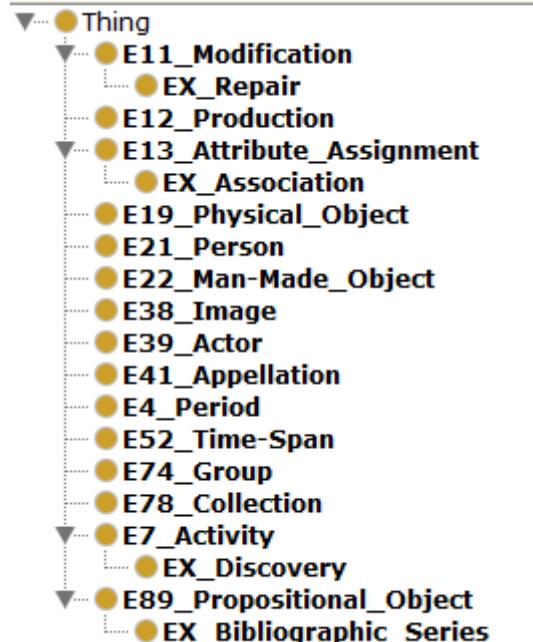
Note that the W3C OWL reference distinguishes two type of property:

*Object properties* link individuals to individuals.

*Datatype properties* link individuals to data values.

### Annex X

#### Classes



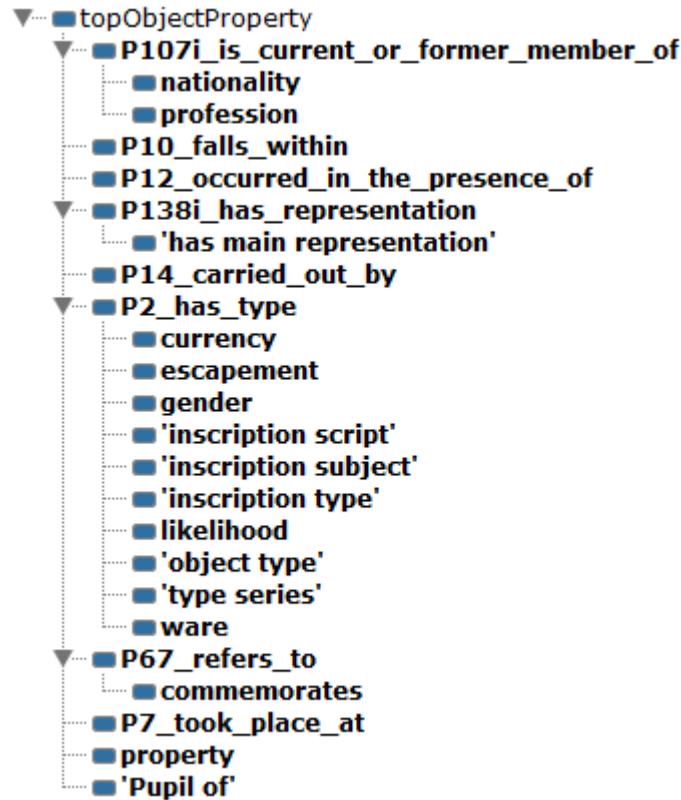
EX\_Repair                 Used to represent an activity which involves the repair of an object.  
Sub class of CRM         E11\_Modification

EX\_Association    This is a specialisation of Attribute Assignment in order to assign attributes and typing of properties which are sub properties / specialisations of CRM asserted in the British Museum ontology.  
Sub class of CRM         E13\_Attribute\_Assignment

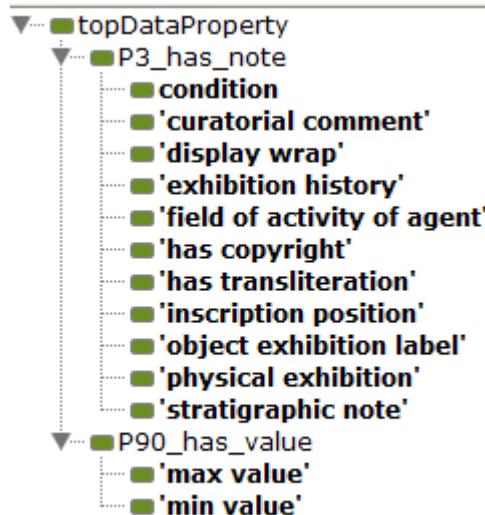
EX\_Discovery         Describes the event at which a persistent item was found.  
Sub class of CRM         E7\_Activity

EX\_Bibliographic\_Series    This is a specific series which can comprise of many different documents which belong together as a specific series collection.  
Sub class of CRM         E89\_Propositional\_Object

## Properties



## Data Properties



## Datatype Property Extensions

Extension	Type	Parent Class	Description
PX_exhibition_history		P3_has_note	This is a sub-property of crm:P3_has_note, used to represent the exhibition history of an object
PX_field_of_activity_of_the_agent		P3_has_note	This is similar to RDA Group 2 Elements properties 'Field of activity of the corporate body' and 'Field of activity of person' but instead allows just the agent to be expressed as BM bio records do not accurately distinguish between individuals & institutions.
PX_condition		P3_has_note	
PX_curatorial_comment		P3_has_note	
PX_display_wrap		P3_has_note	This predicate is to encapsulate text/notes which are for indexing and to explain in a text format structured data represented in RDF
PX_has_copyright		P3_has_note	
PX_has_transliteration		P3_has_note	This is a sub-property of crm:P3_has_note, used to represent a transliteration of an inscription
PX_inscription_position		P3_has_note	This is an extension of has_note for the free text field in BM collections system \"Inscription Position\"
PX_object_exhibition_label		P3_has_note	
PX_physical_description		P3_has_note	This is a sub-property of crm:P3_has_note, used to represent a physical description of an object
PX_stratigraphic_note		P3_has_note	
PX_max_value		P90_has_value	This is a sub-property of crm:P90_has_value, used to represent the maximum value of a dimension, where the dimension is a range (in which case PX_min_value will also be specified)
PX_min_value		P90_has_value	This is a sub-property of crm:P90_has_value, used to represent either the value of a dimension, or the lower bound if the dimension is a range (in which case PX_max_value will also be specified)

## Object Property Extensions

## 2 Processing

### 2.1 RDFer and mapping configuration

This section is included to provide a full picture of the mapping process and can be skipped by those not interested in the underlying machinery. The process used to generate the RDF triples from the Museum's collection system incorporates an in-house application called RDFer. We hope, perhaps with others, to develop a tool that requires no programmer knowledge in the future. Many different open source mapping tools are available for download on the Web, some of which may be more intuitive.

The RDFer tool uses a set of configuration files that contain the mapping logic to transform XML files exported from the British Museum's collections record system to RDF using XPath syntax. Here is a section from the Museum's main configuration file.

```
<mapping match="/bm_object[bm_object_part/_[mus_obj_parts='1' and  
bm_alias_admin_no/_/bm_admin_type='WEB']]}"  
  
namedgraph="&id;object/{bm_prn}/graph">  
  <resource>  
    <identifier prefix="http://collection.britishmuseum.org/id/object/" value="{bm_prn}"/>  
  
    <type value="http://erlangen-crm.org/current/E22_Man-Made_Object"></type>  
    <!-- IDENTIFIERS -->  
    <!-- Merlin PRN -->  
    <triple object="{bm_prn}/prn" predicate="crm:P48_has_preferred_identifier"  
prefix="http://collection.britishmuseum.org/id/object/"></triple>  
    <resource>  
      <identifier prefix="http://collection.britishmuseum.org/id/object/"  
value="{bm_prn}/prn"></identifier>  
      <type value="http://erlangen-crm.org/current/E42_Identifier"></type>  
      <triple object="http://collection.britishmuseum.org/id/thesauri/identifier/prn"  
predicate="crm:P2_has_type"></triple>  
      <triple predicate="rdfs:label" value="{bm_prn}"></triple>  
    </resource>
```

The first line is looking for a match in the source XML output. The {} indicate a database field (and its contents). In this case we are looking for objects or object parts that have been published to the web or, in other words, are available for web publication.

The 'namedgraph' label is an instruction to create a named graph around the triples created by the subsequent mapping instructions. By doing this users can return the data for an entire object (the entire hierarchy) simply by providing the URI of the object. This also means that we can update records individually as they change internally. This also provides a more reliable query mechanism than, for example, using the SPARQL DESCRIBE statement to retrieve the full object record.

The mapping starts with the label <resource>. The mappings within the resource tag are related to subject of the triple which is specified by the <identifier> tag. In this case we have identified a subject

[http://collection.britishmuseum.org/id/object/{bm\\_prn}](http://collection.britishmuseum.org/id/object/{bm_prn}). The curly brackets specify a data field (or XML tag) that contains the object identifier. This is the stable URI for an object.

<type value> always refers to the application of ‘rdf:type’ and applies this predicate to the object URI with the value (or object) E22\_Man\_Made\_Object. This creates the triple:

Subject	Predicate	Object
http://collection.britishmuseum.org/id/object/<an identifier>	rdfs:type	E22_Man_Made_Object

The next line uses the same identifier and creates a triple for the preferred identifier. The <prefix> tag also provides the prefix for the object URI. In this case:

Subject	Predicate	Object
<a href="http://collection.britishmuseum.org/id/object/prn">http://collection.britishmuseum.org/id/object/prn</a>	crm:P48_has_preferred_identifier	http://collection.britishmuseum.org/id/object/<an identifier>/prn

The preferred identifier in this example is the PRN number.

The original resource tag is not closed but instead another resource embedded. This means that after dealing with the mappings for the new resource the system will revert to the original subject until its resource tag is closed. The new resource changes the object of the last triple to be the subject of the next one – the URL specifying the actual id. The triples look like this:

Subject	Predicate	Object
http://collection.britishmuseum.org/id/object/<an identifier>	rdfs:type	E42_Identifier
http://collection.britishmuseum.org/id/object/<an identifier>	crm:P2_has_type	http://collection.britishmuseum.org/id/thesauri/identifier/prn
http://collection.britishmuseum.org/id/object/<an identifier>	rdfs:label	<identifier> (as text)

The RDFer application can be used within an automated process. Modified records are automatically exported, picked up by the RDFer processing system and then published. This creates a simple automated workflow.

The main terminology data where terms have their own system numbers are generated separately by the RDFer application using separate configuration files but are connected to the object record using an id reference in the object data. The configuration files are annexed to this document.

## 3 The British Museum SPARQL Endpoint

### 3.1 What is a SPARQL Endpoint

An Endpoint provides the interface by which users can submit queries to the RDF database. It is intended for developers who wish to programme applications against the database. However, a simple web query interface is usually provided to allow developers to explore and test the database. The Endpoint can also be useful for people learning the SPARQL query language. The web interface used on the British Museum Endpoint is a RDF explorer application called SNORQL. SNORQL is a JavaScript application which supports both browsing and data downloads in XML and JSON formats.

### 3.2 OWLIM

OWLIM is a high performance semantic repository or triple store developed in JAVA which builds on the Sesame and Jena frameworks. OWLIM is a product of Ontotext ([www.ontotext.com](http://www.ontotext.com)). The British Museum Endpoint is essentially an OWLIM triple store and reasoning system. The practical use of reasoning on the Endpoint is in the inference of inverse relationships and in the use of something called Fundamental Relationships. These are condensed versions of CRM properties for searching purposes and are explained below.

OWLIM also provides free text functionality which is available through the Endpoint. Although the SPARQL query language provides a way of using regular expressions to search text, the free text search interface provides an interface to the Lucene indexing system.

### 3.3 Free text search

#### 3.3.1 Proprietary System

The OWLIM system provides two systems for free text search both of which require setup and configuration. The first is a proprietary mechanism using OWLIM indexes. OWLIM provides a syntax that can be embedded into a query so that you can use free text to filter your queries. The example is provided below:

```
PREFIX fts: <http://www.ontotext.com/owlim/fts#>
SELECT * WHERE {
?term skos:inScheme <http://collection.britishmuseum.org/id/thesauri/matcult> .
?term skos:prefLabel ?periodlabel .
<Third:Dynasty:> fts:exactMatch ?periodlabel .
}
LIMIT 200

# a query that looks in the material culture thesaurus to find a culture with the words, 'Third
# Dynasty'
```

This is a faster alternative to FILTER regex(str(?periodlabel),"Third Dynasty ","i")

Subject	Predicate	Object
<a href="#">id:thesauri/x14626</a>	skos:prefLabel	"Third Dynasty of Ur"

The system provides the following options:

- fts:exactMatch – for an exact match between whitespace ('.' denotes connecting space)
- fts:matchIgnoreCase – as above but case insensitive
- fts:prefixMatch – matches strings starting with the target string
- fts:prefixMatchIgnoreCase – as above but case insensitive

### **3.3.2 Lucene**

OWLIM also supports Lucene indexing as an open method for free text searching and can also be included in SPARQL queries. This provides some of the additional functionality offered by the Lucene system like stemming, proximity and others.

### **3.3.3 Fundamental Concepts and Relationships**

The Museum's data contains some reasoning used to condense CRM relationships into more general

{To be Completed}

## 4 Merged Association Codes

### Acquisition & Findspot Association Codes

Acquisition Person	Findspot	URI	Label	Scheme
B: Bequeathed by, BT: Bequeathed through		id:thesauri/acquisition/B	Bequeathed	id:thesauri/acquisition
D: Donated by, V: Donated through		id:thesauri/acquisition/D	Donated	id:thesauri/acquisition
E: Exchanged with, EC: Exchanged through		id:thesauri/acquisition/E	Exchanged	id:thesauri/acquisition
F: From		id:thesauri/acquisition/F	From	id:thesauri/acquisition
P: Purchased from, A: Purchased through		id:thesauri/acquisition/P	Purchased	id:thesauri/acquisition
T: Transferred from		id:thesauri/acquisition/T	Transferred	id:thesauri/acquisition
UI: Unclaimed item		id:thesauri/acquisition/U	Unclaimed Item	id:thesauri/acquisition
TT: Treasure Trove, TR: Purchased Through the Treasure Act 1996		id:thesauri/acquisition/TA	Treasure Act	id:thesauri/acquisition
L: On Loan From		id:thesauri/acquisition/L	Loan	id:thesauri/acquisition
CF: With contribution from		id:thesauri/acquisition/C	With Contribution	id:thesauri/acquisition
FU: Funded by		id:thesauri/acquisition/FU	Funded	id:thesauri/acquisition
S: Sponsored by		id:thesauri/acquisition/S	Sponsored	id:thesauri/acquisition
IH: In Honour of		id:thesauri/acquisition/IH	In Honour	id:thesauri/acquisition
IM: In Memory of		id:thesauri/acquisition/IM	In Memory	id:thesauri/acquisition
C: Collected by		id:thesauri/find/C	Collected	id:thesauri/find
EX: Excavated by	E: Excavated/Findspot	id:thesauri/find/E	Excavated / Findspot	id:thesauri/find
	F: Found/Acquired	id:thesauri/find/F	Found/Acquired	id:thesauri/find

## Production Association Codes

Production Person	Production Authority	Production Place	URI	Label	Scheme
	E: Eponym		id:thesauri/authority/E	Eponym	id:thesauri/authority
	G: Governor		id:thesauri/authority/G	Govenor	id:thesauri/authority
	I: Issuer		id:thesauri/authority/I	Issuer	id:thesauri/authority
	K: Ruler		id:thesauri/authority/K	Ruler	id:thesauri/authority
	Y: Magistrate		id:thesauri/authority/Y	Magistrate	id:thesauri/authority
5: Drawn by			id:thesauri/production/5	Drawn	id:thesauri/production
AU: Author			id:thesauri/production/AU	Author	id:thesauri/production
BC: Block cut by			id:thesauri/production/BC	Block cut	id:thesauri/production
CA: Calligrapher			id:thesauri/production/CA	Calligrapher	id:thesauri/production
D: Designed by, DM: Medal designed and made by		D: Designed in	id:thesauri/production/D	Designed	id:thesauri/production
DE: Decorated by		DE: Decorated in	id:thesauri/production/DE	Decorated	id:thesauri/production
E: Engraved by			id:thesauri/production/E	Engraved	id:thesauri/production
I: Issuer		I: Issued in	id:thesauri/production/I	Issued	id:thesauri/production
ID: Intermediary draughtsman			id:thesauri/production/ID	Intermediary draught	id:thesauri/production
J: Modelled by			id:thesauri/production/J	Modelled	id:thesauri/production
L: Lustred by		L: Lustred in	id:thesauri/production/L	Lustered	id:thesauri/production
M: Made by, DM: Medal designed and made by		M: Made in	id:thesauri/production/M	Made	id:thesauri/production
P: Painted by		P: Painted in	id:thesauri/production/P	Painted	id:thesauri/production
PH: Photographed by		PH: Photographed in	id:thesauri/production/PH	Photographed	id:thesauri/production
SC: Scribe			id:thesauri/production/SC	Scribe	id:thesauri/production
WR: Written by			id:thesauri/production/WR	Written	id:thesauri/production
Z: Published by		Z: Published in	id:thesauri/production/Z	Published	id:thesauri/production
G: Moneyer	M: Moneyer	MI: Minted in	id:thesauri/production/MO	Moneyer	id:thesauri/production
T: Mint			id:thesauri/production/MI	Mint	id:thesauri/production
PA: Print artist, PM: Print made by, R: Printed by		R: Printed in	id:thesauri/production/R	Printed	id:thesauri/production

	RT: Retailed in	id:thesauri/production/RT	Retailed	id:thesauri/production
AG: Office/studio of		id:thesauri/group/AG	Office/Studio	id:thesauri/group
AJ: Circle/School of		id:thesauri/group/AJ	Circle/School	id:thesauri/group
F: Factory of	F: Factory in	id:thesauri/group/F	Factory	id:thesauri/group
O: Official/Office/Dept		id:thesauri/group/O	Official/Office/Dept	id:thesauri/group
W: Workshop of	W: Workshop in	id:thesauri/group/W	Workshop	id:thesauri/group
A: Attributed to	A: Attributed at	id:thesauri/liability/A	Attributed	id:thesauri/liability
AA: Attributed to an Apprentice/Pupil of		id:thesauri/liability/AA	Attributed to an Apprentice/Pupil	id:thesauri/liability
AB: Ascribed to		id:thesauri/liability/AB	Ascribed	id:thesauri/liability
AC: Attributed to the Circle of		id:thesauri/liability/AC	Attributed to the Circle	id:thesauri/liability
AD: Assigned to		id:thesauri/liability/AD	Assigned	id:thesauri/liability
AW: Attributed to the Workshop of		id:thesauri/liability/AW	Attribute to the Workshop	id:thesauri/liability
CB: Claimed to be by	CF: Claimed to be from	id:thesauri/liability/CB	Claimed to be	id:thesauri/liability
AE: Formerly attributed to		id:thesauri/liability/AE	Formerly attributed	id:thesauri/liability
IR: Inscription by		id:thesauri/production/IR	Inscription	id:thesauri/production
LE: Lettering engraved by		id:thesauri/production/LE	Engraving	id:thesauri/production
MB: Bell made by	MB: Bell made in	id:thesauri/x12541	Bell	id:thesauri/object
MC: Case made by	MC: Case made in	id:thesauri/x5827	Case	id:thesauri/object
MD: Dial made by	MD: Dial made in	id:thesauri/x6411	Dial	id:thesauri/object
ME: Ebauche maker	ME: Ebauche made in	id:thesauri/x6622	Ebauche	id:thesauri/object
MM: Movement made by	MM: Movement made in	id:thesauri/object/MM	Movement	id:thesauri/object
MP: Watch pendant made by	MP: Watch pendant made in	id:thesauri/object/MP	Watch Pendant	id:thesauri/object
MQ: Dust-cap maker	MQ: Dust-cap made in	id:thesauri/x6596	Dust-cup	id:thesauri/object
AF: Attributed to a Follower of		id:thesauri/production/AF	Attributed to a Follower	id:thesauri/production
AI: Attributed to an Imitator of		id:thesauri/production/AI	Attributed to a Imitator	id:thesauri/production
AL: Manner/Style of		id:thesauri/production/AL	Manner/Style	id:thesauri/production
AM: Attributed to the Manner of		id:thesauri/production/AM	Attributed to the Manner	id:thesauri/production
AT: After		id:thesauri/production/AT	After	id:thesauri/production
C: Close to		id:thesauri/production/C	Close to	id:thesauri/production
CF: Compare with		id:thesauri/production/CF	Compare	id:thesauri/production

CM: Connected with the Manner of			id:thesauri/production/CM	Connected with the Manner	id:thesauri/production
CW: Connected with			id:thesauri/production/CW	Connected	id:thesauri/production
S: School of/style of			id:thesauri/production/S	School/Style	id:thesauri/production
RE: Related to			id:thesauri/production/RE	Related	id:thesauri/production
NE: Near			id:thesauri/production/NE	Near	id:thesauri/production
RC: Recalls			id:thesauri/production/RC	Recalls	id:thesauri/production

## Associated Things Codes

Associated Person	Associated Place	Associated Event	Ethnic Group	URI	Label	Scheme
AB: Illustration of				id:thesauri/association/AB	Illustration	id:thesauri/association
IP: Portrait of, II: Named in inscription & portrayed (for Image Node)				id:thesauri/association/IP	Portrait	id:thesauri/association
IR: Representation of			IR: Representation of	id:thesauri/association/IR	Representation	id:thesauri/association
EE: Emblem of	EE: Emblem of			id:thesauri/association/EE	Emblem	id:thesauri/association
PI: Named in inscription, II: Named in inscription & portrayed (for Inscription Node)		PI: Named in Inscription		id:thesauri/association/PI	Named in Inscription	id:thesauri/association
F: Made for	MF: Made for			id:thesauri/association/F	(Made) For	id:thesauri/association
PP: Authorised or patronised by				id:thesauri/association/PP	Authorised/Patronised	id:thesauri/association
RP: Repaired by	RP: Repaired in			id:thesauri/association/RP	Repaired	id:thesauri/association
	IT: Topographic representation of			id:thesauri/association/IT	Topographical Representation	id:thesauri/association
	PA: allegory/personification			id:thesauri/association/PA	Allegory/Personification	id:thesauri/association
	OF: Original from			id:thesauri/association/OF	Original	id:thesauri/association

	<b>URI</b>	<b>Label</b>	<b>Scheme</b>
Associated <b>Title</b>			
El: Title	id:thesauri/association/El	Title	id:thesauri/association
IT: Associated Title	id:thesauri/association/AW	Associated With	id:thesauri/association
TI: Inscription from	id:thesauri/association/IF	Inscription From	id:thesauri/association

## Inscription Codes

<b>Inscription Subject</b>	<b>URI</b>	<b>Label</b>	<b>Scheme</b>
administrative	id:thesauri/inscription-subject/administrative	Administrative	id:thesauri/inscription-subject
anra motif	id:thesauri/inscription-subject/anra-motif	Anra Motif	id:thesauri/inscription-subject
catalogue	id:thesauri/inscription-subject/catalogue	Catalogue	id:thesauri/inscription-subject

commemorative	id:thesauri/inscription-subject/commemorative	Commemorative	id:thesauri/inscription-subject
construction	id:thesauri/inscription-subject/construction	Construction	id:thesauri/inscription-subject
dedicatory	id:thesauri/inscription-subject/dedicatory	Dedicatory	id:thesauri/inscription-subject
educational	id:thesauri/inscription-subject/educational	Educational	id:thesauri/inscription-subject
epistolary	id:thesauri/inscription-subject/epistolary	Epistolary	id:thesauri/inscription-subject
epitaph	id:thesauri/inscription-subject/epitaph	Epitaph	id:thesauri/inscription-subject
financial	id:thesauri/inscription-subject/financial	Financial	id:thesauri/inscription-subject
funerary	id:thesauri/inscription-subject/funerary	Funerary	id:thesauri/inscription-subject
invocation	id:thesauri/inscription-subject/invocation	Invocation	id:thesauri/inscription-subject
legal	id:thesauri/inscription-subject/legal	Legal	id:thesauri/inscription-subject
list	id:thesauri/inscription-subject/list	List	id:thesauri/inscription-subject
literary	id:thesauri/inscription-subject/literary	Literary	id:thesauri/inscription-subject
magical	id:thesauri/inscription-subject/magical	Magical	id:thesauri/inscription-subject
mathematical	id:thesauri/inscription-subject/mathematical	Mathematical	id:thesauri/inscription-subject
medical	id:thesauri/inscription-subject/medical	Medical	id:thesauri/inscription-subject
motto	id:thesauri/inscription-subject/motto	Motto	id:thesauri/inscription-subject
offering formula	id:thesauri/inscription-subject/offering-formula	Offering Formula	id:thesauri/inscription-subject
omen	id:thesauri/inscription-subject/omen	Omen	id:thesauri/inscription-subject
private	id:thesauri/inscription-subject/private	Private	id:thesauri/inscription-subject
religious	id:thesauri/inscription-subject/religious	Religious	id:thesauri/inscription-subject
ritual	id:thesauri/inscription-subject/ritual	Ritual	id:thesauri/inscription-subject
royal	id:thesauri/inscription-subject/royal	Royal	id:thesauri/inscription-subject
scientific	id:thesauri/inscription-subject/scientific	Scientific	id:thesauri/inscription-subject

Inscription Type	URI	Label	Scheme
annotation	id:thesauri/inscription-type/annotation	Annotation	id:thesauri/inscription-type
bell maker's mark	id:thesauri/inscription-type/bell-makers-mark	Bell maker's mark	id:thesauri/inscription-type
casemaker's mark	id:thesauri/inscription-type/casemakers-mark	Casemaker's mark	id:thesauri/inscription-type
control mark	id:thesauri/inscription-type/control-mark	Control mark	id:thesauri/inscription-type
countermark	id:thesauri/inscription-type/countermark	Countermark	id:thesauri/inscription-type
denominational mark	id:thesauri/inscription-type/denominational-mark	Denominational mark	id:thesauri/inscription-type

dial maker's mark	id:thesauri/inscription-type/dial-makers-mark	Dial maker's mark	id:thesauri/inscription-type
dust-cap maker's mark	id:thesauri/inscription-type/dust-cap-makers-mark	Dust-cap maker's mark	id:thesauri/inscription-type
ebauche mark	id:thesauri/inscription-type/ebauche-mark	Ebauche mark	id:thesauri/inscription-type
hallmark	id:thesauri/inscription-type/hallmark	Hallmark	id:thesauri/inscription-type
inscription	id:thesauri/inscription-type/inscription	Inscription	id:thesauri/inscription-type
lettering	id:thesauri/inscription-type/lettering	Lettering	id:thesauri/inscription-type
maker's mark	id:thesauri/inscription-type/makers-mark	Maker's mark	id:thesauri/inscription-type
mark	id:thesauri/inscription-type/mark	Mark	id:thesauri/inscription-type
merchant's mark	id:thesauri/inscription-type/merchants-mark	Merchant's mark	id:thesauri/inscription-type
mintmark	id:thesauri/inscription-type/mintmark	Mintmark	id:thesauri/inscription-type
monogram	id:thesauri/inscription-type/monogram	Monogram	id:thesauri/inscription-type
overstamp	id:thesauri/inscription-type/overstamp	Overstamp	id:thesauri/inscription-type
owner's mark	id:thesauri/inscription-type/owners-mark	Owner's mark	id:thesauri/inscription-type
pewter mark	id:thesauri/inscription-type/pewter-mark	Pewter mark	id:thesauri/inscription-type
pottery mark	id:thesauri/inscription-type/pottery-mark	Pottery mark	id:thesauri/inscription-type
reign mark	id:thesauri/inscription-type/reign-mark	Reign mark	id:thesauri/inscription-type
repair mark	id:thesauri/inscription-type/repair-mark	Repair mark	id:thesauri/inscription-type
retailer's mark	id:thesauri/inscription-type/retailers-mark	Retailer's mark	id:thesauri/inscription-type
sacred monogram	id:thesauri/inscription-type/sacred-monogram	Sacred monogram	id:thesauri/inscription-type
seal	id:thesauri/inscription-type/seal	Seal	id:thesauri/inscription-type
seal impression	id:thesauri/inscription-type/seal-impression	Seal impression	id:thesauri/inscription-type
signature	id:thesauri/inscription-type/signature	Signature	id:thesauri/inscription-type
signature and date	id:thesauri/inscription-type/signature-and-date	Signature and date	id:thesauri/inscription-type
signature/monogram	id:thesauri/inscription-type/signature/monogram	Signature/monogram	id:thesauri/inscription-type
tamgha	id:thesauri/inscription-type/tamgha	Tamgha	id:thesauri/inscription-type
trade mark	id:thesauri/inscription-type/trade-mark	Trade mark	id:thesauri/inscription-type
vineyard mark	id:thesauri/inscription-type/vineyard-mark	Vineyard mark	id:thesauri/inscription-type
watch pendant maker's mark	id:thesauri/inscription-type/watch-pendant-makers-mark	Watch pendant maker's mark	id:thesauri/inscription-type

Secondly, this document allows developers (including the increasing number of humanities scholars who are discovering the world of humanities computing) the information necessary to understand the organisation of the BM data within the CRM framework and to help understand the CRM itself. The CRM has a reputation of being complicated and difficult to learn. This document demonstrates that this is not the case. The CRM simply reflects the richness (and complexity) of cultural heritage data which is not fully understood by many web site developers who continue to produce superficial short life representations of museum knowledge on the Web. The CRM tames and makes sense of this complexity but nevertheless requires a prerequisite knowledge of the domain - why wouldn't it?. The implementation of the CRM represents an important example of the requirement of modern digital humanities for cross disciplinary collaboration between humanists and computer scientists.

Thirdly, I see this document as contributing to a much larger project aimed at capturing a memory of different semantic mappings (CRM and other scholarly mappings) that can support cross domain networks of knowledge. Such an endeavour would record and disseminate constructs or patterns that can be adopted to harmonise data within and between different scholarly domains and make full use of the World Wide Web as a tool for developing broader understanding. From a practical perspective, the building of CRM constructs documented here can be used to make the process of developing CRM communities quicker and effortless so that such that something initially perceived as complicated becomes a standard tool.

Lastly, the aim is to encourage the development of rich and functional tools that make good use of the years of effort and dedication by the CRM group in developing the model. There is no point in mapping data to a model without also producing the tools that allow a wide range of people to make use of it. This means creating tools for scholars, enthusiasts, employees and for a general audience. The more that organisations adopt the CRM and make their data available the greater the incentive for developers to produce new and innovative applications. Within the British Museum this currently involves the creation of ResearchSpace, a project funded by the Andrew W. Mellon Foundation, aimed at making best use of CRM data. The ResearchSpace has provided the essential focus to produce the British Museum's Semantic Endpoint and has been instrumental in the approach taken in our use of the CRM ontology.

## 5 Example Object Graphs

```
<http://collection.britishmuseum.org/id/object/YCA62958/graph> {
    <http://collection.britishmuseum.org/id/object/YCA62958>
```

name2	ns1:uri	literal	lang	datatype
Predicate	<a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#type">http://www.w3.org/1999/02/22-rdf-syntax-ns#type</a>			
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>			
Object	<a href="http://erlangen-crm.org/current/E22_Man-Made_Object">http://erlangen-crm.org/current/E22_Man-Made_Object</a>			
Predicate	<a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#type">http://www.w3.org/1999/02/22-rdf-syntax-ns#type</a>			
Subject	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>			
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Predicate	<a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#type">http://www.w3.org/1999/02/22-rdf-syntax-ns#type</a>			
Subject	<a href="http://collection.britishmuseum.org/id/object/117631">http://collection.britishmuseum.org/id/object/117631</a>			
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Predicate	<a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#type">http://www.w3.org/1999/02/22-rdf-syntax-ns#type</a>			
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/find">http://collection.britishmuseum.org/id/object/YCA62958/find</a>			
Object	<a href="http://erlangen-crm.org/current/E10_Transfer_of_Custody">http://erlangen-crm.org/current/E10_Transfer_of_Custody</a>			
Predicate	<a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#type">http://www.w3.org/1999/02/22-rdf-syntax-ns#type</a>			
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/acquisition">http://collection.britishmuseum.org/id/object/YCA62958/acquisition</a>			
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Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/acquisition/1">http://collection.britishmuseum.org/id/object/YCA62958/acquisition/1</a>			
Object	<a href="http://erlangen-crm.org/current/E10_Transfer_of_Custody">http://erlangen-crm.org/current/E10_Transfer_of_Custody</a>			

Predicate	<a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#type">http://www.w3.org/1999/02/22-rdf-syntax-ns#type</a>
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Object	<a href="http://erlangen-crm.org/current/E8_Acquisition">http://erlangen-crm.org/current/E8_Acquisition</a>
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Object	<a href="http://erlangen-crm.org/current/E42_Identifier">http://erlangen-crm.org/current/E42_Identifier</a>
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Predicate	<a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#type">http://www.w3.org/1999/02/22-rdf-syntax-ns#type</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/codexid">http://collection.britishmuseum.org/id/object/YCA62958/codexid</a>
Object	<a href="http://erlangen-crm.org/current/E42_Identifier">http://erlangen-crm.org/current/E42_Identifier</a>
Predicate	<a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#type">http://www.w3.org/1999/02/22-rdf-syntax-ns#type</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/otherid">http://collection.britishmuseum.org/id/object/YCA62958/otherid</a>
Object	<a href="http://erlangen-crm.org/current/E42_Identifier">http://erlangen-crm.org/current/E42_Identifier</a>
Predicate	<a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#type">http://www.w3.org/1999/02/22-rdf-syntax-ns#type</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/regno">http://collection.britishmuseum.org/id/object/YCA62958/regno</a>
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Predicate	<a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#type">http://www.w3.org/1999/02/22-rdf-syntax-ns#type</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/prn">http://collection.britishmuseum.org/id/object/YCA62958/prn</a>
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Predicate	<a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#type">http://www.w3.org/1999/02/22-rdf-syntax-ns#type</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/find">http://collection.britishmuseum.org/id/object/YCA62958/find</a>
Object	<a href="http://collection.britishmuseum.org/id/ontology/EX_Discovery">http://collection.britishmuseum.org/id/ontology/EX_Discovery</a>
Predicate	<a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#type">http://www.w3.org/1999/02/22-rdf-syntax-ns#type</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/length/1">http://collection.britishmuseum.org/id/object/YCA62958/length/1</a>
Object	<a href="http://erlangen-crm.org/current/E54_Dimension">http://erlangen-crm.org/current/E54_Dimension</a>
Predicate	<a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#type">http://www.w3.org/1999/02/22-rdf-syntax-ns#type</a>

Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/thickness/1">http://collection.britishmuseum.org/id/object/YCA62958/thickness/1</a>
Object	<a href="http://erlangen-crm.org/current/E54_Dimension">http://erlangen-crm.org/current/E54_Dimension</a>
Predicate	<a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#type">http://www.w3.org/1999/02/22-rdf-syntax-ns#type</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/width/1">http://collection.britishmuseum.org/id/object/YCA62958/width/1</a>
Object	<a href="http://erlangen-crm.org/current/E54_Dimension">http://erlangen-crm.org/current/E54_Dimension</a>
Predicate	<a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#type">http://www.w3.org/1999/02/22-rdf-syntax-ns#type</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/production">http://collection.britishmuseum.org/id/object/YCA62958/production</a>
Object	<a href="http://erlangen-crm.org/current/E12_Production">http://erlangen-crm.org/current/E12_Production</a>
Predicate	<a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#type">http://www.w3.org/1999/02/22-rdf-syntax-ns#type</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/production/1">http://collection.britishmuseum.org/id/object/YCA62958/production/1</a>
Object	<a href="http://erlangen-crm.org/current/E12_Production">http://erlangen-crm.org/current/E12_Production</a>
Predicate	<a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#type">http://www.w3.org/1999/02/22-rdf-syntax-ns#type</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/production/2">http://collection.britishmuseum.org/id/object/YCA62958/production/2</a>
Object	<a href="http://erlangen-crm.org/current/E12_Production">http://erlangen-crm.org/current/E12_Production</a>
Predicate	<a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#type">http://www.w3.org/1999/02/22-rdf-syntax-ns#type</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/inscription/1">http://collection.britishmuseum.org/id/object/YCA62958/inscription/1</a>
Object	<a href="http://erlangen-crm.org/current/E34_Inscription">http://erlangen-crm.org/current/E34_Inscription</a>
Predicate	<a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#type">http://www.w3.org/1999/02/22-rdf-syntax-ns#type</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/inscription/2">http://collection.britishmuseum.org/id/object/YCA62958/inscription/2</a>
Object	<a href="http://erlangen-crm.org/current/E34_Inscription">http://erlangen-crm.org/current/E34_Inscription</a>
Predicate	<a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#type">http://www.w3.org/1999/02/22-rdf-syntax-ns#type</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/inscription/3">http://collection.britishmuseum.org/id/object/YCA62958/inscription/3</a>
Object	<a href="http://erlangen-crm.org/current/E34_Inscription">http://erlangen-crm.org/current/E34_Inscription</a>
Predicate	<a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#type">http://www.w3.org/1999/02/22-rdf-syntax-ns#type</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/location">http://collection.britishmuseum.org/id/object/YCA62958/location</a>
Object	<a href="http://erlangen-crm.org/current/E53_Place">http://erlangen-crm.org/current/E53_Place</a>

Predicate	<a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#type">http://www.w3.org/1999/02/22-rdf-syntax-ns#type</a>
Subject	<a href="http://www.britishmuseum.org/collectionimages/AN00016/AN00016456_004_1.jpg">http://www.britishmuseum.org/collectionimages/AN00016/AN00016456_004_1.jpg</a>
Object	<a href="http://erlangen-crm.org/current/E38_Image">http://erlangen-crm.org/current/E38_Image</a>
Predicate	<a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#type">http://www.w3.org/1999/02/22-rdf-syntax-ns#type</a>
Subject	<a href="http://www.britishmuseum.org/collectionimages/AN00020/AN00020516_001_1.jpg">http://www.britishmuseum.org/collectionimages/AN00020/AN00020516_001_1.jpg</a>
Object	<a href="http://erlangen-crm.org/current/E38_Image">http://erlangen-crm.org/current/E38_Image</a>
Predicate	<a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#type">http://www.w3.org/1999/02/22-rdf-syntax-ns#type</a>
Subject	<a href="http://www.britishmuseum.org/collectionimages/AN00773/AN00773236_001_1.jpg">http://www.britishmuseum.org/collectionimages/AN00773/AN00773236_001_1.jpg</a>
Object	<a href="http://erlangen-crm.org/current/E38_Image">http://erlangen-crm.org/current/E38_Image</a>
Predicate	<a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#type">http://www.w3.org/1999/02/22-rdf-syntax-ns#type</a>
Subject	<a href="http://www.britishmuseum.org/collectionimages/AN00773/AN00773255_001_1.jpg">http://www.britishmuseum.org/collectionimages/AN00773/AN00773255_001_1.jpg</a>
Object	<a href="http://erlangen-crm.org/current/E38_Image">http://erlangen-crm.org/current/E38_Image</a>
Predicate	<a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#type">http://www.w3.org/1999/02/22-rdf-syntax-ns#type</a>
Subject	<a href="http://www.britishmuseum.org/collectionimages/AN00871/AN00871967_001_1.jpg">http://www.britishmuseum.org/collectionimages/AN00871/AN00871967_001_1.jpg</a>
Object	<a href="http://erlangen-crm.org/current/E38_Image">http://erlangen-crm.org/current/E38_Image</a>
Predicate	<a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#type">http://www.w3.org/1999/02/22-rdf-syntax-ns#type</a>
Subject	<a href="http://www.britishmuseum.org/collectionimages/AN00928/AN00928245_001_1.jpg">http://www.britishmuseum.org/collectionimages/AN00928/AN00928245_001_1.jpg</a>
Object	<a href="http://erlangen-crm.org/current/E38_Image">http://erlangen-crm.org/current/E38_Image</a>
Predicate	<a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#type">http://www.w3.org/1999/02/22-rdf-syntax-ns#type</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/title/1">http://collection.britishmuseum.org/id/object/YCA62958/title/1</a>
Object	<a href="http://erlangen-crm.org/current/E35_Title">http://erlangen-crm.org/current/E35_Title</a>
Predicate	<a href="http://www.w3.org/2002/07/owl#sameAs">http://www.w3.org/2002/07/owl#sameAs</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>
Object	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>
Predicate	<a href="http://www.w3.org/2002/07/owl#sameAs">http://www.w3.org/2002/07/owl#sameAs</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>

Object	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>
Predicate	<a href="http://www.w3.org/2002/07/owl#sameAs">http://www.w3.org/2002/07/owl#sameAs</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/117631">http://collection.britishmuseum.org/id/object/117631</a>
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Subject	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>
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Predicate	<a href="http://www.w3.org/2002/07/owl#sameAs">http://www.w3.org/2002/07/owl#sameAs</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/117631">http://collection.britishmuseum.org/id/object/117631</a>
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Predicate	<a href="http://www.w3.org/2002/07/owl#sameAs">http://www.w3.org/2002/07/owl#sameAs</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>
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Predicate	<a href="http://www.w3.org/2002/07/owl#sameAs">http://www.w3.org/2002/07/owl#sameAs</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>
Object	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>
Predicate	<a href="http://www.w3.org/2002/07/owl#sameAs">http://www.w3.org/2002/07/owl#sameAs</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/117631">http://collection.britishmuseum.org/id/object/117631</a>
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Predicate	<a href="http://www.w3.org/2000/01/rdf-schema#label">http://www.w3.org/2000/01/rdf-schema#label</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/acquisition/date">http://collection.britishmuseum.org/id/object/YCA62958/acquisition/date</a>
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Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/location">http://collection.britishmuseum.org/id/object/YCA62958/location</a>
Object	The British Museum: Gallery G4/CSE
Predicate	<a href="http://www.w3.org/2000/01/rdf-schema#label">http://www.w3.org/2000/01/rdf-schema#label</a>
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Object	16456
Predicate	<a href="http://www.w3.org/2000/01/rdf-schema#label">http://www.w3.org/2000/01/rdf-schema#label</a>
Subject	<a href="http://www.britishmuseum.org/collectionimages/AN00020/AN00020516_001_l.jpg/id">http://www.britishmuseum.org/collectionimages/AN00020/AN00020516_001_l.jpg/id</a>
Object	20516
Predicate	<a href="http://www.w3.org/2000/01/rdf-schema#label">http://www.w3.org/2000/01/rdf-schema#label</a>
Subject	<a href="http://www.britishmuseum.org/collectionimages/AN00773/AN00773236_001_l.jpg/id">http://www.britishmuseum.org/collectionimages/AN00773/AN00773236_001_l.jpg/id</a>
Object	773236
Predicate	<a href="http://www.w3.org/2000/01/rdf-schema#label">http://www.w3.org/2000/01/rdf-schema#label</a>
Subject	<a href="http://www.britishmuseum.org/collectionimages/AN00773/AN00773255_001_l.jpg/id">http://www.britishmuseum.org/collectionimages/AN00773/AN00773255_001_l.jpg/id</a>
Object	773255
Predicate	<a href="http://www.w3.org/2000/01/rdf-schema#label">http://www.w3.org/2000/01/rdf-schema#label</a>
Subject	<a href="http://www.britishmuseum.org/collectionimages/AN00871/AN00871967_001_l.jpg/id">http://www.britishmuseum.org/collectionimages/AN00871/AN00871967_001_l.jpg/id</a>
Object	871967
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Subject	<a href="http://www.britishmuseum.org/collectionimages/AN00928/AN00928245_001_l.jpg/id">http://www.britishmuseum.org/collectionimages/AN00928/AN00928245_001_l.jpg/id</a>
Object	928245
Predicate	<a href="http://www.w3.org/2000/01/rdf-schema#label">http://www.w3.org/2000/01/rdf-schema#label</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>
Object	The Rosetta Stone
Predicate	<a href="http://www.w3.org/2000/01/rdf-schema#label">http://www.w3.org/2000/01/rdf-schema#label</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>
Object	The Rosetta Stone

Predicate	<a href="http://www.w3.org/2000/01/rdf-schema#label">http://www.w3.org/2000/01/rdf-schema#label</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/117631">http://collection.britishmuseum.org/id/object/117631</a>	
Object	The Rosetta Stone	
Predicate	<a href="http://www.w3.org/2000/01/rdf-schema#label">http://www.w3.org/2000/01/rdf-schema#label</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/bigno">http://collection.britishmuseum.org/id/object/YCA62958/bigno</a>	
Object	EA24	
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Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/codexid">http://collection.britishmuseum.org/id/object/YCA62958/codexid</a>	
Object	117631	
Predicate	<a href="http://www.w3.org/2000/01/rdf-schema#label">http://www.w3.org/2000/01/rdf-schema#label</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/otherid">http://collection.britishmuseum.org/id/object/YCA62958/otherid</a>	
Object	BS.24	
Predicate	<a href="http://www.w3.org/2000/01/rdf-schema#label">http://www.w3.org/2000/01/rdf-schema#label</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/prn">http://collection.britishmuseum.org/id/object/YCA62958/prn</a>	
Object	YCA62958	
Predicate	<a href="http://www.w3.org/2000/01/rdf-schema#label">http://www.w3.org/2000/01/rdf-schema#label</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/production/1/date">http://collection.britishmuseum.org/id/object/YCA62958/production/1/date</a>	
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Predicate	<a href="http://www.w3.org/2000/01/rdf-schema#label">http://www.w3.org/2000/01/rdf-schema#label</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/regno">http://collection.britishmuseum.org/id/object/YCA62958/regno</a>	
Object	.24	
Predicate	<a href="http://www.w3.org/2000/01/rdf-schema#label">http://www.w3.org/2000/01/rdf-schema#label</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/title/1">http://collection.britishmuseum.org/id/object/YCA62958/title/1</a>	
Object	The Rosetta Stone	en
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_condition">http://collection.britishmuseum.org/id/ontology/PX_condition</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>	

Object	fair (incomplete)
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_condition">http://collection.britishmuseum.org/id/ontology/PX_condition</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>
Object	fair (incomplete)
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_condition">http://collection.britishmuseum.org/id/ontology/PX_condition</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/117631">http://collection.britishmuseum.org/id/object/117631</a>
Object	fair (incomplete)
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>
Object	Consists of :: granodiorite ::
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>
Object	Consists of :: granodiorite ::
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/117631">http://collection.britishmuseum.org/id/object/117631</a>
Object	Consists of :: granodiorite ::
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>
Object	Acquisition (From) :: George III to The British Museum ::
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>
Object	Acquisition (From) :: George III to The British Museum ::
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/117631">http://collection.britishmuseum.org/id/object/117631</a>
Object	Acquisition (From) :: George III to The British Museum ::
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>

Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>	
Object		Acquisition date :: 1802 ::
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>	
Object		Acquisition date :: 1802 ::
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/117631">http://collection.britishmuseum.org/id/object/117631</a>	
Object		Acquisition date :: 1802 ::
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>	
Object		Object type :: stela ::
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>	
Object		Object type :: stela ::
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/117631">http://collection.britishmuseum.org/id/object/117631</a>	
Object		Object type :: stela ::
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>	
Object		Production Period / Culture :: Ptolemaic ::
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>	
Object		Production Period / Culture :: Ptolemaic ::
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/117631">http://collection.britishmuseum.org/id/object/117631</a>	
Object		Production Period / Culture :: Ptolemaic ::

Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>	
Object		Associated Person (Named in Inscription) :: Ptolemy V Epiphanes ::
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>	
Object		Associated Person (Named in Inscription) :: Ptolemy V Epiphanes ::
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/117631">http://collection.britishmuseum.org/id/object/117631</a>	
Object		Associated Person (Named in Inscription) :: Ptolemy V Epiphanes ::
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/inscription/1">http://collection.britishmuseum.org/id/object/YCA62958/inscription/1</a>	
Object		Associated Person (Named in Inscription) :: Ptolemy V Epiphanes ::
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>	
Object		Located in gallery :: G4/CSE :: 21 Dec 2009
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>	
Object		Located in gallery :: G4/CSE :: 21 Dec 2009
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/117631">http://collection.britishmuseum.org/id/object/117631</a>	
Object		Located in gallery :: G4/CSE :: 21 Dec 2009
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>	
Object		Bibliographic reference :: Inscription 1065 :: Greek text
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>	

Subject	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>
Object	Bibliographic reference :: Inscription 1065 :: Greek text
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/117631">http://collection.britishmuseum.org/id/object/117631</a>
Object	Bibliographic reference :: Inscription 1065 :: Greek text
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>
Object	Bibliographic reference :: MacGregor 2010 cat.33 ::
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>
Object	Bibliographic reference :: MacGregor 2010 cat.33 ::
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/117631">http://collection.britishmuseum.org/id/object/117631</a>
Object	Bibliographic reference :: MacGregor 2010 cat.33 ::
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>
Object	Bibliographic reference :: Strudwick N 2006 pp.298-299 ::
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>
Object	Bibliographic reference :: Strudwick N 2006 pp.298-299 ::
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/117631">http://collection.britishmuseum.org/id/object/117631</a>
Object	Bibliographic reference :: Strudwick N 2006 pp.298-299 ::
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>
Object	Dimension Length :: 112.30cm :: max

Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>
Object	Dimension Length :: 112.30cm :: max
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/117631">http://collection.britishmuseum.org/id/object/117631</a>
Object	Dimension Length :: 112.30cm :: max
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>
Object	Dimension Thickness :: 28.40cm ::
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>
Object	Dimension Thickness :: 28.40cm ::
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/117631">http://collection.britishmuseum.org/id/object/117631</a>
Object	Dimension Thickness :: 28.40cm ::
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>
Object	Dimension Width :: 75.70cm ::
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>
Object	Dimension Width :: 75.70cm ::
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/117631">http://collection.britishmuseum.org/id/object/117631</a>
Object	Dimension Width :: 75.70cm ::
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>

Object	Found (in) :: Fort Saint Julien ::
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>
Object	Found (in) :: Fort Saint Julien ::
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/117631">http://collection.britishmuseum.org/id/object/117631</a>
Object	Found (in) :: Fort Saint Julien ::
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>
Object	Found/Excavated/Collected (by) :: Bouchard, Pierre Francois Xavier ::
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>
Object	Found/Excavated/Collected (by) :: Bouchard, Pierre Francois Xavier ::
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/117631">http://collection.britishmuseum.org/id/object/117631</a>
Object	Found/Excavated/Collected (by) :: Bouchard, Pierre Francois Xavier ::
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>
Object	Inscription note :: The inscription is a decree passed by a council of priests, one of a series that affirm the royal cult of the 13 year-old Ptolemy V on the first anniversary of his coronation.
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>
Object	Inscription note :: The inscription is a decree passed by a council of priests, one of a series that affirm the royal cult of the 13 year-old Ptolemy V on the first anniversary of his coronation.

Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/117631">http://collection.britishmuseum.org/id/object/117631</a>	
Object		Inscription note :: The inscription is a decree passed by a council of priests, one of a series that affirm the royal cult of the 13 year-old Ptolemy V on the first anniversary of his coronation.
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>	
Object		Production date :: 196BC ::
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>	
Object		Production date :: 196BC ::
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_display_wrap">http://collection.britishmuseum.org/id/ontology/PX_display_wrap</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/117631">http://collection.britishmuseum.org/id/object/117631</a>	
Object		Production date :: 196BC ::
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_object_type">http://collection.britishmuseum.org/id/ontology/PX_object_type</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>	
Object	<a href="http://collection.britishmuseum.org/id/thesauri/x9321">http://collection.britishmuseum.org/id/thesauri/x9321</a>	
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_object_type">http://collection.britishmuseum.org/id/ontology/PX_object_type</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>	
Object	<a href="http://collection.britishmuseum.org/id/thesauri/x9321">http://collection.britishmuseum.org/id/thesauri/x9321</a>	
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_object_type">http://collection.britishmuseum.org/id/ontology/PX_object_type</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/117631">http://collection.britishmuseum.org/id/object/117631</a>	
Object	<a href="http://collection.britishmuseum.org/id/thesauri/x9321">http://collection.britishmuseum.org/id/thesauri/x9321</a>	
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_physical_description">http://collection.britishmuseum.org/id/ontology/PX_physical_description</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>	
Object		Part of grey and pink granodiorite stela bearing priestly decree concerning Ptolemy V in three blocks of text: Hieroglyphic (14 lines), Demotic (32 lines) and Greek (54

		lines).
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_physical_description">http://collection.britishmuseum.org/id/ontology/PX_physical_description</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>	
Object		Part of grey and pink granodiorite stela bearing priestly decree concerning Ptolemy V in three blocks of text: Hieroglyphic (14 lines), Demotic (32 lines) and Greek (54 lines).
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_physical_description">http://collection.britishmuseum.org/id/ontology/PX_physical_description</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/117631">http://collection.britishmuseum.org/id/object/117631</a>	
Object		Part of grey and pink granodiorite stela bearing priestly decree concerning Ptolemy V in three blocks of text: Hieroglyphic (14 lines), Demotic (32 lines) and Greek (54 lines).
Predicate	<a href="http://erlangen-crm.org/current/P108i_was_produced_by">http://erlangen-crm.org/current/P108i_was_produced_by</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>	
Object	<a href="http://collection.britishmuseum.org/id/object/YCA62958/production">http://collection.britishmuseum.org/id/object/YCA62958/production</a>	
Predicate	<a href="http://erlangen-crm.org/current/P108i_was_produced_by">http://erlangen-crm.org/current/P108i_was_produced_by</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>	
Object	<a href="http://collection.britishmuseum.org/id/object/YCA62958/production">http://collection.britishmuseum.org/id/object/YCA62958/production</a>	
Predicate	<a href="http://erlangen-crm.org/current/P108i_was_produced_by">http://erlangen-crm.org/current/P108i_was_produced_by</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/117631">http://collection.britishmuseum.org/id/object/117631</a>	
Object	<a href="http://collection.britishmuseum.org/id/object/YCA62958/production">http://collection.britishmuseum.org/id/object/YCA62958/production</a>	
Predicate	<a href="http://erlangen-crm.org/current/P12i_was_present_at">http://erlangen-crm.org/current/P12i_was_present_at</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>	
Object	<a href="http://collection.britishmuseum.org/id/object/YCA62958/find">http://collection.britishmuseum.org/id/object/YCA62958/find</a>	
Predicate	<a href="http://erlangen-crm.org/current/P12i_was_present_at">http://erlangen-crm.org/current/P12i_was_present_at</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>	
Object	<a href="http://collection.britishmuseum.org/id/object/YCA62958/find">http://collection.britishmuseum.org/id/object/YCA62958/find</a>	

Predicate	<a href="http://erlangen-crm.org/current/P12i_was_present_at">http://erlangen-crm.org/current/P12i_was_present_at</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/117631">http://collection.britishmuseum.org/id/object/117631</a>
Object	<a href="http://collection.britishmuseum.org/id/object/YCA62958/find">http://collection.britishmuseum.org/id/object/YCA62958/find</a>
Predicate	<a href="http://erlangen-crm.org/current/P1_is_identified_by">http://erlangen-crm.org/current/P1_is_identified_by</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>
Object	<a href="http://collection.britishmuseum.org/id/object/YCA62958/bigno">http://collection.britishmuseum.org/id/object/YCA62958/bigno</a>
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Subject	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>
Object	<a href="http://collection.britishmuseum.org/id/object/YCA62958/bigno">http://collection.britishmuseum.org/id/object/YCA62958/bigno</a>
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Subject	<a href="http://www.britishmuseum.org/collectionimages/AN00016/AN00016456_004.jpg">http://www.britishmuseum.org/collectionimages/AN00016/AN00016456_004.jpg</a>
Object	<a href="http://www.britishmuseum.org/collectionimages/AN00016/AN00016456_004.jpg/id">http://www.britishmuseum.org/collectionimages/AN00016/AN00016456_004.jpg/id</a>
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Object	<a href="http://collection.britishmuseum.org/id/person-institution/70240">http://collection.britishmuseum.org/id/person-institution/70240</a>
Predicate	<a href="http://erlangen-crm.org/current/P51_has_former_or_current_owner">http://erlangen-crm.org/current/P51_has_former_or_current_owner</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>
Object	<a href="http://collection.britishmuseum.org/id/person-institution/70240">http://collection.britishmuseum.org/id/person-institution/70240</a>
Predicate	<a href="http://erlangen-crm.org/current/P51_has_former_or_current_owner">http://erlangen-crm.org/current/P51_has_former_or_current_owner</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/117631">http://collection.britishmuseum.org/id/object/117631</a>
Object	<a href="http://collection.britishmuseum.org/id/person-institution/70240">http://collection.britishmuseum.org/id/person-institution/70240</a>

Predicate	<a href="http://erlangen-crm.org/current/P52_has_current_owner">http://erlangen-crm.org/current/P52_has_current_owner</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>
Object	<a href="http://collection.britishmuseum.org/id/the-british-museum">http://collection.britishmuseum.org/id/the-british-museum</a>
Predicate	<a href="http://erlangen-crm.org/current/P52_has_current_owner">http://erlangen-crm.org/current/P52_has_current_owner</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>
Object	<a href="http://collection.britishmuseum.org/id/the-british-museum">http://collection.britishmuseum.org/id/the-british-museum</a>
Predicate	<a href="http://erlangen-crm.org/current/P52_has_current_owner">http://erlangen-crm.org/current/P52_has_current_owner</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/117631">http://collection.britishmuseum.org/id/object/117631</a>
Object	<a href="http://collection.britishmuseum.org/id/the-british-museum">http://collection.britishmuseum.org/id/the-british-museum</a>
Predicate	<a href="http://erlangen-crm.org/current/P22_transferred_title_to">http://erlangen-crm.org/current/P22_transferred_title_to</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/acquisition">http://collection.britishmuseum.org/id/object/YCA62958/acquisition</a>
Object	<a href="http://collection.britishmuseum.org/id/the-british-museum">http://collection.britishmuseum.org/id/the-british-museum</a>
Predicate	<a href="http://erlangen-crm.org/current/P29_custody_received_by">http://erlangen-crm.org/current/P29_custody_received_by</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/acquisition">http://collection.britishmuseum.org/id/object/YCA62958/acquisition</a>
Object	<a href="http://collection.britishmuseum.org/id/the-british-museum">http://collection.britishmuseum.org/id/the-british-museum</a>
Predicate	<a href="http://erlangen-crm.org/current/P4_has_time-span">http://erlangen-crm.org/current/P4_has_time-span</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/acquisition">http://collection.britishmuseum.org/id/object/YCA62958/acquisition</a>
Object	<a href="http://collection.britishmuseum.org/id/object/YCA62958/acquisition/date">http://collection.britishmuseum.org/id/object/YCA62958/acquisition/date</a>
Predicate	<a href="http://erlangen-crm.org/current/P4_has_time-span">http://erlangen-crm.org/current/P4_has_time-span</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/production/1">http://collection.britishmuseum.org/id/object/YCA62958/production/1</a>
Object	<a href="http://collection.britishmuseum.org/id/object/YCA62958/production/1/date">http://collection.britishmuseum.org/id/object/YCA62958/production/1/date</a>
Predicate	<a href="http://erlangen-crm.org/current/P9_consists_of">http://erlangen-crm.org/current/P9_consists_of</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/acquisition">http://collection.britishmuseum.org/id/object/YCA62958/acquisition</a>
Object	<a href="http://collection.britishmuseum.org/id/object/YCA62958/acquisition/1">http://collection.britishmuseum.org/id/object/YCA62958/acquisition/1</a>
Predicate	<a href="http://erlangen-crm.org/current/P9_consists_of">http://erlangen-crm.org/current/P9_consists_of</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/production">http://collection.britishmuseum.org/id/object/YCA62958/production</a>

Object	<a href="http://collection.britishmuseum.org/id/object/YCA62958/production/1">http://collection.britishmuseum.org/id/object/YCA62958/production/1</a>
Predicate	<a href="http://erlangen-crm.org/current/P9_consists_of">http://erlangen-crm.org/current/P9_consists_of</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/production">http://collection.britishmuseum.org/id/object/YCA62958/production</a>
Object	<a href="http://collection.britishmuseum.org/id/object/YCA62958/production/2">http://collection.britishmuseum.org/id/object/YCA62958/production/2</a>
Predicate	<a href="http://erlangen-crm.org/current/P23_transferred_title_from">http://erlangen-crm.org/current/P23_transferred_title_from</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/acquisition/1">http://collection.britishmuseum.org/id/object/YCA62958/acquisition/1</a>
Object	<a href="http://collection.britishmuseum.org/id/person-institution/70240">http://collection.britishmuseum.org/id/person-institution/70240</a>
Predicate	<a href="http://erlangen-crm.org/current/P24_transferred_title_of">http://erlangen-crm.org/current/P24_transferred_title_of</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/acquisition/1">http://collection.britishmuseum.org/id/object/YCA62958/acquisition/1</a>
Object	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>
Predicate	<a href="http://erlangen-crm.org/current/P24_transferred_title_of">http://erlangen-crm.org/current/P24_transferred_title_of</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/acquisition/1">http://collection.britishmuseum.org/id/object/YCA62958/acquisition/1</a>
Object	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>
Predicate	<a href="http://erlangen-crm.org/current/P24_transferred_title_of">http://erlangen-crm.org/current/P24_transferred_title_of</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/acquisition/1">http://collection.britishmuseum.org/id/object/YCA62958/acquisition/1</a>
Object	<a href="http://collection.britishmuseum.org/id/object/117631">http://collection.britishmuseum.org/id/object/117631</a>
Predicate	<a href="http://erlangen-crm.org/current/P28_custody_surrendered_by">http://erlangen-crm.org/current/P28_custody_surrendered_by</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/acquisition/1">http://collection.britishmuseum.org/id/object/YCA62958/acquisition/1</a>
Object	<a href="http://collection.britishmuseum.org/id/person-institution/70240">http://collection.britishmuseum.org/id/person-institution/70240</a>
Predicate	<a href="http://erlangen-crm.org/current/P2_has_type">http://erlangen-crm.org/current/P2_has_type</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/bigno">http://collection.britishmuseum.org/id/object/YCA62958/bigno</a>
Object	<a href="http://collection.britishmuseum.org/id/thesauri/identifier/bigno">http://collection.britishmuseum.org/id/thesauri/identifier/bigno</a>
Predicate	<a href="http://erlangen-crm.org/current/P2_has_type">http://erlangen-crm.org/current/P2_has_type</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/codexid">http://collection.britishmuseum.org/id/object/YCA62958/codexid</a>
Object	<a href="http://collection.britishmuseum.org/id/thesauri/identifier/codexid">http://collection.britishmuseum.org/id/thesauri/identifier/codexid</a>
Predicate	<a href="http://erlangen-crm.org/current/P2_has_type">http://erlangen-crm.org/current/P2_has_type</a>

Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/prn">http://collection.britishmuseum.org/id/object/YCA62958/prn</a>
Object	<a href="http://collection.britishmuseum.org/id/thesauri/identifier/prn">http://collection.britishmuseum.org/id/thesauri/identifier/prn</a>
Predicate	<a href="http://erlangen-crm.org/current/P2_has_type">http://erlangen-crm.org/current/P2_has_type</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/regno">http://collection.britishmuseum.org/id/object/YCA62958/regno</a>
Object	<a href="http://collection.britishmuseum.org/id/thesauri/identifier/regno">http://collection.britishmuseum.org/id/thesauri/identifier/regno</a>
Predicate	<a href="http://erlangen-crm.org/current/P2_has_type">http://erlangen-crm.org/current/P2_has_type</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/thickness/1">http://collection.britishmuseum.org/id/object/YCA62958/thickness/1</a>
Object	<a href="http://collection.britishmuseum.org/id/thesauri/dimension/thickness">http://collection.britishmuseum.org/id/thesauri/dimension/thickness</a>
Predicate	<a href="http://erlangen-crm.org/current/P2_has_type">http://erlangen-crm.org/current/P2_has_type</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/width/1">http://collection.britishmuseum.org/id/object/YCA62958/width/1</a>
Object	<a href="http://collection.britishmuseum.org/id/thesauri/dimension/width">http://collection.britishmuseum.org/id/thesauri/dimension/width</a>
Predicate	<a href="http://erlangen-crm.org/current/P2_has_type">http://erlangen-crm.org/current/P2_has_type</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/acquisition/1">http://collection.britishmuseum.org/id/object/YCA62958/acquisition/1</a>
Object	<a href="http://collection.britishmuseum.org/id/thesauri/acquisition/D">http://collection.britishmuseum.org/id/thesauri/acquisition/D</a>
Predicate	<a href="http://erlangen-crm.org/current/P2_has_type">http://erlangen-crm.org/current/P2_has_type</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/find">http://collection.britishmuseum.org/id/object/YCA62958/find</a>
Object	<a href="http://collection.britishmuseum.org/id/thesauri/find/E">http://collection.britishmuseum.org/id/thesauri/find/E</a>
Predicate	<a href="http://erlangen-crm.org/current/P2_has_type">http://erlangen-crm.org/current/P2_has_type</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/length/1">http://collection.britishmuseum.org/id/object/YCA62958/length/1</a>
Object	<a href="http://collection.britishmuseum.org/id/thesauri/dimension/length">http://collection.britishmuseum.org/id/thesauri/dimension/length</a>
Predicate	<a href="http://erlangen-crm.org/current/P2_has_type">http://erlangen-crm.org/current/P2_has_type</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/otherid">http://collection.britishmuseum.org/id/object/YCA62958/otherid</a>
Object	<a href="http://collection.britishmuseum.org/id/thesauri/identifier/otherid">http://collection.britishmuseum.org/id/thesauri/identifier/otherid</a>
Predicate	<a href="http://erlangen-crm.org/current/P2_has_type">http://erlangen-crm.org/current/P2_has_type</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/inscription/1">http://collection.britishmuseum.org/id/object/YCA62958/inscription/1</a>
Object	<a href="http://collection.britishmuseum.org/id/thesauri/association/PI">http://collection.britishmuseum.org/id/thesauri/association/PI</a>

Predicate	<a href="http://erlangen-crm.org/current/P2_has_type">http://erlangen-crm.org/current/P2_has_type</a>
Subject	<a href="http://www.britishmuseum.org/collectionimages/AN00016/AN00016456_004_1.jpg/id">http://www.britishmuseum.org/collectionimages/AN00016/AN00016456_004_1.jpg/id</a>
Object	<a href="http://collection.britishmuseum.org/id/thesauri/identifier/assetid">http://collection.britishmuseum.org/id/thesauri/identifier/assetid</a>
Predicate	<a href="http://erlangen-crm.org/current/P2_has_type">http://erlangen-crm.org/current/P2_has_type</a>
Subject	<a href="http://www.britishmuseum.org/collectionimages/AN00020/AN00020516_001_1.jpg/id">http://www.britishmuseum.org/collectionimages/AN00020/AN00020516_001_1.jpg/id</a>
Object	<a href="http://collection.britishmuseum.org/id/thesauri/identifier/assetid">http://collection.britishmuseum.org/id/thesauri/identifier/assetid</a>
Predicate	<a href="http://erlangen-crm.org/current/P2_has_type">http://erlangen-crm.org/current/P2_has_type</a>
Subject	<a href="http://www.britishmuseum.org/collectionimages/AN00773/AN00773236_001_1.jpg/id">http://www.britishmuseum.org/collectionimages/AN00773/AN00773236_001_1.jpg/id</a>
Object	<a href="http://collection.britishmuseum.org/id/thesauri/identifier/assetid">http://collection.britishmuseum.org/id/thesauri/identifier/assetid</a>
Predicate	<a href="http://erlangen-crm.org/current/P2_has_type">http://erlangen-crm.org/current/P2_has_type</a>
Subject	<a href="http://www.britishmuseum.org/collectionimages/AN00773/AN00773255_001_1.jpg/id">http://www.britishmuseum.org/collectionimages/AN00773/AN00773255_001_1.jpg/id</a>
Object	<a href="http://collection.britishmuseum.org/id/thesauri/identifier/assetid">http://collection.britishmuseum.org/id/thesauri/identifier/assetid</a>
Predicate	<a href="http://erlangen-crm.org/current/P2_has_type">http://erlangen-crm.org/current/P2_has_type</a>
Subject	<a href="http://www.britishmuseum.org/collectionimages/AN00871/AN00871967_001_1.jpg/id">http://www.britishmuseum.org/collectionimages/AN00871/AN00871967_001_1.jpg/id</a>
Object	<a href="http://collection.britishmuseum.org/id/thesauri/identifier/assetid">http://collection.britishmuseum.org/id/thesauri/identifier/assetid</a>
Predicate	<a href="http://erlangen-crm.org/current/P2_has_type">http://erlangen-crm.org/current/P2_has_type</a>
Subject	<a href="http://www.britishmuseum.org/collectionimages/AN00928/AN00928245_001_1.jpg/id">http://www.britishmuseum.org/collectionimages/AN00928/AN00928245_001_1.jpg/id</a>
Object	<a href="http://collection.britishmuseum.org/id/thesauri/identifier/assetid">http://collection.britishmuseum.org/id/thesauri/identifier/assetid</a>
Predicate	<a href="http://erlangen-crm.org/current/P30_transferred_custody_of">http://erlangen-crm.org/current/P30_transferred_custody_of</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/acquisition/1">http://collection.britishmuseum.org/id/object/YCA62958/acquisition/1</a>
Object	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>
Predicate	<a href="http://erlangen-crm.org/current/P30_transferred_custody_of">http://erlangen-crm.org/current/P30_transferred_custody_of</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/acquisition/1">http://collection.britishmuseum.org/id/object/YCA62958/acquisition/1</a>
Object	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>
Predicate	<a href="http://erlangen-crm.org/current/P30_transferred_custody_of">http://erlangen-crm.org/current/P30_transferred_custody_of</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/acquisition/1">http://collection.britishmuseum.org/id/object/YCA62958/acquisition/1</a>

Object	<a href="http://collection.britishmuseum.org/id/object/117631">http://collection.britishmuseum.org/id/object/117631</a>
Predicate	<a href="http://erlangen-crm.org/current/P3_has_note">http://erlangen-crm.org/current/P3_has_note</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/length/1">http://collection.britishmuseum.org/id/object/YCA62958/length/1</a>
Object	max
Predicate	<a href="http://erlangen-crm.org/current/P3_has_note">http://erlangen-crm.org/current/P3_has_note</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/acquisition/date">http://collection.britishmuseum.org/id/object/YCA62958/acquisition/date</a>
Object	1802 ::
Predicate	<a href="http://erlangen-crm.org/current/P3_has_note">http://erlangen-crm.org/current/P3_has_note</a>
Subject	<a href="http://www.britishmuseum.org/collectionimages/AN00016/AN00016456_004_l.jpg">http://www.britishmuseum.org/collectionimages/AN00016/AN00016456_004_l.jpg</a>
Object	"Rosetta Stone" Part of grey and pink granodiorite stela bearing priestly decree concerning Ptolemy V in three blocks of text: Hieroglyphic(14 lines), Demotic(32 lines) and Greek(53 lines).
Predicate	<a href="http://erlangen-crm.org/current/P3_has_note">http://erlangen-crm.org/current/P3_has_note</a>
Subject	<a href="http://www.britishmuseum.org/collectionimages/AN00016/AN00016456_004_l.jpg/id">http://www.britishmuseum.org/collectionimages/AN00016/AN00016456_004_l.jpg/id</a>
Object	Asset ID :: 16456
Predicate	<a href="http://erlangen-crm.org/current/P3_has_note">http://erlangen-crm.org/current/P3_has_note</a>
Subject	<a href="http://www.britishmuseum.org/collectionimages/AN00020/AN00020516_001_l.jpg">http://www.britishmuseum.org/collectionimages/AN00020/AN00020516_001_l.jpg</a>
Object	Part of grey and pink granodiorite stela bearing priestly decree concerning Ptolemy V in three blocks of text: Hieroglyphic(14 lines), Demotic(32 lines) and Greek(53 lines).
Predicate	<a href="http://erlangen-crm.org/current/P3_has_note">http://erlangen-crm.org/current/P3_has_note</a>
Subject	<a href="http://www.britishmuseum.org/collectionimages/AN00020/AN00020516_001_l.jpg/id">http://www.britishmuseum.org/collectionimages/AN00020/AN00020516_001_l.jpg/id</a>
Object	Asset ID :: 20516
Predicate	<a href="http://erlangen-crm.org/current/P3_has_note">http://erlangen-crm.org/current/P3_has_note</a>
Subject	<a href="http://www.britishmuseum.org/collectionimages/AN00773/AN00773236_001_l.jpg">http://www.britishmuseum.org/collectionimages/AN00773/AN00773236_001_l.jpg</a>
Object	Part of grey and pink granodiorite stela bearing priestly decree concerning Ptolemy V in three blocks of text: Hieroglyphic (14 lines), Demotic (32 lines) and Greek (53

		lines).
Predicate	<a href="http://erlangen-crm.org/current/P3_has_note">http://erlangen-crm.org/current/P3_has_note</a>	
Subject	<a href="http://www.britishmuseum.org/collectionimages/AN00773/AN00773255_001.jpg">http://www.britishmuseum.org/collectionimages/AN00773/AN00773255_001.jpg</a>	Part of grey and pink granodiorite stela bearing priestly decree concerning Ptolemy V in three blocks of text: Hieroglyphic (14 lines), Demotic (32 lines) and Greek (53 lines).
Object		
Predicate	<a href="http://erlangen-crm.org/current/P3_has_note">http://erlangen-crm.org/current/P3_has_note</a>	
Subject	<a href="http://www.britishmuseum.org/collectionimages/AN00871/AN00871967_001.jpg">http://www.britishmuseum.org/collectionimages/AN00871/AN00871967_001.jpg</a>	Part of grey and pink granodiorite stela bearing priestly decree concerning Ptolemy V in three blocks of text: Hieroglyphic (14 lines), Demotic (32 lines) and Greek (53 lines).
Object		
Predicate	<a href="http://erlangen-crm.org/current/P3_has_note">http://erlangen-crm.org/current/P3_has_note</a>	
Subject	<a href="http://www.britishmuseum.org/collectionimages/AN00928/AN00928245_001.jpg">http://www.britishmuseum.org/collectionimages/AN00928/AN00928245_001.jpg</a>	Part of grey and pink granodiorite stela bearing priestly decree concerning Ptolemy V in three blocks of text: Hieroglyphic (14 lines), Demotic (32 lines) and Greek (53 lines).
Object		
Predicate	<a href="http://erlangen-crm.org/current/P3_has_note">http://erlangen-crm.org/current/P3_has_note</a>	
Subject	<a href="http://www.britishmuseum.org/collectionimages/AN00773/AN00773236_001.jpg/id">http://www.britishmuseum.org/collectionimages/AN00773/AN00773236_001.jpg/id</a>	Asset ID :: 773236
Object		
Predicate	<a href="http://erlangen-crm.org/current/P3_has_note">http://erlangen-crm.org/current/P3_has_note</a>	
Subject	<a href="http://www.britishmuseum.org/collectionimages/AN00773/AN00773255_001.jpg/id">http://www.britishmuseum.org/collectionimages/AN00773/AN00773255_001.jpg/id</a>	Asset ID :: 773255
Object		
Predicate	<a href="http://erlangen-crm.org/current/P3_has_note">http://erlangen-crm.org/current/P3_has_note</a>	
Subject	<a href="http://www.britishmuseum.org/collectionimages/AN00871/AN00871967_001.jpg/id">http://www.britishmuseum.org/collectionimages/AN00871/AN00871967_001.jpg/id</a>	Asset ID :: 871967
Object		
Predicate	<a href="http://erlangen-crm.org/current/P3_has_note">http://erlangen-crm.org/current/P3_has_note</a>	
Subject	<a href="http://www.britishmuseum.org/collectionimages/AN00928/AN00928245_001.jpg/id">http://www.britishmuseum.org/collectionimages/AN00928/AN00928245_001.jpg/id</a>	

Object	Asset ID :: 928245	
Predicate	<a href="http://erlangen-crm.org/current/P3_has_note">http://erlangen-crm.org/current/P3_has_note</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/inscription/1">http://collection.britishmuseum.org/id/object/YCA62958/inscription/1</a>	
Object	The inscription is a decree passed by a council of priests, one of a series that affirm the royal cult of the 13 year-old Ptolemy V on the first anniversary of his coronation.	
Predicate	<a href="http://erlangen-crm.org/current/P3_has_note">http://erlangen-crm.org/current/P3_has_note</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/production/1/date">http://collection.britishmuseum.org/id/object/YCA62958/production/1/date</a>	
Object	196BC ::	<a href="http://www.w3.org/2001/XMLSchema#string">http://www.w3.org/2001/XMLSchema#string</a>
Predicate	<a href="http://erlangen-crm.org/current/P82a_begin_of_the_begin">http://erlangen-crm.org/current/P82a_begin_of_the_begin</a>	
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/acquisition/date">http://collection.britishmuseum.org/id/object/YCA62958/acquisition/date</a>	
Object	1802-01-01	<a href="http://www.w3.org/2001/XMLSchema#date">http://www.w3.org/2001/XMLSchema#date</a>
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Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/production/1/date">http://collection.britishmuseum.org/id/object/YCA62958/production/1/date</a>	
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Predicate	<a href="http://erlangen-crm.org/current/P82b_end_of_the_end">http://erlangen-crm.org/current/P82b_end_of_the_end</a>	
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Object	<a href="http://collection.britishmuseum.org/id/thesauri/x14428">http://collection.britishmuseum.org/id/thesauri/x14428</a>		
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_curatorial_comment">http://collection.britishmuseum.org/id/ontology/PX_curatorial_comment</a>		
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>		

### The Rosetta Stone

From Fort St Julien, el-Rashid (Rosetta), Egypt

Ptolemaic Period, 196 BC

The inscription on the Rosetta Stone is a decree passed by a council of priests, one of a series that affirm the royal cult of the 13-year-old Ptolemy V on the first anniversary of his coronation.

In previous years the family of the Ptolemies had lost control of certain parts of the country. It had taken their armies some time to put down opposition in the Delta, and parts of southern Upper Egypt, particularly Thebes, were not yet back under the government's control.

Before the Ptolemaic era (that is before about 332 BC), decrees in hieroglyphs such as this were usually set up by the king. It shows how much things had changed from Pharaonic times that the priests, the only people who had kept the knowledge of writing hieroglyphs, were now issuing such decrees. The list of good deeds done by the king for the temples hints at the way in which the support of the priests was ensured.

The decree is inscribed on the stone three times, in hieroglyphic (suitable for a priestly decree), demotic (the native script used for daily purposes), and Greek (the language of the administration). The importance of this to Egyptology is immense. Soon after the end of the fourth century AD, when hieroglyphs had gone out of use, the knowledge of how to read and write them disappeared. In the early years of the nineteenth century, some 1400 years later, scholars were able to use the Greek inscription on this stone as the key to decipher them. Thomas Young, an English physicist, was the first to show that some of the hieroglyphs on the Rosetta Stone wrote the sounds of a royal name, that of Ptolemy. The French scholar Jean-François Champollion then realized that hieroglyphs recorded the sound of the Egyptian language and laid the foundations of our knowledge of ancient Egyptian language and culture.

Soldiers in Napoleon's army discovered the Rosetta Stone in 1799 while digging the foundations of an addition to a fort near the town of el-Rashid (Rosetta). On Napoleon's defeat, the stone became the property of the English under the terms of the Treaty of Alexandria (1801) along with other antiquities that the French had found.

The Rosetta Stone has been exhibited in the British Museum since 1802, with only one break. Towards the end of the First World War, in 1917, when the Museum was concerned about heavy bombing in London, they moved it to safety along with other, portable, 'important' objects. The Rosetta Stone spent the next two years in a station on the Postal Tube Railway fifty feet below the ground at Holborn.

Published:

PM IV, p. 1

Time Machine, Turin 1995, p.28 [22].

Florida State University Gallery and Museum, Legacies. The Revolution and Napoleon, Tallahassee 1989, p. 19.

Memoires d'Egypte, Strasburg 1990, p. 111.

Le gloire d'Alexandrie, Paris 1998, p.194 [III.1].

Parkinson, 1999, Cracking Codes.

On geology see now Middleton, A and Klemm, D, 'The Geology of the Rosetta Stone'. Journal of Egyptian

Archaeology 89, 2003, pp. 207-16 (a granodiorite from near Aswan).

Les savants en Egypte, Figeac 1999, p.28.

BM OP 60, p.73,83

Nicholson and Shaw, Ancient Egyptian Materials and Technology (Cambridge 2000), p. 37;

N. Strudwick, Masterpieces of Ancient Egypt, London 2006, pp. 298-9.

Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_curatorial_comment">http://collection.britishmuseum.org/id/ontology/PX_curatorial_comment</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>

Compass text:

The Rosetta Stone

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pp. 298-9.

Predicate [http://collection.britishmuseum.org/id/ontology/PX\\_curatorial\\_comment](http://collection.britishmuseum.org/id/ontology/PX_curatorial_comment)

Subject <http://collection.britishmuseum.org/id/object/117631>

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Nicholson and Shaw, Ancient Egyptian Materials and Technology (Cambridge 2000), p. 37;

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Predicate	<a href="http://erlangen-crm.org/current/P14_carried_out_by">http://erlangen-crm.org/current/P14_carried_out_by</a>
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Predicate	<a href="http://erlangen-crm.org/current/P70i_is_documented_in">http://erlangen-crm.org/current/P70i_is_documented_in</a>
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Object	<a href="http://collection.britishmuseum.org/id/object/YCA62958/location">http://collection.britishmuseum.org/id/object/YCA62958/location</a>
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Object	<a href="http://collection.britishmuseum.org/id/object/YCA62958/inscription/2">http://collection.britishmuseum.org/id/object/YCA62958/inscription/2</a>
Predicate	<a href="http://erlangen-crm.org/current/P65_shows_visual_item">http://erlangen-crm.org/current/P65_shows_visual_item</a>

Subject	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>
Object	<a href="http://collection.britishmuseum.org/id/object/YCA62958/inscription/2">http://collection.britishmuseum.org/id/object/YCA62958/inscription/2</a>
Predicate	<a href="http://erlangen-crm.org/current/P65_shows_visual_item">http://erlangen-crm.org/current/P65_shows_visual_item</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/117631">http://collection.britishmuseum.org/id/object/117631</a>
Object	<a href="http://collection.britishmuseum.org/id/object/YCA62958/inscription/2">http://collection.britishmuseum.org/id/object/YCA62958/inscription/2</a>
Predicate	<a href="http://erlangen-crm.org/current/P65_shows_visual_item">http://erlangen-crm.org/current/P65_shows_visual_item</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>
Object	<a href="http://collection.britishmuseum.org/id/object/YCA62958/inscription/3">http://collection.britishmuseum.org/id/object/YCA62958/inscription/3</a>
Predicate	<a href="http://erlangen-crm.org/current/P65_shows_visual_item">http://erlangen-crm.org/current/P65_shows_visual_item</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>
Object	<a href="http://collection.britishmuseum.org/id/object/YCA62958/inscription/3">http://collection.britishmuseum.org/id/object/YCA62958/inscription/3</a>
Predicate	<a href="http://erlangen-crm.org/current/P65_shows_visual_item">http://erlangen-crm.org/current/P65_shows_visual_item</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/117631">http://collection.britishmuseum.org/id/object/117631</a>
Object	<a href="http://collection.britishmuseum.org/id/object/YCA62958/inscription/3">http://collection.britishmuseum.org/id/object/YCA62958/inscription/3</a>
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_inscription_script">http://collection.britishmuseum.org/id/ontology/PX_inscription_script</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/inscription/1">http://collection.britishmuseum.org/id/object/YCA62958/inscription/1</a>
Object	<a href="http://collection.britishmuseum.org/id/thesauri/script/hieroglyphic">http://collection.britishmuseum.org/id/thesauri/script/hieroglyphic</a>
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_inscription_script">http://collection.britishmuseum.org/id/ontology/PX_inscription_script</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/inscription/2">http://collection.britishmuseum.org/id/object/YCA62958/inscription/2</a>
Object	<a href="http://collection.britishmuseum.org/id/thesauri/script/demotic">http://collection.britishmuseum.org/id/thesauri/script/demotic</a>
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_inscription_subject">http://collection.britishmuseum.org/id/ontology/PX_inscription_subject</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/inscription/1">http://collection.britishmuseum.org/id/object/YCA62958/inscription/1</a>
Object	<a href="http://collection.britishmuseum.org/id/thesauri/inscription-subject/commemorative">http://collection.britishmuseum.org/id/thesauri/inscription-subject/commemorative</a>
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_inscription_subject">http://collection.britishmuseum.org/id/ontology/PX_inscription_subject</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/inscription/2">http://collection.britishmuseum.org/id/object/YCA62958/inscription/2</a>
Object	<a href="http://collection.britishmuseum.org/id/thesauri/inscription-subject/commemorative">http://collection.britishmuseum.org/id/thesauri/inscription-subject/commemorative</a>

Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_inscription_subject">http://collection.britishmuseum.org/id/ontology/PX_inscription_subject</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/inscription/3">http://collection.britishmuseum.org/id/object/YCA62958/inscription/3</a>
Object	<a href="http://collection.britishmuseum.org/id/thesauri/inscription-subject/commemorative">http://collection.britishmuseum.org/id/thesauri/inscription-subject/commemorative</a>
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_inscription_type">http://collection.britishmuseum.org/id/ontology/PX_inscription_type</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/inscription/1">http://collection.britishmuseum.org/id/object/YCA62958/inscription/1</a>
Object	<a href="http://collection.britishmuseum.org/id/thesauri/inscription/inscription">http://collection.britishmuseum.org/id/thesauri/inscription/inscription</a>
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_inscription_type">http://collection.britishmuseum.org/id/ontology/PX_inscription_type</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/inscription/2">http://collection.britishmuseum.org/id/object/YCA62958/inscription/2</a>
Object	<a href="http://collection.britishmuseum.org/id/thesauri/inscription/inscription">http://collection.britishmuseum.org/id/thesauri/inscription/inscription</a>
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_inscription_type">http://collection.britishmuseum.org/id/ontology/PX_inscription_type</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/inscription/3">http://collection.britishmuseum.org/id/object/YCA62958/inscription/3</a>
Object	<a href="http://collection.britishmuseum.org/id/thesauri/inscription/inscription">http://collection.britishmuseum.org/id/thesauri/inscription/inscription</a>
Predicate	<a href="http://erlangen-crm.org/current/P67_refers_to">http://erlangen-crm.org/current/P67_refers_to</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/inscription/1">http://collection.britishmuseum.org/id/object/YCA62958/inscription/1</a>
Object	<a href="http://collection.britishmuseum.org/id/person-institution/55392">http://collection.britishmuseum.org/id/person-institution/55392</a>
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_exhibition_history">http://collection.britishmuseum.org/id/ontology/PX_exhibition_history</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>
Object	Copy in King's Library.
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_exhibition_history">http://collection.britishmuseum.org/id/ontology/PX_exhibition_history</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>
Object	Copy in King's Library.
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_exhibition_history">http://collection.britishmuseum.org/id/ontology/PX_exhibition_history</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/117631">http://collection.britishmuseum.org/id/object/117631</a>
Object	Copy in King's Library.
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_has_main_representation">http://collection.britishmuseum.org/id/ontology/PX_has_main_representation</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>

Object	<a href="http://www.britishmuseum.org/collectionimages/AN00016/AN00016456_004_1.jpg">http://www.britishmuseum.org/collectionimages/AN00016/AN00016456_004_1.jpg</a>
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_has_main_representation">http://collection.britishmuseum.org/id/ontology/PX_has_main_representation</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>
Object	<a href="http://www.britishmuseum.org/collectionimages/AN00016/AN00016456_004_1.jpg">http://www.britishmuseum.org/collectionimages/AN00016/AN00016456_004_1.jpg</a>
Predicate	<a href="http://collection.britishmuseum.org/id/ontology/PX_has_main_representation">http://collection.britishmuseum.org/id/ontology/PX_has_main_representation</a>
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Object	<a href="http://www.britishmuseum.org/collectionimages/AN00016/AN00016456_004_1.jpg">http://www.britishmuseum.org/collectionimages/AN00016/AN00016456_004_1.jpg</a>
Predicate	<a href="http://erlangen-crm.org/current/P138i_has_representation">http://erlangen-crm.org/current/P138i_has_representation</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>
Object	<a href="http://www.britishmuseum.org/collectionimages/AN00020/AN00020516_001_1.jpg">http://www.britishmuseum.org/collectionimages/AN00020/AN00020516_001_1.jpg</a>
Predicate	<a href="http://erlangen-crm.org/current/P138i_has_representation">http://erlangen-crm.org/current/P138i_has_representation</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>
Object	<a href="http://www.britishmuseum.org/collectionimages/AN00020/AN00020516_001_1.jpg">http://www.britishmuseum.org/collectionimages/AN00020/AN00020516_001_1.jpg</a>
Predicate	<a href="http://erlangen-crm.org/current/P138i_has_representation">http://erlangen-crm.org/current/P138i_has_representation</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/117631">http://collection.britishmuseum.org/id/object/117631</a>
Object	<a href="http://www.britishmuseum.org/collectionimages/AN00020/AN00020516_001_1.jpg">http://www.britishmuseum.org/collectionimages/AN00020/AN00020516_001_1.jpg</a>
Predicate	<a href="http://erlangen-crm.org/current/P138i_has_representation">http://erlangen-crm.org/current/P138i_has_representation</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>
Object	<a href="http://www.britishmuseum.org/collectionimages/AN00773/AN00773236_001_1.jpg">http://www.britishmuseum.org/collectionimages/AN00773/AN00773236_001_1.jpg</a>
Predicate	<a href="http://erlangen-crm.org/current/P138i_has_representation">http://erlangen-crm.org/current/P138i_has_representation</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>
Object	<a href="http://www.britishmuseum.org/collectionimages/AN00773/AN00773236_001_1.jpg">http://www.britishmuseum.org/collectionimages/AN00773/AN00773236_001_1.jpg</a>
Predicate	<a href="http://erlangen-crm.org/current/P138i_has_representation">http://erlangen-crm.org/current/P138i_has_representation</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/117631">http://collection.britishmuseum.org/id/object/117631</a>
Object	<a href="http://www.britishmuseum.org/collectionimages/AN00773/AN00773236_001_1.jpg">http://www.britishmuseum.org/collectionimages/AN00773/AN00773236_001_1.jpg</a>
Predicate	<a href="http://erlangen-crm.org/current/P138i_has_representation">http://erlangen-crm.org/current/P138i_has_representation</a>

Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>
Object	<a href="http://www.britishmuseum.org/collectionimages/AN00773/AN00773255_001_l.jpg">http://www.britishmuseum.org/collectionimages/AN00773/AN00773255_001_l.jpg</a>
Predicate	<a href="http://erlangen-crm.org/current/P138i_has_representation">http://erlangen-crm.org/current/P138i_has_representation</a>
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Object	<a href="http://www.britishmuseum.org/collectionimages/AN00773/AN00773255_001_l.jpg">http://www.britishmuseum.org/collectionimages/AN00773/AN00773255_001_l.jpg</a>
Predicate	<a href="http://erlangen-crm.org/current/P138i_has_representation">http://erlangen-crm.org/current/P138i_has_representation</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>
Object	<a href="http://www.britishmuseum.org/collectionimages/AN00871/AN00871967_001_l.jpg">http://www.britishmuseum.org/collectionimages/AN00871/AN00871967_001_l.jpg</a>
Predicate	<a href="http://erlangen-crm.org/current/P138i_has_representation">http://erlangen-crm.org/current/P138i_has_representation</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>
Object	<a href="http://www.britishmuseum.org/collectionimages/AN00871/AN00871967_001_l.jpg">http://www.britishmuseum.org/collectionimages/AN00871/AN00871967_001_l.jpg</a>
Predicate	<a href="http://erlangen-crm.org/current/P138i_has_representation">http://erlangen-crm.org/current/P138i_has_representation</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/117631">http://collection.britishmuseum.org/id/object/117631</a>
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Predicate	<a href="http://erlangen-crm.org/current/P138i_has_representation">http://erlangen-crm.org/current/P138i_has_representation</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>
Object	<a href="http://www.britishmuseum.org/collectionimages/AN00928/AN00928245_001_l.jpg">http://www.britishmuseum.org/collectionimages/AN00928/AN00928245_001_l.jpg</a>
Predicate	<a href="http://erlangen-crm.org/current/P138i_has_representation">http://erlangen-crm.org/current/P138i_has_representation</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>
Object	<a href="http://www.britishmuseum.org/collectionimages/AN00928/AN00928245_001_l.jpg">http://www.britishmuseum.org/collectionimages/AN00928/AN00928245_001_l.jpg</a>
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Predicate	<a href="http://erlangen-crm.org/current/P105_right_held_by">http://erlangen-crm.org/current/P105_right_held_by</a>
Subject	<a href="http://www.britishmuseum.org/collectionimages/AN00016/AN00016456_004_1.jpg">http://www.britishmuseum.org/collectionimages/AN00016/AN00016456_004_1.jpg</a>
Object	<a href="http://collection.britishmuseum.org/id/the-british-museum">http://collection.britishmuseum.org/id/the-british-museum</a>
Predicate	<a href="http://erlangen-crm.org/current/P105_right_held_by">http://erlangen-crm.org/current/P105_right_held_by</a>
Subject	<a href="http://www.britishmuseum.org/collectionimages/AN00020/AN00020516_001_1.jpg">http://www.britishmuseum.org/collectionimages/AN00020/AN00020516_001_1.jpg</a>
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Predicate	<a href="http://erlangen-crm.org/current/P105_right_held_by">http://erlangen-crm.org/current/P105_right_held_by</a>
Subject	<a href="http://www.britishmuseum.org/collectionimages/AN00773/AN00773236_001_1.jpg">http://www.britishmuseum.org/collectionimages/AN00773/AN00773236_001_1.jpg</a>
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Predicate	<a href="http://erlangen-crm.org/current/P105_right_held_by">http://erlangen-crm.org/current/P105_right_held_by</a>
Subject	<a href="http://www.britishmuseum.org/collectionimages/AN00773/AN00773255_001_1.jpg">http://www.britishmuseum.org/collectionimages/AN00773/AN00773255_001_1.jpg</a>
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Predicate	<a href="http://erlangen-crm.org/current/P105_right_held_by">http://erlangen-crm.org/current/P105_right_held_by</a>
Subject	<a href="http://www.britishmuseum.org/collectionimages/AN00871/AN00871967_001_1.jpg">http://www.britishmuseum.org/collectionimages/AN00871/AN00871967_001_1.jpg</a>
Object	<a href="http://collection.britishmuseum.org/id/the-british-museum">http://collection.britishmuseum.org/id/the-british-museum</a>
Predicate	<a href="http://erlangen-crm.org/current/P105_right_held_by">http://erlangen-crm.org/current/P105_right_held_by</a>
Subject	<a href="http://www.britishmuseum.org/collectionimages/AN00928/AN00928245_001_1.jpg">http://www.britishmuseum.org/collectionimages/AN00928/AN00928245_001_1.jpg</a>
Object	<a href="http://collection.britishmuseum.org/id/the-british-museum">http://collection.britishmuseum.org/id/the-british-museum</a>
Predicate	<a href="http://erlangen-crm.org/current/P72_has_language">http://erlangen-crm.org/current/P72_has_language</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958/inscription/3">http://collection.britishmuseum.org/id/object/YCA62958/inscription/3</a>
Object	<a href="http://collection.britishmuseum.org/id/thesauri/language/greek">http://collection.britishmuseum.org/id/thesauri/language/greek</a>
Predicate	<a href="http://erlangen-crm.org/current/P102_has_title">http://erlangen-crm.org/current/P102_has_title</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/YCA62958">http://collection.britishmuseum.org/id/object/YCA62958</a>
Object	<a href="http://collection.britishmuseum.org/id/object/YCA62958/title/1">http://collection.britishmuseum.org/id/object/YCA62958/title/1</a>
Predicate	<a href="http://erlangen-crm.org/current/P102_has_title">http://erlangen-crm.org/current/P102_has_title</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/Y_EA24">http://collection.britishmuseum.org/id/object/Y_EA24</a>

Object	<a href="http://collection.britishmuseum.org/id/object/YCA62958/title/1">http://collection.britishmuseum.org/id/object/YCA62958/title/1</a>
Predicate	<a href="http://erlangen-crm.org/current/P102_has_title">http://erlangen-crm.org/current/P102_has_title</a>
Subject	<a href="http://collection.britishmuseum.org/id/object/117631">http://collection.britishmuseum.org/id/object/117631</a>
Object	<a href="http://collection.britishmuseum.org/id/object/YCA62958/title/1">http://collection.britishmuseum.org/id/object/YCA62958/title/1</a>

## 6 Configuration

### 6.1 Main Configuration File for Transformation

```
<!DOCTYPE bm_RDFer [  
  <!ENTITY owl "http://www.w3.org/2002/07/owl#">  
  <!ENTITY id "http://collection.britishmuseum.org/id/">  
  <!ENTITY bmo "http://collection.britishmuseum.org/id/ontology/">  
  <!ENTITY crm "http://erlangen-crm.org/current/">  
  <!ENTITY rdf "http://www.w3.org/1999/02/22-rdf-syntax-ns#">  
  <!ENTITY rdfs "http://www.w3.org/2000/01/rdf-schema#">  
  <!ENTITY dc "http://purl.org/dc/elements/1.1/">  
  <!ENTITY dcterms "http://purl.org/dc/terms/">  
  <!ENTITY skos "http://www.w3.org/2004/02/skos/core#">  
>  
<config xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="configschema.xsd">  
  <!--Split files into chunks  
      type=elementcount|filesize - informs the RDfer how to split the files  
  
      size=the size of the files or number of elements to split by  
  
      filesuffix=[OPTIONAL]submit an xpath query which can be used to append to each split file.  
      Static values can also be used e.g.: filesuffix="{//e1/e2/@name}-org" If the original file is original_file.xml and @name is XYZ,  
      this will produce: original_file_XYZ-org.xml as the name of the split file  
      -->  
  <split inputdirectoryname="in" outputdirectoryname="out" size="10000" type="filesize"></split>  
  
  <!--The namespaces to be delivered in the output RDF file-->  
  <namespaces>  
    <namespace prefix="owl" uri="http://www.w3.org/2002/07/owl#"></namespace>  
    <namespace prefix="rdf" uri="http://www.w3.org/1999/02/22-rdf-syntax-ns#"></namespace>  
    <namespace prefix="rdfs" uri="http://www.w3.org/2000/01/rdf-schema#"></namespace>  
    <namespace prefix="crm" uri="http://erlangen-crm.org/current/"></namespace>  
    <namespace prefix="bmo" uri="http://collection.britishmuseum.org/id/ontology/"></namespace>  
    <namespace prefix="id" uri="http://collection.britishmuseum.org/id/"></namespace>  
    <namespace prefix="skos" uri="http://www.w3.org/2004/02/skos/core#"></namespace>  
  </namespaces>  
  
  <!-- basic details of the object -->  
  <mapping match="{//bm_object[bm_object_part/_[mus_obj_parts='1' and bm_alias_admin_no/_/bm_admin_type='WEB']]}" namedgraph="http://collection.britishmuseum.org/id/object/{bm_prn}/graph">  
  <resource>
```

```

<identifier prefix="&id;object/" value="{bm_prn}"/>

<type value="&crm;E22_Man-Made_Object"></type>
<!-- IDENTIFIERS -->
<!-- Merlin PRN -->
<triple predicate="crm:P48_has_preferred_identifier" prefix="&id;object/" object="{bm_prn}/prn"></triple>
<resource>
  <identifier prefix="&id;object/" value="{bm_prn}/prn"></identifier>
  <type value="&crm;E42_Identifier"></type>
  <triple object="&id;thesauri/identifier/prn" predicate="crm:P2_has_type"></triple>
  <triple predicate="rdfs:label" value="{bm_prn}"></triple>
</resource>

<!-- Codex Id -->
<if match="{bm_codex_object_id/_[.!="]}>
  <triple object="{bm_prn}/codexid" predicate="crm:P1_is_identified_by" prefix="&id;object/"></triple>
  <resource>
    <identifier prefix="&id;object/" value="{bm_prn}/codexid"></identifier>
    <type value="&crm;E42_Identifier"></type>
    <triple object="&id;thesauri/identifier/codexid" predicate="crm:P2_has_type"></triple>
    <triple predicate="rdfs:label" value="{bm_codex_object_id/_}"></triple>
  </resource>
</if>
<!-- Registration No -->
<if match="{bm_calc_reg_no_expr/_[.!="]}>
  <triple modifier="encodevalue" object="{bm_prn}/regno" predicate="crm:P1_is_identified_by" prefix="&id;object/"></triple>
  <resource>
    <identifier modifier="encodevalue" prefix="&id;object/" value="{bm_prn}/regno"></identifier>
    <type value="&crm;E42_Identifier"></type>
    <triple object="&id;thesauri/identifier/regno" predicate="crm:P2_has_type"></triple>
    <triple predicate="rdfs:label" value="{bm_calc_reg_no_expr/_[.!="}]"></triple>
  </resource>
</if>
<!-- Big No -->
<if match="{bm_calc_big_no_expr/_[.!="]}>
  <triple object="{bm_prn}/bigno" predicate="crm:P1_is_identified_by" prefix="&id;object/"></triple>
  <resource>
    <identifier prefix="&id;object/" value="{bm_prn}/bigno"></identifier>
    <type value="&crm;E42_Identifier"></type>
    <triple object="&id;thesauri/identifier/bigno" predicate="crm:P2_has_type"></triple>
    <triple predicate="rdfs:label" value="{bm_calc_big_no_expr/_[.!="}]"></triple>
  </resource>

```

```

</if>
<!-- C&M Cat No -->
<if match="{bm_calc_cm_cat_no_expr/_[.!=']}">
<triple object="{bm_prn}/cmcatno" predicate="crm:P1_is_identified_by" prefix="&id;object/"></triple>
<resource>
<identifier prefix="&id;object/" value="{bm_prn}/cmcatno"></identifier>
<type value="&crm;E42_Identifier"></type>
<triple object="&id;thesauri/identifier/cmcatno" predicate="crm:P2_has_type"></triple>
<triple predicate="rdfs:label" value="{bm_calc_cm_cat_no_expr/_[.!=']}"/></triple>
</resource>
</if>
<!-- G&R Cat No -->
<if match="{bm_calc_gr_catno/_[.!=']}">
<triple object="{bm_prn}/grcatno" predicate="crm:P1_is_identified_by" prefix="&id;object/"></triple>
<resource>
<identifier prefix="&id;object/" value="{bm_prn}/grcatno"></identifier>
<type value="&crm;E42_Identifier"></type>
<triple object="&id;thesauri/identifier/grcatno" predicate="crm:P2_has_type"></triple>
<triple predicate="rdfs:label" value="{bm_calc_gr_catno/_[.!=']}"/></triple>
</resource>
</if>
<!-- Other No -->
<mapping match="{mus_alias_other_number/_[.!=']}">
<triple object="../../bm_prn}/otherid" predicate="crm:P1_is_identified_by" prefix="&id;object/"></triple>
<resource>
<identifier prefix="&id;object/" value="../../bm_prn}/otherid"></identifier>
<type value="&crm;E42_Identifier"></type>
<triple object="&id;thesauri/identifier/otherid" predicate="crm:P2_has_type"></triple>
<triple predicate="rdfs:label" value="{}"/></triple>
</resource>
</mapping>

<triple predicate="crm:P50_has_current_keeper" prefix="&id;thesauri/department/" object="{bm_owning_department}"></triple>
<triple predicate="crm:P50_has_current_keeper" prefix="&id;" object="the-british-museum"/>

<if match="{bm_copyright_ind[.!=']}">
<triple predicate="bmo:PX_has_copyright" value="{bm_copyright_ind}"></triple>
<triple predicate="crm:P104_is_subject_to" prefix="&id;object/" object="{bm_prn}/copyright"/>

<resource>
<identifier prefix="&id;object/" value="{bm_prn}/copyright"/>
<type value="&crm;E30_Right"/>

```

```

<triple predicate="crm:P3_has_note" value="{bm_copyright_ind}"/>
</resource>
</if>

<!--ACQUISITION YEAR-->
<mapping match="{bm_alias_acq_year/_}">
  <!-- Make sure it is not null!! Merlin can do this-->
  <if match="{bm_acq_year_text[.!=""]}">
    <!-- checking whether there are any acquisition name (people who acquired the object data)
        If there are not, then we'll default a P24i from the object to the acquisition node
        else it'll be left on its own
    -->
    <if match=".//bm_object_part/_/bm_alias_xml_acq_name[count(*)=0]">
      <triple predicate="crm:P24i_changed_ownership_through" prefix="&id;object/" object=".//bm_prn}/acquisition"/>
    </if>
    <resource>
      <identifier value="&id;object/.//bm_prn}/acquisition"></identifier>
      <type value="&crm;E8_Acquisition"></type>
      <triple object=".//bm_prn}/acquisition/date" predicate="crm:P4_has_time-span" prefix="&id;object/"></triple>
      <resource>
        <identifier prefix="&id;object/" value=".//bm_prn}/acquisition/date"/>
        <type value="&crm;E52_Time-Span"></type>
        <triple predicate="rdfs:label" value="{bm_acq_year_text}"/>
        <triple predicate="crm:P82a_begin_of_the_begin" type="http://www.w3.org/2001/XMLSchema#date" value="{bm_acq_year_earliest}" modifier="formatmerlinearliestdateasxsddate"></triple>
        <triple predicate="crm:P82b_end_of_the_end" type="http://www.w3.org/2001/XMLSchema#date" value="{bm_acq_year_latest}" modifier="formatmerlinlatestdateasxsddate"></triple>
        <triple predicate="crm:P3_has_note" value="{bm_acq_year_text} :: {bm_acq_year_com}"></triple>
      </resource>
    </resource>
    <triple predicate="bmo:PX_display_wrap" value="Acquisition date :: {bm_acq_year_text} :: {bm_acq_year_com}"></triple>
  </if>
</mapping>

<!-- OBJECT NAME (aka: object type) -->
<mapping match="{bm_alias_object_name/_}">
  <triple object="{mus_object_name_th_i}" predicate="bmo:PX_object_type" prefix="&id;thesauri/"></triple>
  <triple predicate="bmo:PX_display_wrap" value="Object type :: {mus_object_name} :: {bm_object_name_note}"></triple>
</mapping>

<!-- CURATORIAL COMMENTS -->
<mapping match="{mus_alias_comments/_}">
  <triple predicate="bmo:PX_curatorial_comment" value="{mus_comments}"></triple>

```

```

</mapping>

<!--EXHIBITION HISTORY-->
<mapping match="{bm_exhib_hist/_}">
  <triple predicate="bmo:PX_exhibition_history" value="."></triple>
</mapping>

<!-- PART/ASPECT-->
<!--
v1 comments      parts of this object. if mus_obj_parts is empty, then the "part" refers to the whole,
so in this case foo/{mus_obj_parts}/bar becomes foo/bar in the output, ie the part vanishes
and we effectively attribute properties/values to the whole object.
we just then have to be careful whether we output "is_composed_of" or "forms_part_of" only
for real parts that do have an identifier.

v2 comments      Although the above is true, there are truly no parts in the database apart from aspects. Therefore we will assume that
everything referring to mus_obj_parts as 1 is the main object /prn
Anything else other than one is something about the object itself (like an aspect) which should therefore translate as
a Man Made Feature.

Therefore the featureconfig will always do a check whenever it is looking at which resource it is in i.e. part 1 or part 'other'.
-->

<mapping match="{bm_object_part/_}">
  <!--If the part is not 1, then we're talking about an aspect of the object-->
  <if match="{mus_obj_parts[.=1'] and mus_obj_parts[!=Chinese']}">
    <triple object="../../bm_prn}/{mus_obj_parts" predicate="crm:P56_bears_feature" prefix="&id;object"/></triple>
    <resource>
      <identifier prefix="&id;object/" value="../../bm_prn}/{mus_obj_parts"></identifier>
      <type value="&crm;E25_Man-Made_Feature"></type>
      <!-- Label of the part/feature-->
      <triple predicate="rdfs:label" value="{mus_obj_parts}"/>
      <!-- Putting in the type of the Aspect-->
      <triple predicate="crm:P2_has_type" prefix="&id;thesauri/aspect/" object="{mus_obj_parts}"/>

      <!-- Execute part config as a feature -->
      <usenamedmapping name="featureconfig"></usenamedmapping>
    </resource>
  </if>
  <else>
    <if match="{mus_obj_parts[.=1']}">
      <!-- Execute part config as the main object -->
      <usenamedmapping name="featureconfig"></usenamedmapping>
    </if>
  </else>
</if>

```

```

</if>
</else>
</mapping>
</resource>
<!-- end of object -->
</mapping>

<namedmapping name="featureconfig">
<!--DESCRIPTION-->
<triple predicate="bmo:PX_physical_description" value="{mus_physical_description}"></triple>

<!-- OBJECT WARE-->
<!-- Rather than the previous mapping of using bmx:PX.ware extension, it is considered that
      the Object Ware is another categorisation of the Object and therefore is another type.-->
<mapping match="{bm_alias_ware/_}">
<triple object="{bm_ware_th_i}" predicate="bmo:PX_ware" prefix="&id;thesauri/"></triple>
<triple predicate="bmo:PX_display_wrap" value="Ware :: {bm_ware} :: {bm_ware_com}"></triple>
</mapping>

<!--DIMENSION(s)
      Using a mixture of QUDT/NASA ontology and BM thesaurus (flat)
      -->
<usenamedmapping name="dimensionconfig"/>

<!-- ****
      ACQUISITION NAME
      ****-->

<!-- STEP 1
      If there are NO acquisition names, then just assume BM is owner
      -->
<if match="{bm_alias_xml_acq_name[count(*)=0]}">
<triple predicate="crm:P52_has_current_owner" object="&id;the-british-museum"/>
</if>

<!-- STEP 2
      If there is an acqName which will either produce BM as OWNER or correctly state the BM is NOT the owner then do nothing.
      Otherwise, whether BM is the owner is not stated in the record and therefore we'll just assume that BM is the owner.-->
<if match="{[bm_alias_xml_acq_name/_[bm_acq_name_ass ='B' or bm_acq_name_ass ='D' or bm_acq_name_ass ='E' or bm_acq_name_ass ='F' or bm_acq_name_ass ='P' or bm_acq_name_ass ='T' or bm_acq_name_ass ='U' or
bm_acq_name_ass ='TT' or bm_acq_name_ass ='TR' or bm_acq_name_ass ='A' or bm_acq_name_ass ='BT' or bm_acq_name_ass ='CF' or bm_acq_name_ass ='EC' or bm_acq_name_ass ='FU' or bm_acq_name_ass ='S' or
bm_acq_name_ass ='V' or bm_acq_name_ass ='IH' or bm_acq_name_ass ='IM' or bm_acq_name_ass ='PO' or bm_acq_name_ass ='L']]}">
```

```

<!-- DO NOTHING-->
</if>
<else>
<triple predicate="crm:P52_has_current_owner" object="&id;the-british-museum"/>
</else>

<!-- STEP 3
      Now just process as normal each acqName at a time
      -->
<counter name="acquisitionAssociation" initialValue="1"/>
<counter name="acquisitionCount" initialValue="1"/>

<mapping match="{bm_alias_xml_acq_name/_}">

<!-- Acquired From
    B: Bequeathed by
    D: Donated by
    E: Exchanged with
    F: From
    P: Purchased from
    T: Transferred from: this is transfer of ownership, and not merely custody
    UI: Unclaimed item: the former owner brought it in for examination, and never reclaimed it. "Over time" BM became the owner, although its legal status is a bit unclear

<obj> P51_has_former_or_current_owner <person>;
    P52_has_current_owner id:<id>the-british-museum;
    P24i_changed_ownership_through <obj/>acquisition</obj>;
<obj/>acquisition a E8_Acquisition, E10_Transfer_of_Custody;
    P22_transferred_title_to <id:<id>the-british-museum>;
    P9_consists_of <obj/>acquisition/M</obj>;
<obj/>acquisition/M a E8_Acquisition;
    P24_transferred_title_of <obj>;
    P23_transferred_title_from <person>;
    P2_has_type <type>;
-->
<if match="{bm_acq_name_ass[.=B'] or bm_acq_name_ass[.=D'] or bm_acq_name_ass[.=E'] or bm_acq_name_ass[.=F'] or bm_acq_name_ass[.=P'] or bm_acq_name_ass[.=T'] or bm_acq_name_ass[.=U']}>
<!-- BM IS OWNER & TRANSFER OF CUSTODY-->

<usenamedmapping name="acquisitionConfig"/>
<usenamedmapping name="acquisitionTransferOfCustodyConfig"/>

<!-- We'll now add the type specific for this acquisition-->

```

```

<resource>
<if match=".//./mus_obj_parts[.='1']">
<identifier prefix="'.$id.';object/" value=".//./bm_prn}/acquisition/{counter_acquisitionCount}"/>
</if>
<else>
<identifier prefix="'.$id.';object/" value=".//./bm_prn}/{.//./mus_obj_parts}/acquisition/{counter_acquisitionCount}"/>
</else>
<triple predicate="crm:P2_has_type" prefix="'.$id.'" object="thesauri/acquisition/{bm_acq_name_ass}"/>
</resource>

<triple predicate="bmo:PX_display_wrap" value="Acquisition (From) :: {bm_acq_name} to The British Museum :: {bm_acq_name_com}"/>

<!-- Increment Counters-->
<counter name="acquisitionCount" iterate="true"/>
</if>

<!-- Treasure Act
     TT: Treasure Trove
     TR: Purchased through the Treasure Act 1996
     This says a treasure (eg gold) was found in the UK, and BM (or Department of Culture) purchased it from the land's owner under the Treasure Act.

The institution mentioned in this association is usually Department of Culture, so we won't record it. Josh: I think we said we would record it as the DfCMS may not always apply.
There'll be a separate association to say who it was purchased From.

<obj> P52_has_current_owner id:the-british-museum;
      P24i_changed_ownership_through <obj/acquisition>.
<obj/acquisition> a E8_Acquisition;
      P22_transferred_title_to <id:the-british-museum>;
      P9_consists_of <obj/acquisition/M>.
<obj/acquisition/M> a E8_Acquisition;
      P2_has_type <thesauri/acquisition/from/TA>;
      P17_was_motivated_by <id:treasure-act>;
-->
<if match="{bm_acq_name_ass[.='TT'] or bm_acq_name_ass[.='TR']}>
<usenamedmapping name="acquisitionConfigNoFrom"/>
<!-- We'll now add the type specific for this acquisition-->
<resource>
<if match=".//./mus_obj_parts[.='1']">
<identifier prefix="'.$id.';object/" value=".//./bm_prn}/acquisition/{counter_acquisitionCount}"/>
</if>
<else>
<identifier prefix="'.$id.';object/" value=".//./bm_prn}/{.//./mus_obj_parts}/acquisition/{counter_acquisitionCount}"/>
</else>

```

```

<triple predicate="crm:P2_has_type" prefix="&id;" object="thesauri/acquisition/TA"/>

<if match="{bm_acq_name_ass[.= 'TR']}">
  <triple predicate="crm:P17_was_motivated_by" object="treasure-act-1996" prefix="&id;document"/>
</if>
<else>
  <triple predicate="crm:P17_was_motivated_by" object="treasure-trove" prefix="&id;document"/>
</else>

</resource>

<if match="{bm_acq_name_ass[.= 'TR']}">
  <triple predicate="bmo:PX_display_wrap" value="Acquisition (motivated by) :: Treasure Act 1996 :: {bm_acq_name_com}"/>
</if>
<else>
  <triple predicate="bmo:PX_display_wrap" value="Acquisition (motivated by) :: Treasure Trove :: {bm_acq_name_com}"/>
</else>

<!-- Increment Counters-->
<counter name="acquisitionCount" iterate="true"/>
</if>

<!-- Former Owner
      PO: Previous owner/ex-collection
      All prev owners are listed with this code, and the last one is listed with an Acquired From code

      <obj> P51_has_former_or_current_owner <person>.
      -->
<if match="{bm_acq_name_ass[.= 'PO']}">
  <!-- BM IS NOT OWNER-->
  <triple predicate="crm:P51_has_former_or_current_owner" prefix="&id;person-institution/" object="{mus_authority-bm_auth_biog_number}"/>
</if>
<!-- Received Custody From
      L: On loan from

      <obj> P30i_custody_transferred_through <obj/acquisition>;
      P49_has_former_or_current_keeper <person>.
      <obj/acquisition> a E10_Transfer_of_Custody;
      P30_transferred_custody_of <obj>;
      P28_custody_surrendered_by <person>;
      P29_custody_received_by id:the-british-museum.
```

```

<obj> P49_has_former_or_current_keeper <person>;
P50_has_current_keeper id:the-british-museum;
P2_has_type <type>.-->

<if match="{bm_acq_name_ass[.=L]}>
<!-- BM IS NOT OWNER-->
<usenamedmapping name="acquisitionTransferOfCustodyConfig"/>
<!-- Add the type to the child acquisition-->
<resource>
<if match=".//./mus_obj_parts[.=1]">
<identifier prefix="#id;object/" value=".//./bm_prn}/acquisition/{counter_acquisitionCount}"/>
</if>
<else>
<identifier prefix="#id;object/" value=".//./bm_prn}/{.//mus_obj_parts}/acquisition/{counter_acquisitionCount}"/>
</else>
<triple predicate="crm:P2_has_type" prefix="#id;thesauri/acquisition/" object="L"/>
</resource>
<triple predicate="bmo:PX_display_wrap" value="Acquisition (On Loan) :: To The British Museum :: {bm_acq_name_com}"/>
<counter name="acquisitionCount" iterate="true"/>
</if>

<!-- Acquired Through (intermediary)
A: Purchased through
BT: Bequeathed through
V: Donated through
EC: Exchanged through

<obj> P52_has_current_owner id:the-british-museum;
P24i_changed_ownership_through <obj/acquisition>
<obj/acquisition> a E8_Acquisition;
P22_transferred_title_to <id:the-british-museum>;
P9_consists_of <obj/acquisition/M>;
<obj/acquisition/M> a E8_Acquisition;
P24_transferred_title_of <obj>;
P14_carried_out_by <person>;
P2_has_type <type>.-->
<if match="{bm_acq_name_ass[.=A] or bm_acq_name_ass[.=BT] or bm_acq_name_ass[.=V] or bm_acq_name_ass[.=EC]}>
<usenamedmapping name="acquisitionConfigNoFrom"/>

<!-- Add the type & P14 to the child acquisition-->
<resource>

```

```

<if match=".//./mus_obj_parts[.=1]">
  <identifier prefix=&id;object/" value=".//./bm_prn}/acquisition/{counter_acquisitionCount}"/>
</if>
<else>
  <identifier prefix=&id;object/" value=".//./bm_prn}/{.//./mus_obj_parts}/acquisition/{counter_acquisitionCount}"/>
</else>

<if match="{bm_acq_name_ass[.=A]}">
  <triple predicate="crm:P2_has_type" prefix=&id;thesauri/acquisition/" object="P"/>
</if>
<if match="{bm_acq_name_ass[.=BT]}">
  <triple predicate="crm:P2_has_type" prefix=&id;thesauri/acquisition/" object="B"/>
</if>
<if match="{bm_acq_name_ass[.=EC]}">
  <triple predicate="crm:P2_has_type" prefix=&id;thesauri/acquisition/" object="E"/>
</if>
<if match="{bm_acq_name_ass[.=V]}">
  <triple predicate="crm:P2_has_type" prefix=&id;thesauri/acquisition/" object="D"/>
</if>
<triple predicate="crm:P14_carried_out_by" prefix=&id;person-institution/" object="{mus_authority-bm_auth_biog_number}"/>
</resource>

<!-- Display Wraps-->
<if match="{bm_acq_name_ass[.=A]}">
  <triple predicate="bmo:PX_display_wrap" value="Acquisition (Through Intermediary) Purchased through {bm_acq_name} :: To The British Museum :: {bm_acq_name_com}"/>
</if>
<if match="{bm_acq_name_ass[.=BT]}">
  <triple predicate="bmo:PX_display_wrap" value="Acquisition (Through Intermediary) Bequeathed through {bm_acq_name} :: To The British Museum :: {bm_acq_name_com}"/>
</if>
<if match="{bm_acq_name_ass[.=EC]}">
  <triple predicate="bmo:PX_display_wrap" value="Acquisition (Through Intermediary) Exchanged through {bm_acq_name} :: To The British Museum :: {bm_acq_name_com}"/>
</if>
<if match="{bm_acq_name_ass[.=V]}">
  <triple predicate="bmo:PX_display_wrap" value="Acquisition (Through Intermediary) Donated through {bm_acq_name} :: To The British Museum :: {bm_acq_name_com}"/>
</if>

<counter name="acquisitionCount" iterate="true"/>
</if>

<!-- Acquired Through (contributor)
 CF: With contribution from

```

FU: Funded by  
S: Sponsored by

All of the above codes imply that BM received ownership

```
<obj> P52_has_current_owner id:the-british-museum;
  P24i_changed_ownership_through <obj/acquisition>;
<obj/acquisition> a E8_Acquisition;
  P22_transferred_title_to <id:the-british-museum>;
  P9_consists_of <obj/acquisition/M>.
<obj/acquisition/M> a E8_Acquisition;
  P24_transferred_title_of <obj>;
  P11_had_participant <person>;
<obj/acquisition/M/association> a bmo:EX_Association;
  P140_assigned_attribute_to <obj/acquisition/M>; P141_assigned <person>; bmo:PX_property P11_had_participant;
  P2_has_type <type>. -->
<if match="{bm_acq_name_ass[.= 'CF']} or {bm_acq_name_ass[.= 'FU']} or {bm_acq_name_ass[.= 'S']}>
<usenamecdmapping name="acquisitionConfigNoFrom"/>
<!-- Add the type &amp; P11 to the child acquisition--&gt;
&lt;resource&gt;
&lt;if match=".//./mus_obj_parts[.= '1']"&gt;
  &lt;identifier prefix=&amp;id;object/" value=".//./bm_prn}/acquisition/{counter_acquisitionCount}"/&gt;
&lt;/if&gt;
&lt;else&gt;
  &lt;identifier prefix=&amp;id;object/" value=".//./bm_prn}/{.//./mus_obj_parts}/acquisition/{counter_acquisitionCount}"/&gt;
&lt;/else&gt;
&lt;triple predicate="crm:P11_had_participant" prefix=&amp;id;person-institution/" object="{mus_authority-bm_auth_biot_number}"/&gt;
&lt;/resource&gt;
<!--Display wraps--&gt;
&lt;if match="{bm_acq_name_ass[.= 'CF']}&gt;
  &lt;triple predicate="bmo:PX_display_wrap" value="Acquisition (Through contributor) With Contribution from {bm_acq_name} :: {bm_acq_name_com}"/&gt;
&lt;/if&gt;
&lt;if match="{bm_acq_name_ass[.= 'FU']}&gt;
  &lt;triple predicate="bmo:PX_display_wrap" value="Acquisition (Through contributor) Funded by {bm_acq_name} :: {bm_acq_name_com}"/&gt;
&lt;/if&gt;
&lt;if match="{bm_acq_name_ass[.= 'S']}&gt;
  &lt;triple predicate="bmo:PX_display_wrap" value="Acquisition (Through contributor) Sponsored {bm_acq_name} :: {bm_acq_name_com}"/&gt;
&lt;/if&gt;</pre>
```

```

<!-- Reification-->
<resource>
<if match=".//./mus_obj_parts[.=1]">
  <identifier prefix="&id;object/" value=".//./bm_prn}/acquisition/{counter_acquisitionCount}/association"></identifier>
  <triple predicate="crm:P140_assigned_attribute_to" prefix="&id;object/" object=".//./bm_prn}/acquisition/{counter_acquisitionCount}" />
</if>
<else>
  <identifier prefix="&id;object/" value=".//./bm_prn}/.//./mus_obj_parts}/acquisition/{counter_acquisitionCount}/association"></identifier>
  <triple predicate="crm:P140_assigned_attribute_to" prefix="&id;object/" object=".//./bm_prn}/.//./mus_obj_parts}/acquisition/{counter_acquisitionCount}" />
</else>
<type value="&bmo;EX_Association"/>
<triple predicate="crm:P141_assigned" prefix="&id;person-institution/" object="{mus_authority-bm_auth_biot_number}"/>
<triple predicate="bmo:PX_property" prefix="&crm;" object="P11_had_participant"/>

<if match="{bm_acq_name_ass[.=CF]}">
  <triple predicate="crm:P2_has_type" prefix="&id;thesauri/acquisition/" object="CF"/>
</if>
<if match="{bm_acq_name_ass[.=FU]}">
  <triple predicate="crm:P2_has_type" prefix="&id;thesauri/acquisition/" object="FU"/>
</if>
<if match="{bm_acq_name_ass[.=S]}">
  <triple predicate="crm:P2_has_type" prefix="&id;thesauri/acquisition/" object="S"/>
</if>
</resource>
<!-- Increment Counters-->
<counter name="acquisitionCount" iterate="true"/>
</if>

<!--Acquisition Motivated By
IH: In Honour of
IM: In Memory of

<obj> P52_has_current_owner id:the-british-museum;
P24i_changed_ownership_through <obj/acquisition>.
<obj/acquisition> a E8_Acquisition;
P9_consists_of <obj/acquisition/M>.
<obj/acquisition/M> a E8_Acquisition;
P24_transferred_title_of <obj>;
P17_was_motivated_by <person>
P22_transferred_title_to <id:the-british-museum>;
P2_has_type <type>.->
```

```

<if match="{bm_acq_name_ass[.= 'IM'] or bm_acq_name_ass[.= 'IH']}>
<usenamedmapping name="acquisitionConfigNoFrom"/>
<!-- Add the type & P17 to the child acquisition-->
<resource>
<if match=".//./mus_obj_parts[.= '1']">
<identifier prefix="&id;object/" value=".//./bm_prn}/acquisition/{counter_acquisitionCount}"/>
</if>
<else>
<identifier prefix="&id;object/" value=".//./bm_prn}/{.//./mus_obj_parts}/acquisition/{counter_acquisitionCount}"/>
</else>
<if match="{bm_acq_name_ass[.= 'IM']}>
<triple predicate="crm:P2_has_type" prefix="&id;thesauri/acquisition/" object="IM"/>
</if>
<if match="{bm_acq_name_ass[.= 'IH']}>
<triple predicate="crm:P2_has_type" prefix="&id;thesauri/acquisition/" object="IH"/>
</if>

<triple predicate="crm:P17_was_motivated_by" prefix="&id;person-institution/" object="{mus_authority-bm_auth_biog_number}"/>
</resource>

<!--Display wraps-->
<if match="{bm_acq_name_ass[.= 'IM']}>
<triple predicate="bmo:PX_display_wrap" value="Acquisition (Motivated by) In memory of {bm_acq_name} :: {bm_acq_name_com}"/>
</if>
<if match="{bm_acq_name_ass[.= 'IH']}>
<triple predicate="bmo:PX_display_wrap" value="Acquisition (Motivated by) In honour of {bm_acq_name} :: {bm_acq_name_com}"/>
</if>

<counter name="acquisitionCount" iterate="true"/>
</if>

<if match="{bm_acq_name_ass[.= 'C'] or bm_acq_name_ass[.= 'EX'] or bm_acq_name_ass[.= 'DA']}>
<!-- Found By
      C: Collected by
      EX: Excavated by

      Discovery (Finding) is an important kind of event: for most archeological artefacts we don't know much about Production, but we may know about Discovery. So we define a sub-class for it.

      bmo:EX_Discovery rdfs:subClassOf E7_Activity;
          rdfs:label "Discovery"; rdfs:comment "The activity of finding, excavating or collecting an object".

      <obj> P12i_was_present_at <obj/find>.

```

```

<obj/find> a bmo:EX_Discovery, E10_Transfer_of_Custody; P2_has_type <type>; P14_carried_out_by <person>.

Jointly Found By
DA: Division of Finds: BM and the other Person did a joint excavation, and divided the finds

<obj> P12i_was_present_at <obj/find>.
<obj/find> a bmo:EX_Discovery, E10_Transfer_of_Custody; P2_has_type <type>;
P14_carried_out_by <person>, <id:the-british-museum>.
-->
<usenamedmapping name="discoveryConfig"/>
</if>
</mapping>

<!--PRODUCTION DATE
    Can have multiple production dates...
    Each production date will be it's own production instance

    Period culture is considered "a specification of the time period and/ or social culture of the production of the object"
    -->
<counter initialValue="1" iterator="increment" name="prodCounter"/>
<mapping match="{mus_alias_object_production_date/_}">

<!-- Set up basic production-->
<usenamedmapping name="productionConfig"/>

<!-- Say the child production has a time-span -->
<resource>
<if match=".//..../mus_obj_parts[.='1']">
<identifier prefix="#id;object/" value=".//..../bm_prn}/production/{counter_prodCounter}"></identifier>
<triple object=".//..../bm_prn}/production/{counter_prodCounter}/date" predicate="crm:P4_has_time-span" prefix="#id;object/"></triple>
</if>
<else>
<identifier prefix="#id;object/" value=".//..../bm_prn}/{..../mus_obj_parts}/production/{counter_prodCounter}"></identifier>
<triple object=".//..../bm_prn}/{..../mus_obj_parts}/production/{counter_prodCounter}/date" predicate="crm:P4_has_time-span" prefix="#id;object/"></triple>
</else>
</resource>
<!-- Do the timespan node-->
<resource>
<if match=".//..../mus_obj_parts[.='1']">
<identifier prefix="#id;object/" value=".//..../bm_prn}/production/{counter_prodCounter}/date"></identifier>
</if>

```

```

<else>
  <identifier prefix="&id;object/" value="../../../../bm_prn}/{../mus_obj_parts}/production/{counter_prodCounter}/date"></identifier>
</else>
<type value="&crm;E52_Time-Span"></type>
<triple predicate="rdfs:label" value="{mus_object_production_date_text}" />
<triple predicate="crm:P3_has_note" type="http://www.w3.org/2001/XMLSchema#string" value="{mus_object_production_date_text} :: {bm_object_production_date_note}" /></triple>
<triple predicate="crm:P82a_begin_of_the_begin" type="http://www.w3.org/2001/XMLSchema#date" value="{mus_object_production_date_earliest}" modifier="formatmerlinearliestdateasxsddate" /></triple>
<triple predicate="crm:P82b_end_of_the_end" type="http://www.w3.org/2001/XMLSchema#date" value="{mus_object_production_date_latest}" modifier="formatmerlinlatestdateasxsddate" /></triple>
</resource>
<triple predicate="bmo:PX_display_wrap" value="Production date :: {mus_object_production_date_text} :: {bm_object_production_date_note}" /></triple>

<counter iterate="true" name="prodCounter"></counter>
</mapping>

<!-- PERIOD / CULTURE
      It has been suggested that the period culture is a way in which to defined the period / culture of the production of the object
      Since the Production itself is a period, we will define:
      - a new resource for a production (of type E12_Production which is sub class of E4_Period
      - a new resource for a Period (of type E4_Period)
      - say that the Period P4_has_type the period culture term
      - use P10_falls_within to say that the production occured within that period/culture as per the definition of P10

      Again - as the period culture stands on it's own and does not relate directly to a instance of a production, we shall create a resource for the production and then
      relate the period to that.
      -->
<mapping match="{bm_alias_object_production_period/_}">

<!-- Set up basic production-->
<usenamedmapping name="productionConfig"/>

<!--Define the Production event-->
<resource>
  <if match="../../../../mus_obj_parts[.='1']">
    <identifier prefix="&id;object/" value="../../../../bm_prn}/production/{counter_prodCounter}"></identifier>
    <!--Say the Production event falls within a period - the thesaurus term-->
    <triple object="{mus_object_production_date_period_th_i}" predicate="crm:P10_falls_within" prefix="&id;thesauri/"></triple>
  </if>
  <else>
    <identifier prefix="&id;object/" value="../../../../bm_prn}/{../mus_obj_parts}/production/{counter_prodCounter}"></identifier>
    <!--Say the Production event falls within a period - the thesaurus term-->
    <triple object="{mus_object_production_date_period_th_i}" predicate="crm:P10_falls_within" prefix="&id;thesauri/"></triple>
  </else>
</resource>

```

```

<type value="&crm;E12_Production"></type>
</resource>
<triple predicate="bmo:PX_display_wrap" value="Production Period / Culture :: {mus_object_production_date_period} :: {bm_object_production_period_note}" />

<counter iterate="true" name="prodCounter"></counter>
</mapping>

<!--PRODUCTION TECHNIQUE
    techniques used in production of this part
    Each production technique will be it's own production instance
    -->
<mapping match="{mus_alias_technique/_}">

    <!-- Set up basic production-->
    <usenamedmapping name="productionConfig"/>

    <resource>
        <if match=".//./mus_obj_parts[.='1']">
            <identifier prefix="&id;object/" value=".//./bm_prn}/production/{counter_prodCounter}"></identifier>
        </if>
        <else>
            <identifier prefix="&id;object/" value=".//./bm_prn}/{.//mus_obj_parts}/production/{counter_prodCounter}"></identifier>
        </else>
        <type value="&crm;E12_Production"></type>
        <triple object="{mus_technique_th_i}" predicate="crm:P32_used_general_technique" prefix="&id;thesauri/"></triple>
    </resource>
    <triple predicate="bmo:PX_display_wrap" value="Uses technique :: {mus_technique} :: {bm_technique_note}"></triple>
    <counter iterate="true" name="prodCounter"></counter>
</mapping>

<!-- PRODUCTION PERSON / PRODUCTION NAME & PRODUCTION PLACE
And also Production Authority = M

```

people/orgs & Places associated with the creation of this conceptual type of object

These have been merged together in order to unify the types of triples that are produced.

The mapping match brings back any elements which are to do with production place / people / Authority = Moneyer (harmonised with moneying)

There are then a set of if statements

1st IF: productions which are part of a process e.g. designing / moneying

The person / place is associated with the production based on association code  
Then either

- 1) Production will have a type
  - 2) A reification statement will be created which will speak more about / qualify the specific property used between the place/person and then production node
- 2nd IF: the type of production is a retail then a retail activity is produced  
 3rd IF: the production was to a specific part of the object, then we model a part-->

<!-- This is a counter for actual object parts (in order to describe different bits of an object which have been made by different people-->

```
<counter name="objectPart" initialValue="1" iterator="increment"/>
<!-- Counter for inscription nodes-->
<counter initialValue="1" iterator="increment" name="inscriptionCounter"/>
```

<mapping match="{bm\_alias\_xml\_object\_production\_person/\_|mus\_alias\_object\_production\_place/\_|bm\_alias\_xml\_authority/\_}">
 <counter name="objectPartProduction" initialValue="1" iterator="increment"/>
 <!--

<!--  
**PRODUCTION PERSON**

|                              |                              |
|------------------------------|------------------------------|
| Produced By Specific Process |                              |
| 5: Drawn by                  | ID: Intermediary draughtsman |
| AU: Author                   | J: Modelled by               |
| BC: Block cut by             | L: Lustred by                |
| CA: Calligrapher             | M: Made by                   |
| D: Designed by               | P: Painted by                |
| DE: Decorated by             | PH: Photographed by          |
| E: Engraved by               | SC: Scribe                   |
| I: Issuer                    | WR: Written by               |
| Z: Published by              | T: Mint                      |

This code will re-use types derived from existing codes:

|                                |                            |
|--------------------------------|----------------------------|
| Code                           | Mapped toComment           |
| DM: Medal designed and made by | D: Designed by, M: Made by |

Made By') This association code is used only with medal objects (not that the object has a part with a medal, like 'Bell

These codes mean the same:

G: Moneyer  
 PRODUCTION AUTHORITY: M: Moneyer  
 These codes mean the same:

PA: Print artist  
 PM: Print made by  
 R: Printed by  
 <obj> P108i\_was\_produced\_by <obj/production>  
 <obj/production> a E12\_Production;calc

```

P9_consists_of <obj/production/M>;
<obj/production/M> a E12_Production; P2_has_type <type>;
P14_carried_out_by <person>

```

#### PRODUCTION PLACE

Produced By Specific Process At

D: Designed in

DE: Decorated in

I: Issued in

L: Lustred in

M: Made in

MI: Minted in

P: Painted in

PH: Photographed in

R: Printed in

Z: Published in

```
<obj> P108i_was_produced_by <obj/production>.
```

```
<obj/production> a E12_Production;
```

```
 P9_consists_of <obj/production/M>.
```

```
<obj/production/M> P7_took_place_at <place>; P2_has_type <type>.
```

```
-->
```

```

<if match="{mus_object_production_person_association[.=5' or .=AU' or .=BC' or .=CA' or .=D' or .=DE' or .=E' or .=I' or .=ID' or .=J' or .=L' or .=M' or .=P' or .=PH' or .=SC' or .=WR' or .=Z' or .=G' or .=T' or .=PA' or .=PM' or .=R'] | bm_authority_ass[.=M']} | mus_object_production_place_association[.=D' or .=DE' or .=I' or .=L' or .=M' or .=MI' or .=P' or .=PH' or .=R' or .=Z']}>
 <usenamedmapping name="productionConfig"/>

```

```
<!-- Now create the child production node with the P14 & P2-->
```

```
<resource>
```

```
<if match=".//./mus_obj_parts[.=1']">
```

```
 <identifier prefix="&id;object/" value=".//./bm_prn}/production/{counter_prodCounter}" />
```

```
</if>
```

```
<else>
```

```
 <identifier prefix="&id;object/" value=".//./bm_prn}/{././mus_obj_parts}/production/{counter_prodCounter}" /></identifier>
```

```
</else>
```

```
<!--produced at-->
```

```
<if match="{mus_object_production_place_th_i[.!=""]}">
```

```
 <triple predicate="crm:P7_took_place_at" prefix="&id;place/" object="{mus_object_production_place_th_i}" />
```

```
</if>
```

```

<else>
  <!--produced by-->
  <triple predicate="crm:P14_carried_out_by" prefix="&id;person-institution/" object="{mus_authority-bm_auth_biot_number}"/>
</else>

<!-- P2 has types - merged production place & production people-->
<switch>
  <!-- PRODUCTION PERSON / PRODUCTION PLACE-->
  <case match="{mus_object_production_person_association[.=5]}">
    <triple predicate="crm:P2_has_type" prefix="&id;thesauri/production/" object="5"/>
  </case>
  <case match="{mus_object_production_person_association[.=AU]}">
    <triple predicate="crm:P2_has_type" prefix="&id;thesauri/production/" object="AU"/>
  </case>
  <case match="{mus_object_production_person_association[.=BC]}">
    <triple predicate="crm:P2_has_type" prefix="&id;thesauri/production/" object="BC"/>
  </case>
  <case match="{mus_object_production_person_association[.=CA]}">
    <triple predicate="crm:P2_has_type" prefix="&id;thesauri/production/" object="CA"/>
  </case>
  <case match="{mus_object_production_person_association[.=D]|mus_object_production_place_association[.=D]}">
    <triple predicate="crm:P2_has_type" prefix="&id;thesauri/production/" object="D"/>
  </case>
  <case match="{mus_object_production_person_association[.=DE]|mus_object_production_place_association[.=DE]}">
    <triple predicate="crm:P2_has_type" prefix="&id;thesauri/production/" object="DE"/>
  </case>
  <case match="{mus_object_production_person_association[.=E]}">
    <triple predicate="crm:P2_has_type" prefix="&id;thesauri/production/" object="E"/>
  </case>
  <case match="{mus_object_production_person_association[.=I]|mus_object_production_place_association[.=I]}">
    <triple predicate="crm:P2_has_type" prefix="&id;thesauri/production/" object="I"/>
  </case>
  <case match="{mus_object_production_person_association[.=ID]}">
    <triple predicate="crm:P2_has_type" prefix="&id;thesauri/production/" object="ID"/>
  </case>
  <case match="{mus_object_production_person_association[.=J]}">
    <triple predicate="crm:P2_has_type" prefix="&id;thesauri/production/" object="J"/>
  </case>
  <case match="{mus_object_production_person_association[.=L]|mus_object_production_place_association[.=L]}">
    <triple predicate="crm:P2_has_type" prefix="&id;thesauri/production/" object="L"/>
  </case>
  <case match="{mus_object_production_person_association[.=M]|mus_object_production_place_association[.=M]}">

```

```

<triple predicate="crm:P2_has_type" prefix="#id;thesauri/production/" object="M"/>
</case>
<case match="{mus_object_production_person_association[.=P']|mus_object_production_place_association[.=P']}">
  <triple predicate="crm:P2_has_type" prefix="#id;thesauri/production/" object="P"/>
</case>
<case match="{mus_object_production_person_association[.=PH']|mus_object_production_place_association[.=PH']}">
  <triple predicate="crm:P2_has_type" prefix="#id;thesauri/production/" object="PH"/>
</case>
<case match="{mus_object_production_person_association[.=SC']}">
  <triple predicate="crm:P2_has_type" prefix="#id;thesauri/production/" object="SC"/>
</case>
<case match="{mus_object_production_person_association[.=WR']}">
  <triple predicate="crm:P2_has_type" prefix="#id;thesauri/production/" object="WR"/>
</case>
<case match="{mus_object_production_person_association[.=Z']|mus_object_production_place_association[.=Z']}">
  <triple predicate="crm:P2_has_type" prefix="#id;thesauri/production/" object="Z"/>
</case>
<case match="{mus_object_production_person_association[.=G']|bm_authority_ass[.=M']}">
  <triple predicate="crm:P2_has_type" prefix="#id;thesauri/production/" object="MO"/>
</case>
<case match="{mus_object_production_person_association[.=T']|mus_object_production_place_association[.=MI']}">
  <triple predicate="crm:P2_has_type" prefix="#id;thesauri/production/" object="T"/>
</case>
<case match="{mus_object_production_person_association[.=PA' or .=PM' or .=R']|mus_object_production_place_association[.=R']}">
  <triple predicate="crm:P2_has_type" prefix="#id;thesauri/production/" object="R"/>
</case>
<!-- PRODUCTION PLACE-->

</switch>
</resource>

<!-- Display Wraps - not merged-->
<switch>
<!-- PRODUCTION PERSON-->
<case match="{mus_object_production_person_association[.=5']}">
  <triple predicate="bmo:PX_display_wrap" value="Production (Drawn) :: {mus_object_production_person} :: {bm_object_production_person_note}" />
</case>
<case match="{mus_object_production_person_association[.=AU']}">
  <triple predicate="bmo:PX_display_wrap" value="Production (Author) :: {mus_object_production_person} :: {bm_object_production_person_note}" />
</case>
<case match="{mus_object_production_person_association[.=BC']}">
  <triple predicate="bmo:PX_display_wrap" value="Production (Block cut) :: {mus_object_production_person} :: {bm_object_production_person_note}" />

```

```

</case>
<case match="{mus_object_production_person_association[.='CA']}>
  <triple predicate="bmo:PX_display_wrap" value="Production (Calligrapher) :: {mus_object_production_person} :: {bm_object_production_person_note}" />
</case>
<case match="{mus_object_production_person_association[.='D']}>
  <triple predicate="bmo:PX_display_wrap" value="Production (Designed) :: {mus_object_production_person} :: {bm_object_production_person_note}" />
</case>
<case match="{mus_object_production_person_association[.='DE']}>
  <triple predicate="bmo:PX_display_wrap" value="Production (Decorated) :: {mus_object_production_person} :: {bm_object_production_person_note}" />
</case>
<case match="{mus_object_production_person_association[.='E']}>
  <triple predicate="bmo:PX_display_wrap" value="Production (Engraved) :: {mus_object_production_person} :: {bm_object_production_person_note}" />
</case>
<case match="{mus_object_production_person_association[.='I']}>
  <triple predicate="bmo:PX_display_wrap" value="Production (Issued) :: {mus_object_production_person} :: {bm_object_production_person_note}" />
</case>
<case match="{mus_object_production_person_association[.='ID']}>
  <triple predicate="bmo:PX_display_wrap" value="Production (Intermediary draught) :: {mus_object_production_person} :: {bm_object_production_person_note}" />
</case>
<case match="{mus_object_production_person_association[.='J']}>
  <triple predicate="bmo:PX_display_wrap" value="Production (Modelled) :: {mus_object_production_person} :: {bm_object_production_person_note}" />
</case>
<case match="{mus_object_production_person_association[.='L']}>
  <triple predicate="bmo:PX_display_wrap" value="Production (Lustered) :: {mus_object_production_person} :: {bm_object_production_person_note}" />
</case>
<case match="{mus_object_production_person_association[.='M']}>
  <triple predicate="bmo:PX_display_wrap" value="Production (Made) :: {mus_object_production_person} :: {bm_object_production_person_note}" />
</case>
<case match="{mus_object_production_person_association[.='P']}>
  <triple predicate="bmo:PX_display_wrap" value="Production (Painted) :: {mus_object_production_person} :: {bm_object_production_person_note}" />
</case>
<case match="{mus_object_production_person_association[.='PH']}>
  <triple predicate="bmo:PX_display_wrap" value="Production (Photographed) :: {mus_object_production_person} :: {bm_object_production_person_note}" />
</case>
<case match="{mus_object_production_person_association[.='SC']}>
  <triple predicate="bmo:PX_display_wrap" value="Production (Scribe) :: {mus_object_production_person} :: {bm_object_production_person_note}" />
</case>
<case match="{mus_object_production_person_association[.='WR']}>
  <triple predicate="bmo:PX_display_wrap" value="Production (Written) :: {mus_object_production_person} :: {bm_object_production_person_note}" />
</case>
<case match="{mus_object_production_person_association[.='Z']}>
  <triple predicate="bmo:PX_display_wrap" value="Production (Published) :: {mus_object_production_person} :: {bm_object_production_person_note}" />

```

```

</case>
<case match="{mus_object_production_person_association[.= 'G'] | bm_authority_ass[.= 'M']}>
<if match="{mus_object_production_person_association[.!= '']}>
  <triple predicate="bmo:PX_display_wrap" value="Production (Moneyer) :: {mus_object_production_person} :: {bm_object_production_person_note}" />
</if>
<else>
  <triple predicate="bmo:PX_display_wrap" value="Production (Moneyer) :: {bm_authority} :: {bm_authority_com}" />
</else>
</case>
<case match="{mus_object_production_person_association[.= 'T']}>
  <triple predicate="bmo:PX_display_wrap" value="Production (Mint) :: {mus_object_production_person} :: {bm_object_production_person_note}" />
</case>
<case match="{mus_object_production_person_association[.= 'PA' or .= 'PM' or .= 'R']}>
  <triple predicate="bmo:PX_display_wrap" value="Production (Printed) :: {mus_object_production_person} :: {bm_object_production_person_note}" />
</case>
<!--PRODUCTION PLACE-->
<case match="{mus_object_production_place_association[.= 'D']}>
  <triple predicate="bmo:PX_display_wrap" value="Production (Designed in) :: {mus_object_production_place} :: {mus_object_production_place_note}" />
</case>
<case match="{mus_object_production_place_association[.= 'DE']}>
  <triple predicate="bmo:PX_display_wrap" value="Production (Decorated in) :: {mus_object_production_place} :: {mus_object_production_place_note}" />
</case>
<case match="{mus_object_production_place_association[.= 'I']}>
  <triple predicate="bmo:PX_display_wrap" value="Production (Issued in) :: {mus_object_production_place} :: {mus_object_production_place_note}" />
</case>
<case match="{mus_object_production_place_association[.= 'L']}>
  <triple predicate="bmo:PX_display_wrap" value="Production (Lustered in) :: {mus_object_production_place} :: {mus_object_production_place_note}" />
</case>
<case match="{mus_object_production_place_association[.= 'M']}>
  <triple predicate="bmo:PX_display_wrap" value="Production (Made in) :: {mus_object_production_place} :: {mus_object_production_place_note}" />
</case>
<case match="{mus_object_production_place_association[.= 'MI']}>
  <triple predicate="bmo:PX_display_wrap" value="Production (Minted in) :: {mus_object_production_place} :: {mus_object_production_place_note}" />
</case>
<case match="{mus_object_production_place_association[.= 'P']}>
  <triple predicate="bmo:PX_display_wrap" value="Production (Painted in) :: {mus_object_production_place} :: {mus_object_production_place_note}" />
</case>
<case match="{mus_object_production_place_association[.= 'PH']}>
  <triple predicate="bmo:PX_display_wrap" value="Production (Photographed in) :: {mus_object_production_place} :: {mus_object_production_place_note}" />
</case>
<case match="{mus_object_production_place_association[.= 'R']}>
  <triple predicate="bmo:PX_display_wrap" value="Production (Printed in) :: {mus_object_production_place} :: {mus_object_production_place_note}" />

```

```

</case>
<case match="{mus_object_production_place_association[.='Z']}>
  <triple predicate="bmo:PX_display_wrap" value="Production (Published in) :: {mus_object_production_place} :: {mus_object_production_place_note}" />
</case>
</switch>
<counter iterate="true" name="prodCounter"></counter>
</if>

```

<!--  
 PRODUCTION PERSON  
 Produced By Closely Related Group (place of)

AG: Office/studio of  
 AJ: Circle/School of  
 F: Factory of: an industrial or mass product (eg ship, porcelain, etc)  
 O: Official/Office/Dept: unsure what's that, there are only 3 objects  
 W: Workshop of

```

<obj> P108i_was_produced_by <obj/production>.
<obj/production> a E12_Production;
  P9_consists_of <obj/production/M>;
<obj/production/M> a E12_Production; P14_carried_out_by <obj/production/M/group>.
<obj/production/M/group> a E74_Group;
  rdfs:label "[Association Code Label] [Person Label]";
  P107_has_current_or_former_member <person>
  P2_has_type <type>.

```

#### PRODUCTION PLACE

Produced At  
 F: Factory in  
 W: Workshop in

-->

```

<if match="{mus_object_production_person_association[.='AG' or .= 'AJ' or .= 'F' or .= 'O' or .= 'W'] | mus_object_production_place_association[.='F' or .= 'W']}>
<usenamedmapping name="productionConfig"/>

```

<!-- Now create the child production node with the Group & P2 -->

```

<resource>
<if match=".//./mus_obj_parts[.='1']">
  <identifier prefix="&id;object/" value=".//./bm_prn}/production/{counter_prodCounter}" />

```

<!-- carried out by PERSON-->

```

<if match="{mus_object_production_person_association[.!= '']}>
  <triple predicate="crm:P14_carried_out_by" prefix="&id;object/" object=".//./bm_prn}/production/{counter_prodCounter}/group"/>

```

```

</if>
<!-- carried out in PLACE-->
<else>
  <triple predicate="crm:P7_took_place_at" prefix="&id;object/" object=".//bm_prn}/production/{counter_prodCounter}/group"/>
</else>
</if>
<else>
<identifier prefix="&id;object/" value=".//bm_prn}/{mus_obj_parts}/production/{counter_prodCounter}"></identifier>
<!-- carried out by PERSON-->
<if match="{mus_object_production_person_association[.=!]}">
  <triple predicate="crm:P14_carried_out_by" prefix="&id;object/" object=".//bm_prn}/{mus_obj_parts}/production/{counter_prodCounter}/group"/>
</if>
<else>
<!-- carried out in PLACE-->
  <triple predicate="crm:P7_took_place_at" prefix="&id;object/" object=".//bm_prn}/{mus_obj_parts}/production/{counter_prodCounter}/group"/>
</else>
</else>
</resource>
<!-- Define the group resource-->
<resource>
<if match=".//mus_obj_parts[.=!1]">
  <identifier prefix="&id;object/" value=".//bm_prn}/production/{counter_prodCounter}/group" />
</if>
<else>
  <identifier prefix="&id;object/" value=".//bm_prn}/{mus_obj_parts}/production/{counter_prodCounter}/group" />
</else>
<type value="&crm;E74_Group"/>
<switch>
<!-- PRODUCTION PERSON / PRODUCTION PLACE -->
<case match="{mus_object_production_person_association[.=AG]}>
  <triple predicate="rdfs:label" value="Office/Studio of {mus_object_production_person}"/>
  <triple predicate="crm:P2_has_type" prefix="&id;thesauri/group/" object="AG" />
</case>
<case match="{mus_object_production_person_association[.=AJ]}>
  <triple predicate="rdfs:label" value="Circle/School of {mus_object_production_person}"/>
  <triple predicate="crm:P2_has_type" prefix="&id;thesauri/group/" object="AJ" />
</case>
<case match="{mus_object_production_person_association[.=F]}>
  <triple predicate="rdfs:label" value="Factory of {mus_object_production_person}"/>
  <triple predicate="crm:P2_has_type" prefix="&id;thesauri/group/" object="F" />
</case>
<case match="{mus_object_production_person_association[.=O]}>

```

```

<triple predicate="rdfs:label" value="Official/Office/Dept of {mus_object_production_person}"/>
<triple predicate="crm:P2_has_type" prefix="#id;thesauri/group/" object="O" />
</case>
<case match="{mus_object_production_person_association[.= 'W'] | mus_object_production_place_association[.= 'W']}>
<if match="{mus_object_production_person_association[!= '']}>
<triple predicate="rdfs:label" value="Workshop of {mus_object_production_person}"/>
</if>
<else>
<triple predicate="rdfs:label" value="Workshop in {mus_object_production_place}"/>
</else>
<triple predicate="crm:P2_has_type" prefix="#id;thesauri/group/" object="W" />
</case>
<case match="{mus_object_production_place_association[.= 'F']}>
<triple predicate="rdfs:label" value="Factory in {mus_object_production_place}"/>
<triple predicate="crm:P2_has_type" prefix="#id;thesauri/group/" object="F" />
</case>
</switch>
<!-- PRODUCTION PERSON -->
<if match="{mus_object_production_person_association[!= '']}>
<triple predicate="crm:P107_has_current_or_former_member" prefix="#id;person-institution/" object="{mus_authority-bm_auth_biog_number}"/>
</if>
<else>
<!-- PRODUCTION PLACE -->
<triple predicate="crm:P74_has_current_or_former_residence" prefix="#id;place/" object="{mus_object_production_place_th_i}"/>
</else>
</resource>

<!-- Display Wraps-->
<switch>
<case match="{mus_object_production_person_association[.= 'AG']}>
<triple predicate="bmo:PX_display_wrap" value="Production :: Office/Studio of {mus_object_production_person} :: {bm_object_production_person_note}"/>
</case>
<case match="{mus_object_production_person_association[.= 'AJ']}>
<triple predicate="bmo:PX_display_wrap" value="Production :: Circle/School of {mus_object_production_person} :: {bm_object_production_person_note}"/>
</case>
<case match="{mus_object_production_person_association[.= 'F']}>
<triple predicate="bmo:PX_display_wrap" value="Production :: Factory of {mus_object_production_person} :: {bm_object_production_person_note}"/>
</case>
<case match="{mus_object_production_person_association[.= 'O']}>

```

```

<triple predicate="bmo:PX_display_wrap" value="Production :: Official/Office/Dept of {mus_object_production_person} :: {bm_object_production_person_note}" />

</case>
<case match="{mus_object_production_person_association[.= 'W']}>
  <triple predicate="bmo:PX_display_wrap" value="Production :: Workshop of {mus_object_production_person} :: {bm_object_production_person_note}" />
</case>
<!-- PRODUCTION PLACE-->
<case match="{mus_object_production_place_association[.= 'F']}>
  <triple predicate="bmo:PX_display_wrap" value="Production :: Factory in {mus_object_production_place} :: {mus_object_production_place_note}" />
</case>
<case match="{mus_object_production_place_association[.= 'W']}>
  <triple predicate="bmo:PX_display_wrap" value="Production :: Workshop of {mus_object_production_place} :: {mus_object_production_place_note}" />
</case>
</switch>
<counter iterate="true" name="prodCounter"></counter>
</if>
<!-- Produced By Closely Related Group (pupil)
      N: Pupil of

      <obj> P108i_was_produced_by <obj/production>.
      <obj/production> a E12_Production;
      P9_consists_of <obj/production/M>;
      <obj/production/M> a E12_Production; P14_carried_out_by <obj/production/M/pupil>.
      <obj/production/M/group> a E21_Person;
      bmo:PX_pupil_of <person>

      <PX_pupil_of> a owl:ObjectProperty;
      owl:Domain E21_Person; #presumption that the student is a single person
      owl:Range E39_Actor.-->
<if match="{mus_object_production_person_association[.= 'N']}>
<usenamedmapping name="productionConfig"/>

<!-- Now create the child production node with the P14 to the pupil-->
<resource>
<if match=".//./mus_obj_parts[.= '1']">
  <identifier prefix="&id;object/" value=".//./bm_prn/production/{counter_prodCounter}" />
  <triple predicate="crm:P14_carried_out_by" prefix="&id;object/" object=".//./bm_prn/production/{counter_prodCounter}/pupil" />
</if>
<else>
  <identifier prefix="&id;object/" value=".//./bm_prn//./mus_obj_parts/production/{counter_prodCounter}" /></identifier>
  <triple predicate="crm:P14_carried_out_by" prefix="&id;object/" object=".//./bm_prn//./mus_obj_parts/production/{counter_prodCounter}/pupil" />
</else>

```

```

</resource>

<!-- Define the resource for the pupil-->
<resource>
<if match=".//./mus_obj_parts[.=1]">
  <identifier prefix=&id;object/ value=".//./bm_prn}/production/{counter_prodCounter}/pupil" />
</if>
<else>
  <identifier prefix=&id;object/ value=".//./bm_prn}/{.//mus_obj_parts}/production/{counter_prodCounter}/pupil" />
</else>
<type value=&crm;E21_Person/>
<type value=&skos;Concept/>
<triple predicate="skos:inScheme" object=&id;person-institution/>
<triple predicate="skos:prefLabel" value="Pupil of {mus_object_production_person}"/>
<triple predicate="bmo:PX_pupil_of" prefix=&id;person-institution/ object="{mus_authority-bm_auth_biot_number}"/>
</resource>
<triple predicate="bmo:PX_display_wrap" value="Production :: Pupil of {mus_object_production_person} :: {bm_object_production_person_note}"/>
<counter iterate="true" name="prodCounter"/>
</if>

<!--
PRODUCTION PERSON
Probably/Unlikely Produced By
  Probably
    A: Attributed to
    AA: Attributed to an Apprentice/Pupil of
    AB: Ascribed to
    AC: Attributed to the Circle of
    AD: Assigned to
    AW: Attributed to the Workshop of
    CB: Claimed to be by
    Unlikely
      AE: Formerly attributed to: It was thought to be made by the person, but not anymore (there would be another Attributed association)
      <obj>P108i_was_produced_by <obj>production.
      <obj>production a E12_Production;
      P9_consists_of <obj>production/M>.
      <obj>production/M a E12_Production; P14_carried_out_by <person>.
      <obj>production/M/association a bmo:EX_Association;
      P140_assigned_attribute_to <obj>production/M>; P141_assigned <person>; bmo:PX_property P14_carried_out_by;
      PX_liability <type>.
    
```

PRODUCTION PLACE

Probably Produced At  
A: Attributed at  
CF: Claimed to be from  
-->

```

<if match="{mus_object_production_person_association[.=A' or .=AA' or .=AB' or .=AC' or .=AD' or .=AW' or .=CB' or .=AE']}|mus_object_production_place_association[.=A' or .=CF']">
<usenamedmapping name="productionConfig"/>

<!-- Child Production node with the P14-->
<resource>
<if match=".//./mus_obj_parts[.=1']">
<identifier prefix=&id;object/" value=".//./bm_prn}/production/{counter_prodCounter}" />
</if>
<else>
<identifier prefix=&id;object/" value=".//./bm_prn}/{.//mus_obj_parts}/production/{counter_prodCounter}" /></identifier>
</else>

<!-- PRODUCTION PERSON PROBABLY...-->
<if match="{mus_object_production_person_association[.!=""]}>
<triple predicate="crm:P14_carried_out_by" prefix=&id;person-institution/" object="{mus_authority-bm_auth_biog_number}" />
</if>
<else>
<!-- PRODUCTION PLACE PROBABLY....-->
<triple predicate="crm:P7_took_place_at" prefix=&id;place/" object="{mus_object_production_place_th_i}" />
</else>
</resource>

<!-- Reification statement-->
<resource>
<if match=".//./mus_obj_parts[.=1']">
<identifier prefix=&id;object/" value=".//./bm_prn}/production/{counter_prodCounter}/association" />
</if>
<else>
<identifier prefix=&id;object/" value=".//./bm_prn}/{.//mus_obj_parts}/production/{counter_prodCounter}/association" />
</else>
<type value=&bmo;EX_Association"/>
<triple predicate="crm:P140_assigned_attribute_to" prefix=&id;object/" object="production/{counter_prodCounter}" />
<triple predicate="crm:P141_assigned" prefix=&id;person-institution/" object="{mus_authority-bm_auth_biog_number}" />

<!-- PRODUCTION PERSON PROBABLY...-->
<if match="{mus_object_production_person_association[.!=""]}>
<triple predicate="bmo:PX_property" prefix=&crm;" object="P14_carried_out_by" />
</if>

```

```

<else>
  <!-- PRODUCTION PLACE PROBABLY...-->
  <triple predicate="bmo:PX_property" prefix="#crm;" object="P7_took_place_at"/>
</else>

<switch>
  <case match="{mus_object_production_person_association[.=A']|mus_object_production_place_association[.=A']}">
    <triple predicate="crm:P2_has_type" object="#id;thesauri/likelihood/A"/>
  </case>
  <case match="{mus_object_production_person_association[.=AA']}">
    <triple predicate="crm:P2_has_type" object="#id;thesauri/likelihood/AA"/>
  </case>
  <case match="{mus_object_production_person_association[.=AB']}">
    <triple predicate="crm:P2_has_type" object="#id;thesauri/likelihood/AB"/>
  </case>
  <case match="{mus_object_production_person_association[.=AC']}">
    <triple predicate="crm:P2_has_type" object="#id;thesauri/likelihood/AC"/>
  </case>
  <case match="{mus_object_production_person_association[.=AD']}">
    <triple predicate="crm:P2_has_type" object="#id;thesauri/likelihood/AD"/>
  </case>
  <case match="{mus_object_production_person_association[.=AW']}">
    <triple predicate="crm:P2_has_type" object="#id;thesauri/likelihood/AW"/>
  </case>
  <case match="{mus_object_production_person_association[.=CB']|mus_object_production_place_association[.=CF']}">
    <triple predicate="crm:P2_has_type" object="#id;thesauri/likelihood/CB"/>
  </case>
  <case match="{mus_object_production_person_association[.=AE']}">
    <triple predicate="crm:P2_has_type" object="#id;thesauri/likelihood/AE"/>
  </case>
</switch>
</resource>

<!-- Display Wraps-->
<switch>
  <case match="{mus_object_production_person_association[.=A']|mus_object_production_place_association[.=A']}">
    <if match="{mus_object_production_person_association[.!=]}">
      <triple predicate="bmo:PX_display_wrap" value="Production (Likely/Unlikely):: Attributed to {mus_object_production_person} :: {bm_object_production_person_note}"/>
    </if>
    <else>
      <triple predicate="bmo:PX_display_wrap" value="Production (Likely/Unlikely):: Attributed in {mus_object_production_place} :: {mus_object_production_place_note}"/>
    </else>
  </case>
</switch>

```

```

</case>
<case match="{mus_object_production_person_association[.= 'AA']}>
  <triple predicate="bmo:PX_display_wrap" value="Production (Likely/Unlikely):: Attributed to an apprentice / pupil of {mus_object_production_person} :: {bm_object_production_person_note}" />
</case>
<case match="{mus_object_production_person_association[.= 'AB']}>
  <triple predicate="bmo:PX_display_wrap" value="Production (Likely/Unlikely):: Ascribed {mus_object_production_person} :: {bm_object_production_person_note}" />
</case>
<case match="{mus_object_production_person_association[.= 'AC']}>
  <triple predicate="bmo:PX_display_wrap" value="Production (Likely/Unlikely):: Attributed to the Circle of {mus_object_production_person} :: {bm_object_production_person_note}" />
</case>
<case match="{mus_object_production_person_association[.= 'AD']}>
  <triple predicate="bmo:PX_display_wrap" value="Production (Likely/Unlikely):: Assigned to {mus_object_production_person} :: {bm_object_production_person_note}" />
</case>
<case match="{mus_object_production_person_association[.= 'AW']}>
  <triple predicate="bmo:PX_display_wrap" value="Production (Likely/Unlikely):: Attributed to the Workshop of {mus_object_production_person} :: {bm_object_production_person_note}" />
</case>
<case match="{mus_object_production_person_association[.= 'CB'] | mus_object_production_place_association[.= 'CF']}>
  <if match="{mus_object_production_person_association[.!= '']}>
    <triple predicate="bmo:PX_display_wrap" value="Production (Likely/Unlikely):: Claimed to be {mus_object_production_person} :: {bm_object_production_person_note}" />
  </if>
  <else>
    <triple predicate="bmo:PX_display_wrap" value="Production (Likely/Unlikely):: Claimed to be {mus_object_production_place} :: {mus_object_production_place_note}" />
  </else>
</case>
<case match="{mus_object_production_person_association[.= 'AE']}>
  <triple predicate="bmo:PX_display_wrap" value="Production (Likely/Unlikely):: Formerly attributed to {mus_object_production_person} :: {bm_object_production_person_note}" />
</case>
</switch>
<counter iterate="true" name="prodCounter"/>
</if>
<!-- Inscription Created By-->
<if match="{mus_object_production_person_association[.= 'IR' or .= 'LE']}>
  <usenamedmapping name="inscriptionConfig"/>
<!-- Define the resource to say it is both a man made feature & inscription and so we can say some more things about it...-->
<resource>
  <if match=".//./mus_obj_parts[.= '1']">
    <identifier prefix="#id;object/" value=".//./bm_prn/inscription/{counter_inscriptionCounter}" /></identifier>
    <triple object="#id;object/.//./bm_prn/inscription/{counter_inscriptionCounter}/creation" predicate="crm:P94i_was_created_by" /></triple>
  </if>
  <else>
    <identifier prefix="#id;object/" value=".//./bm_prn//{..//mus_obj_parts}/inscription/{counter_inscriptionCounter}" /></identifier>
    <triple object="#id;object/.//./bm_prn//{..//mus_obj_parts}/inscription/{counter_inscriptionCounter}/creation" predicate="crm:P94i_was_created_by" /></triple>
  </else>
</resource>

```

```

</else>
<resource>
<type value="&crm;E65_Creation"/>
<if match=".//./mus_obj_parts[.=1]">
<identifier value="&id;object/.//./bm_prn}/inscription/{counter_inscriptionCounter}/creation"></identifier>
</if>
<else>
<identifier value="&id;object/.//./bm_prn}/{././/mus_obj_parts}/inscription/{counter_inscriptionCounter}/creation"></identifier>
</else>
<triple object="{mus_authority-bm_auth_biog_number" predicate="crm:P14_carried_out_by" prefix="&id;person-institution/"></triple>
<if match="{mus_object_production_person_association[.=IR]}">
<triple predicate="crm:P2_has_type" prefix="&id;thesauri/production/" object="IR"/>
</if>
<else>
<triple predicate="crm:P2_has_type" prefix="&id;thesauri/production/" object="LE"/>
</else>
</resource>
</resource>
<triple predicate="bmo:PX_display_wrap" value="Carries an inscription which was created by :: {mus_object_production_person} :: {bm_object_production_person_note}"></triple>
<counter iterate="true" name="inscriptionCounter"></counter>
</if>
<!-- Retailed By / Retailed In
      RT: Originally retailed by: eg Barbie dolls are retailed by Mattell
      TODO Josh: Create an Activity which represents the retail (use P2_has_type). The URI can be <obj/retail>.
      Retailed In
      -->
<if match="{mus_object_production_person_association[.=RT]}|{mus_object_production_place_association[.=RT]}">
<if match=".//./mus_obj_parts[.=1]">
<triple predicate="crm:P12i_was_present_at" prefix="&id;object/" object=".//./bm_prn}/retail"/>
</if>
<else>
<triple predicate="crm:P12i_was_present_at" prefix="&id;object/" object=".//./bm_prn}/{././/mus_obj_parts}/retail"/>
</else>

<resource>
<if match=".//./mus_obj_parts[.=1]">
<identifier prefix="&id;object/" value=".//./bm_prn}/retail"/>
</if>
<else>
<identifier prefix="&id;object/" value=".//./bm_prn}/{././/mus_obj_parts}/retail"/>
</else>
<type value="&crm;E7_Activity"/>

```

```

<triple predicate="crm:P2_has_type" prefix="&id;thesauri/production/" object="RT"/>

<!-- Where it was retailed-->
<if match="{mus_object_production_place_th_i[.!=']}">
  <triple predicate="crm:P7_took_place_at" prefix="&id;place/" object="{mus_object_production_place_th_i}"/>
</if>
<!-- Who retailed it-->
<else>
  <triple predicate="crm:P14_carried_out_by" prefix="&id;person-institution/" object="{mus_authority-bm_auth_biog_number}"/>
</else>
</resource>

<!-- Display Wrap-->
<if match="{mus_object_production_place_th_i[.!=']}">
  <triple predicate="bmo:PX_display_wrap" value="Retailed (In) :: {mus_object_production_place} :: {mus_object_production_place_note}"/>
</if>
<else>
  <triple predicate="bmo:PX_display_wrap" value="Retailed (By) :: {mus_object_production_person} :: {bm_object_production_person_note}"/>
</else>
</if>
<!--
PRODUCTION PERSON
Part Made By
      MB: Bell made by
      MC: Case made by
      MD: Dial made by
      ME: Ebauche maker
      MM: Movement made by
      MP: Watch pendant made by
      MQ: Dust-cap maker

      DM: Medal designed and made by
      D: Designed by, M: Made by
      This association code is used only with medal objects (not that the object has a part with a
medal, like 'Bell Made By')

It has been advised that the 'Part Made By' and 'Part Made In' are generally the same production instance when recorded in Merlin (as the association code is so specific).
Therefore the production events will be merged by assigning the same URI the production node: <obj/production/PART-NAME>
In order to maintain the production of the part and to reduce the number of production events here is the proposed modelling:
#Object has a production with a sub-event
<obj> P108i_was_produced_by <obj/production>.
<obj/production> a E12_Production;
P9_consists_of <obj/production/PART-NAME>;

```

```

#Object has a part and was produced by the sub-event of the main production event
<obj/part/PART-NAME> a E22_Man-Made_Object; P46i_forms_part_of <obj>.
P2_has_type <type>;
P108i_was_produced_by <obj/production/PART-NAME>;

#Now define the production node
<obj/production/PART-NAME> a E12_Production;
P14_carried_out_by <person>;
#OPTIONAL (using Production Association Code Made)
P2_has_type <id:thesauri/production/M>.
Here the type translation removes "made by" and leaves only the part type (eg Bell).

```

#### Part Made In

MB: Bell made in  
 MC: Case made in  
 MD: Dial made in  
 ME: Ebauche made in  
 MM: Movement made in  
 MP: Watch pendant made in  
 MQ: Dust-cap made in

Similar to Part Made By:

```

<obj/production/PART-NAME> a E12_Production;
P7_took_place_at <place>.
#OPTIONAL (using Production Association Code Made)
P2_has_type <id:thesauri/production/M>.
-->

```

```

<if match="{mus_object_production_person_association[.= 'MB' or .= 'MC' or .= 'MD' or .= 'ME' or .= 'MM' or .= 'MP' or .= 'MQ' or .= 'DM'] | mus_object_production_place_association[.= 'MB' or .= 'MC' or .= 'MD' or .= 'ME' or .= 'MM' or .= 'MP' or .= 'MQ']}>

<if match=".//./mus_obj_parts[.= '1']">
<triple predicate="crm:P46_is_composed_of" prefix="&id;object/" object=".//./bm_prn}/part/{counter_objectPart}"/>
<triple predicate="crm:P108i_was_produced_by" prefix="&id;object/" object=".//./bm_prn}/production"/>
</if>
<else>
<triple predicate="crm:P46_is_composed_of" prefix="&id;object/" object=".//./bm_prn}/.{./mus_obj_parts}/part/{counter_objectPart}"/>
<triple predicate="crm:P108i_was_produced_by" prefix="&id;object/" object=".//./bm_prn}/.{./mus_obj_parts}/production"/>
</else>

```

```

<!-- Production Parent-->
<resource>
<if match=".//./mus_obj_parts[.=1]">
<identifier prefix="&id;object/" value=".//./bm_prn/production"/>
<triple predicate="crm:P9_consists_of" prefix="&id;object/" object=".//./bm_prn/part/{counter_objectPart}/production/{counter_objectPartProduction}"/>
</if>
<else>
<identifier prefix="&id;object/" value=".//./bm_prn/.//mus_obj_parts/production"/>
<triple predicate="crm:P9_consists_of" prefix="&id;object/" object=".//./bm_prn/.//mus_obj_parts/part/{counter_objectPart}/production/{counter_objectPartProduction}"/>
</else>
<type value="&crm;E12_Production"/>
</resource>

<!-- Object Part Node-->
<resource>
<if match=".//./mus_obj_parts[.=1]">
<identifier prefix="&id;object/" value=".//./bm_prn/part/{counter_objectPart}"/>
<triple predicate="crm:P108i_was_produced_by" prefix="&id;object/" object=".//./bm_prn/part/{counter_objectPart}/production/{counter_objectPartProduction}"/>
</if>
<else>
<identifier prefix="&id;object/" value=".//./bm_prn/.//mus_obj_parts/part/{counter_objectPart}"/>
<triple predicate="crm:P108i_was_produced_by" prefix="&id;object/" object=".//./bm_prn/.//mus_obj_parts/part/{counter_objectPart}/production/{counter_objectPartProduction}"/>
</else>
<type value="&crm;E22_Man-Made_Object"/>

<!-- The object part's production -->
<resource>
<if match=".//./mus_obj_parts[.=1]">
<identifier prefix="&id;object/" value=".//./bm_prn/part/{counter_objectPart}/production/{counter_objectPartProduction}"/>
</if>
<else>
<identifier prefix="&id;object/" value=".//./bm_prn/.//mus_obj_parts/part/{counter_objectPart}/production/{counter_objectPartProduction}"/>
</else>
<type value="&crm;E12_Production"/>

<!-- Add the made type-->
<triple predicate="crm:P2_has_type" prefix="&id;thesauri/production/" object="M"/>

<!-- If it's DM prod person, add the designed by as well-->
<if match="mus_object_production_person_association[.=DM]">
<triple predicate="crm:P2_has_type" prefix="&id;thesauri/production/" object="D"/>
</if>

```

```

<!-- Part Made in-->
<if match="{mus_object_production_place_th_i[.!='']}>
  <triple predicate="crm:P7_took_place_at" prefix="&id;place/" object="{mus_object_production_place_th_i}"/>
</if>
<!-- Part Made by-->
<else>
  <triple predicate="crm:P14_carried_out_by" prefix="&id;person-institution/" object="{mus_authority-bm_auth_biot_number}"/>
</else>
</resource>

<switch>
<!-- Bell made by -->
<case match="{mus_object_production_person_association[.='MB']|mus_object_production_place_association[.='MB']}>
  <triple predicate="crm:P2_has_type" prefix="&id;thesauri/" object="x12541"/>
</case>
<!-- Case made by -->
<case match="{mus_object_production_person_association[.='MC']|mus_object_production_place_association[.='MC']}>
  <triple predicate="crm:P2_has_type" prefix="&id;thesauri/" object="x5827"/>
</case>
<!-- Dial made by -->
<case match="{mus_object_production_person_association[.='MD']|mus_object_production_place_association[.='MD']}>
  <triple predicate="crm:P2_has_type" prefix="&id;thesauri/" object="x6411"/>
</case>
<!-- Ebauche made by -->
<case match="{mus_object_production_person_association[.='ME']|mus_object_production_place_association[.='ME']}>
  <triple predicate="crm:P2_has_type" prefix="&id;thesauri/" object="x6622"/>
</case>
<!-- Movement made by
      Watch pendant made by
      -->
<case match="{mus_object_production_person_association[.='MM' or .=('MP')]|mus_object_production_place_association[.='MM' or .=('MP')]}>
  <triple predicate="crm:P2_has_type" prefix="&id;thesauri/object/" object="{mus_object_production_person_association}"/>
</case>
<!-- Dust-cup made by -->
<case match="{mus_object_production_person_association[.='MQ']|mus_object_production_place_association[.='MQ']}>
  <triple predicate="crm:P2_has_type" prefix="&id;thesauri/" object="x6596"/>
</case>
</switch>
</resource>

<!-- Display Wrap-->

```

```

<if match="{mus_object_production_place_th_i[.!=']}">
  <triple predicate="bmo:PX_display_wrap" value="Part Made (In) :: {mus_object_production_place} :: {mus_object_production_place_note}" />
</if>
<else>
  <triple predicate="bmo:PX_display_wrap" value="Part Made (By) :: {mus_object_production_person} :: {bm_object_production_person_note}" />
</else>

<!-- Increment the counter as we have used it-->
<counter name="objectPart" iterate="true"/>
<counter name="objectPartProduction" iterate="true"/>
</if>

<!-- Influenced By

      AF: Attributed to a Follower of
      AI: Attributed to an Imitator of
      AL: Manner/Style of
      AM: Attributed to the Manner of
      AT: After
      C: Close to
      CF: Compare with
      CM: Connected with the Manner of
      CW: Connected with
      S: School of/style of
      RE: Related to
      NE: Near: means the same as "In the style of"
      RC: Recalls

      <obj> P108i_was_produced_by <obj/production>.
      <obj/production> a E12_Production;
      P9_consists_of <obj/production/M>.
      <obj/production/M> a E12_Production; P15_was_influenced_by <person>.
      <obj/production/M/association> a bmo:EX_Association;
      P140_assigned_attribute_to <obj/production/M>; P141_assigned <person>; bmo:PX_property P15_was_influenced_by;
      P2_has_type <type>.-->

<if match="{mus_object_production_person_association[ .='AF' or .='AI' or .='AL' or .='AM' or .='AT' or .='C' or .='CF' or .='CM' or .='CW' or .='S' or .='RE' or .='NE' or .='RC']}">
  <usenamedmapping name="productionConfig"/>

<!-- Add the P2 & P15 to the child production-->
<resource>
  <if match=".//../{mus_obj_parts[.=1]}">
    <identifier prefix="#id;object/" value=".//..//bm_prn}/production/{counter_prodCounter}" />
  </if>

```

```

<else>
  <identifier prefix="#id;object/" value="#{../../bm_prn}/{../mus_obj_parts}/production/{counter_prodCounter}" />
</else>
<triple predicate="crm:P15_was_influenced_by" prefix="#id;person-institution/" object="{mus_authority-bm_auth_biog_number}"/>

<switch>
  <case match="{mus_object_production_person_association[.='AF']}">
    <triple predicate="crm:P2_has_type" prefix="#id;thesauri/production/" object="AF"/>
  </case>
  <case match="{mus_object_production_person_association[.='AI']}">
    <triple predicate="crm:P2_has_type" prefix="#id;thesauri/production/" object="AI"/>
  </case>
  <case match="{mus_object_production_person_association[.='AL']}">
    <triple predicate="crm:P2_has_type" prefix="#id;thesauri/production/" object="AL"/>
  </case>
  <case match="{mus_object_production_person_association[.='AM']}">
    <triple predicate="crm:P2_has_type" prefix="#id;thesauri/production/" object="AM"/>
  </case>
  <case match="{mus_object_production_person_association[.='AT']}">
    <triple predicate="crm:P2_has_type" prefix="#id;thesauri/production/" object="AT"/>
  </case>
  <case match="{mus_object_production_person_association[.='C']}">
    <triple predicate="crm:P2_has_type" prefix="#id;thesauri/production/" object="C"/>
  </case>
  <case match="{mus_object_production_person_association[.='CF']}">
    <triple predicate="crm:P2_has_type" prefix="#id;thesauri/production/" object="CF"/>
  </case>
  <case match="{mus_object_production_person_association[.='CM']}">
    <triple predicate="crm:P2_has_type" prefix="#id;thesauri/production/" object="CM"/>
  </case>
  <case match="{mus_object_production_person_association[.='CW']}">
    <triple predicate="crm:P2_has_type" prefix="#id;thesauri/production/" object="CW"/>
  </case>
  <case match="{mus_object_production_person_association[.='S']}">
    <triple predicate="crm:P2_has_type" prefix="#id;thesauri/production/" object="S"/>
  </case>
  <case match="{mus_object_production_person_association[.='RE']}">
    <triple predicate="crm:P2_has_type" prefix="#id;thesauri/production/" object="RE"/>
  </case>
  <case match="{mus_object_production_person_association[.='NE']}">
    <triple predicate="crm:P2_has_type" prefix="#id;thesauri/production/" object="NE"/>
  </case>

```

```

<case match="{mus_object_production_person_association[.= 'RC']}">
  <triple predicate="crm:P2_has_type" prefix="#id;thesauri/production/" object="RC"/>
</case>
</switch>
</resource>

<switch>
<case match="{mus_object_production_person_association[.= 'AF']}">
  <triple predicate="bmo:PX_display_wrap" value="Production (Influenced by) :: Attributed to a Follower of {mus_object_production_person} :: {bm_object_production_person_note}"/>
</case>
<case match="{mus_object_production_person_association[.= 'AI']}">
  <triple predicate="bmo:PX_display_wrap" value="Production (Influenced by) :: Attributed to an Imitator of {mus_object_production_person} :: {bm_object_production_person_note}"/>
</case>
<case match="{mus_object_production_person_association[.= 'AL']}">
  <triple predicate="bmo:PX_display_wrap" value="Production (Influenced by) :: Manner/Style of {mus_object_production_person} :: {bm_object_production_person_note}"/>
</case>
<case match="{mus_object_production_person_association[.= 'AM']}">
  <triple predicate="bmo:PX_display_wrap" value="Production (Influenced by) :: Attributed to the Manner of {mus_object_production_person} :: {bm_object_production_person_note}"/>
</case>
<case match="{mus_object_production_person_association[.= 'AT']}">
  <triple predicate="bmo:PX_display_wrap" value="Production (Influenced by) :: After {mus_object_production_person} :: {bm_object_production_person_note}"/>
</case>
<case match="{mus_object_production_person_association[.= 'C']}">
  <triple predicate="bmo:PX_display_wrap" value="Production (Influenced by) :: Close to {mus_object_production_person} :: {bm_object_production_person_note}"/>
</case>
<case match="{mus_object_production_person_association[.= 'CF']}">
  <triple predicate="bmo:PX_display_wrap" value="Production (Influenced by) :: Compare with {mus_object_production_person} :: {bm_object_production_person_note}"/>
</case>
<case match="{mus_object_production_person_association[.= 'CM']}">
  <triple predicate="bmo:PX_display_wrap" value="Production (Influenced by) :: Connected with the Manner of {mus_object_production_person} :: {bm_object_production_person_note}"/>
</case>
<case match="{mus_object_production_person_association[.= 'CW']}">
  <triple predicate="bmo:PX_display_wrap" value="Production (Influenced by) :: Connected with {mus_object_production_person} :: {bm_object_production_person_note}"/>
</case>
<case match="{mus_object_production_person_association[.= 'S']}">
  <triple predicate="bmo:PX_display_wrap" value="Production (Influenced by) :: School of/style of {mus_object_production_person} :: {bm_object_production_person_note}"/>
</case>
<case match="{mus_object_production_person_association[.= 'RE']}">
  <triple predicate="bmo:PX_display_wrap" value="Production (Influenced by) :: Related to {mus_object_production_person} :: {bm_object_production_person_note}"/>
</case>
<case match="{mus_object_production_person_association[.= 'NE']}">
  <triple predicate="bmo:PX_display_wrap" value="Production (Influenced by) :: Near {mus_object_production_person} :: {bm_object_production_person_note}"/>
</case>

```

```

</case>
<case match="{mus_object_production_person_association[.='RC']}>
  <triple predicate="bmo:PX_display_wrap" value="Production (Influenced by) :: Recalls {mus_object_production_person} :: {bm_object_production_person_note}" />
</case>
</switch>

<counter iterate="true" name="prodCounter"/>
</if>

</mapping>

<!-- MATERIALS
      materials used in production of this part
      -->
<mapping match="{mus_alias_material/_}">
  <triple object="{mus_material_th_j}" predicate="crm:P45_consists_of" prefix="&id;thesauri/" /></triple>
  <triple predicate="bmo:PX_display_wrap" value="Consists of :: {mus_material} :: {bm_material_note}" /></triple>
</mapping>

<!-- BIBLIOGRAPHY REFERENCES
      bibliographic items associated with this object -->
<mapping match="{bm_alias_bib_xref/_}">
  <triple object="{bm_bib_xref_id}" predicate="crm:P70i_is_documented_in" prefix="&id;bibliography/" /></triple>
  <triple predicate="bmo:PX_display_wrap" value="Bibliographic reference :: {bm_bib_xref} {bm_bib_spec} :: {bm_bib_com}" /></triple>
</mapping>

<!-- FINDSPOT -->
<mapping match="{mus_alias_field_collection_place/_}">
  <usenamedmapping name="discoveryConfig" />
</mapping>

<!-- INSCRIPTION
      Every inscription will be its own resource-->

<!--special case of object production person for inscriptions:
      Merlin does not record which inscription this person made - therefore we will:
      - Model a resource for the inscription they did (/id/object/[aspect/part]/inscription/1
      - say it has a creation
      - that creation was done by the person

```

Joshan Mahmud / Vladimir Alexiev- 03/07/2012

This has been modeled as a E65\_Creation instance rather than a production instance as the inscription is a conceptual object

In the next section looking at mus\_alias\_inscription we will continue with modeling inscriptions (/inscription/2, /inscription/3...etc) but when the information comes when we know which inscription was done by which person we can use sameAs to relate inscriptions together.  
See below for the use of man made feature  
-->

<!-- v1 comment:details of inscription(s). Some inscriptions are multi-part, whereas if mus\_inscription\_position is empty then those details refer to the inscription as a whole (such as in the case of objects/parts)

v2 comment:Although the above is true, it is not really known which are multi-part as the position field of 2 different inscriptions may not be of the same inscription. Therefore, as per Martin Doerr's comments regarding the position:

Martin Doerr - 29/02/2011:

"If we talk about the physical attributes of an inscription, such as the technique by which it was made, we talk about a Physical Feature, more specifically, the object "P56 bears feature (is found on): E25 Man-Made Feature" The feature in turn P65\_shows\_visual\_item . E34 Inscription.

The position on the object could be modeled as you suggest by P59\_has\_section : E53 Place. P53F is former or current location of : E25 Man-Made Feature . However, I would regard explicit modelling of the Place as an overkill: Hardly will there be a query across objects such as "find all objects which have an inscription in the upper left corner". Since it is currently a text field, I'd leave it as a note at the E25."

Also, Vladimir Alexiev has suggested that the Inscription can have both conceptual and physical attributes. This can be achieved by making the inscription resource be the E34 Inscription and the E25 Physical attribute.

Therefore, we'll make the feature and the inscription the same thing, and put a label on it to mark the position. We'll then create a place on the object to make a section and use P53\_has\_former\_or\_current\_location to connect the inscription to the place.

Joshan Mahmud / Vladimir Alexiev- 03/07/2012  
Feature has been removed and instead the position is just a comment.

-->

```
<mapping match="{mus_alias_inscription/_}">
<!-- Do basic inscription stuff-->
<usenamedmapping name="inscriptionConfig"/>

<!-- Define the resource to say it is both a man made feature & inscription and so we can say some more things about it...-->
<resource>
<if match=".//mus_obj_parts[.=1']">
<identifier prefix="&id;object/" value=".//bm_prn}/inscription/{counter_inscriptionCounter}"></identifier>
</if>
<else>
```

```

<identifier prefix="&id;object/" value=".//..../bm_prn}/{counter_inscriptionCounter}"></identifier>
</else>
<!-- Now grab the all of the inscription subjects and apply them - this is incorrect in Merlin but will do for now-->
<mapping match=".//bm_alias_inscription_subject/_">
<switch>
<case match="{bm_inscription_subject[.=administrative]}">
<triple predicate="bmo:PX_inscription_subject" prefix="&id;thesauri/inscription-subject/" object="administrative"/>
</case>
<case match="{bm_inscription_subject[.=anra_motif]}">
<triple predicate="bmo:PX_inscription_subject" prefix="&id;thesauri/inscription-subject/" object="anra-motif"/>
</case>
<case match="{bm_inscription_subject[.=catalogue]}">
<triple predicate="bmo:PX_inscription_subject" prefix="&id;thesauri/inscription-subject/" object="catalogue"/>
</case>
<case match="{bm_inscription_subject[.=commemorative]}">
<triple predicate="bmo:PX_inscription_subject" prefix="&id;thesauri/inscription-subject/" object="commemorative"/>
</case>
<case match=".//bm_inscription_subject[.=construction]">
<triple predicate="bmo:PX_inscription_subject" prefix="&id;thesauri/inscription-subject/" object="construction"/>
</case>
<case match=".//bm_inscription_subject[.=dedicatory]">
<triple predicate="bmo:PX_inscription_subject" prefix="&id;thesauri/inscription-subject/" object="dedicatory"/>
</case>
<case match=".//bm_inscription_subject[.=educational]">
<triple predicate="bmo:PX_inscription_subject" prefix="&id;thesauri/inscription-subject/" object="educational"/>
</case>
<case match=".//bm_inscription_subject[.=epistolary]">
<triple predicate="bmo:PX_inscription_subject" prefix="&id;thesauri/inscription-subject/" object="epistolary"/>
</case>
<case match=".//bm_inscription_subject[.=epitaph]">
<triple predicate="bmo:PX_inscription_subject" prefix="&id;thesauri/inscription-subject/" object="epitaph"/>
</case>
<case match=".//bm_inscription_subject[.=financial]">
<triple predicate="bmo:PX_inscription_subject" prefix="&id;thesauri/inscription-subject/" object="financial"/>
</case>
<case match=".//bm_inscription_subject[.=funerary]">
<triple predicate="bmo:PX_inscription_subject" prefix="&id;thesauri/inscription-subject/" object="funerary"/>
</case>
<case match=".//bm_inscription_subject[.=invocation]">
<triple predicate="bmo:PX_inscription_subject" prefix="&id;thesauri/inscription-subject/" object="invocation"/>
</case>
<case match=".//bm_inscription_subject[.=legal]">

```

```

<triple predicate="bmo:PX_inscription_subject" prefix="#id;thesauri/inscription-subject/" object="legal"/>
</case>
<case match="{bm_inscription_subject[.=list]}>
  <triple predicate="bmo:PX_inscription_subject" prefix="#id;thesauri/inscription-subject/" object="list"/>
</case>
<case match="{bm_inscription_subject[.=literary]}>
  <triple predicate="bmo:PX_inscription_subject" prefix="#id;thesauri/inscription-subject/" object="literary"/>
</case>
<case match="{bm_inscription_subject[.=magical]}>
  <triple predicate="bmo:PX_inscription_subject" prefix="#id;thesauri/inscription-subject/" object="magical"/>
</case>
<case match="{bm_inscription_subject[.=administrative]}>
  <triple predicate="bmo:PX_inscription_subject" prefix="#id;thesauri/inscription-subject/" object="administrative"/>
</case>
<case match="{bm_inscription_subject[.=mathematical]}>
  <triple predicate="bmo:PX_inscription_subject" prefix="#id;thesauri/inscription-subject/" object="mathematical"/>
</case>
<case match="{bm_inscription_subject[.=medical]}>
  <triple predicate="bmo:PX_inscription_subject" prefix="#id;thesauri/inscription-subject/" object="medical"/>
</case>
<case match="{bm_inscription_subject[.=motto]}>
  <triple predicate="bmo:PX_inscription_subject" prefix="#id;thesauri/inscription-subject/" object="motto"/>
</case>
<case match="{bm_inscription_subject[.=offering formula]}>
  <triple predicate="bmo:PX_inscription_subject" prefix="#id;thesauri/inscription-subject/" object="offering-formula"/>
</case>
<case match="{bm_inscription_subject[.=omen]}>
  <triple predicate="bmo:PX_inscription_subject" prefix="#id;thesauri/inscription-subject/" object="omen"/>
</case>
<case match="{bm_inscription_subject[.=private]}>
  <triple predicate="bmo:PX_inscription_subject" prefix="#id;thesauri/inscription-subject/" object="private"/>
</case>
<case match="{bm_inscription_subject[.=religious]}>
  <triple predicate="bmo:PX_inscription_subject" prefix="#id;thesauri/inscription-subject/" object="religious"/>
</case>
<case match="{bm_inscription_subject[.=ritual]}>
  <triple predicate="bmo:PX_inscription_subject" prefix="#id;thesauri/inscription-subject/" object="ritual"/>
</case>
<case match="{bm_inscription_subject[.=royal]}>
  <triple predicate="bmo:PX_inscription_subject" prefix="#id;thesauri/inscription-subject/" object="royal"/>
</case>
<case match="{bm_inscription_subject[.=scientific]}>
```

```

<triple predicate="bmo:PX_inscription_subject" prefix="&id;thesauri/inscription-subject/" object="scientific"/>
</case>
</switch>
</mapping>

<!--Qualifyign the Inscription-->
<triple predicate="bmo:PX_inscription_type" prefix="&id;thesauri/inscription/" object="{mus_inscription_type}" />

<!--Setting the label of the inscription to the inscription content field-->
<triple predicate="rdfs:label" value="{mus_inscription_content}" />
<triple predicate="rdfs:label" value="{mus_inscription_translation}" language="en" />

<!--Add inscription position as a PX_Inscription_position - not using label as not to confuse with the inscription content -->
<if match="{mus_inscription_position[.!=""]}">
  <triple predicate="bmo:PX_inscription_position" value="{mus_inscription_position}" /></triple>
</if>

<!--if we have a non-empty inscription language -->
<if match="{mus_inscription_language[.!=""]}">
  <triple modifier="strToLower" object="{mus_inscription_language}" predicate="crm:P72_has_language" prefix="&id;thesauri/language/" /></triple>
</if>

<!--if we have a non-empty script type-->
<if match="{mus_inscription_script[.!=""]}">
  <triple modifier="strToLower" object="{mus_inscription_script}" predicate="bmo:PX_inscription_script" prefix="&id;thesauri/script/" /></triple>
</if>

<!--do we have a translation? -->
<if match="{mus_inscription_translation[.!=""]}">
  <if match=".//./mus_obj_parts[.=1]">
    <triple object=".//./bm_prn}/inscription/{counter_inscriptionCounter}/translation" predicate="crm:P73_has_translation" prefix="&id;object/" /></triple>
  </if>
  <else>
    <triple object=".//./bm_prn}/.//./mus_obj_parts}/inscription/{counter_inscriptionCounter}/translation" predicate="crm:P73_has_translation" prefix="&id;object/" /></triple>
  </else>
</if>

<resource>
  <type value="&crm;E33_Linguistic_Object" /></type>
  <if match=".//./mus_obj_parts[.=1]">
    <identifier prefix="&id;object/" value=".//./bm_prn}/inscription/{counter_inscriptionCounter}/translation" /></identifier>
  </if>
  <else>

```

```

<identifier prefix="&id;object/" value=".//.//bm_prn//.//mus_obj_parts/incription/{counter_inscriptionCounter}/translation"></identifier>
</else>
<triple predicate="rdfs:label" value="{mus_inscription_translation}" language="en"></triple>
</resource>
</if>
<triple predicate="bmo:PX_has_transliteration" value="{mus_inscription_transliteration}"></triple>
<!-- ?? Do we want to use P139_has_alternative_form instead? -->

<triple predicate="crm:P3_has_note" value="{bm_inscription_note}" />
</resource>
<triple predicate="bmo:PX_display_wrap" value="Inscription note :: {bm_inscription_note}"></triple>
<counter iterate="true" name="inscriptionCounter"></counter>
</mapping>

```

<!-- PRODUCTION AUTHORITY

Production Motivated By

E: Eponym: according to wikipedia, it means something like Inventor, but BM uses it as the others below

G: Governor

I: Issuer

K: Ruler

Y: Magistrate

Notes:

M: Moneyer: is mapped the same as Production Person=G: Moneyer

```

<obj> P108i_was_produced_by <obj/production>.
<obj/production> a E12_Production;
P9_consists_of <obj/production/M>.
<obj/production/M> a E12_Production; P17_was_motivated_by <person>.
<obj/production/M/association> a bmo:EX_Association;
P140_assigned_attribute_to <obj/production/M>; P141_assigned <person>; bmo:PX_property P17_was_motivated_by;
P2_has_type <type>.

```

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
M: Moneyer: is mapped the same as Production Person=G: Moneyer - see PRODUCTION PERSON
                                         M has been excluded here
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
```

ALSO

Associated Person -
  
Made For Person

F: Made for  
 PP: Authorised or patronised by  
 Map the same as Production Motivated By

ALSO  
 Associated Place - Made For Place  
 MF: Made for

```

-->
<mapping match="{bm_alias_xml_authority/_[bm_authority_ass!='M']|bm_alias_xml_as_name/_[bm_as_name_ass='F' or bm_as_name_ass='PP']|bm_alias_as_place/_[bm_as_place_ass='MF']}>
<usenamedmapping name="productionConfig"/>

<resource>
<if match=".//./mus_obj_parts[.='1']">
  <identifier prefix="#id;object/" value=".//./bm_prn/production/{counter_prodCounter}" />
</if>
<else>
  <identifier prefix="#id;object/" value=".//./bm_prn/.//mus_obj_parts/production/{counter_prodCounter}" />
</else>

<if match="{mus_authority-bm_auth_biog_number[.!=[]]}">
  <triple predicate="crm:P17_was_motivated_by" prefix="#id;person-institution/" object="{mus_authority-bm_auth_biog_number}" />
</if>
<if match="{bm_as_place_th_i[.!=[]]}">
  <triple predicate="crm:P17_was_motivated_by" prefix="#id;place/" object="{bm_as_place_th_i}" />
</if>

<type value="#crm;E12_Production"/>
<!--Reification-->
<resource>
<if match=".//./mus_obj_parts[.='1']">
  <identifier prefix="#id;object/" value=".//./bm_prn/production/{counter_prodCounter}/association" />
  <triple predicate="crm:P140_assigned_attribute_to" prefix="#id;object/" object=".//./bm_prn/production/{counter_prodCounter}" />
</if>
<else>
  <identifier prefix="#id;object/" value=".//./bm_prn/.//mus_obj_parts/production/{counter_prodCounter}/association" />
  <triple predicate="crm:P140_assigned_attribute_to" prefix="#id;object/" object=".//./bm_prn/.//mus_obj_parts/production/{counter_prodCounter}" />
</else>
<type value="#bmo;EX_Association"/>

```

```

<if match="{mus_authority-bm_auth_biot_number[.!="]>
  <triple predicate="crm:P141_assigned" prefix="&id;person-institution/" object="{mus_authority-bm_auth_biot_number}"/>
</if>
<if match="{bm_as_place_th_i[.!="]>
  <triple predicate="crm:P141_assigned" prefix="&id;place/" object="{bm_as_place_th_i}"/>
</if>

<triple predicate="bmo:PX_property" prefix="&crm;" object="P17_was_motivated_by"/>

<if match="{bm_authority_ass[.!="]>
  <switch>
    <case match="{bm_authority_ass[.=E]}>
      <triple predicate="crm:P2_has_type" prefix="&id;" object="thesauri/authority/E"/>
    </case>
    <case match="{bm_authority_ass[.=G]}>
      <triple predicate="crm:P2_has_type" prefix="&id;" object="thesauri/authority/G"/>
    </case>
    <case match="{bm_authority_ass[.=I]}>
      <triple predicate="crm:P2_has_type" prefix="&id;" object="thesauri/authority/I"/>
    </case>
    <case match="{bm_authority_ass[.=K]}>
      <triple predicate="crm:P2_has_type" prefix="&id;" object="thesauri/authority/K"/>
    </case>
    <case match="{bm_authority_ass[.=Y]}>
      <triple predicate="crm:P2_has_type" prefix="&id;" object="thesauri/authority/Y"/>
    </case>
  </switch>
</if>
<if match="{bm_as_place_ass[.!="]>
  <triple predicate="crm:P2_has_type" prefix="&id;" object="thesauri/authority/{bm_as_place_ass}"/>
</if>
<if match="{bm_as_name_ass[.!="]>
  <switch>
    <case match="{bm_authority_ass[.=F]}>
      <triple predicate="crm:P2_has_type" prefix="&id;" object="thesauri/association/F"/>
    </case>
    <case match="{bm_authority_ass[.=PP]}>
      <triple predicate="crm:P2_has_type" prefix="&id;" object="thesauri/association/PP"/>
    </case>
  </switch>
</if>

```

```

</resource>
</resource>

<!-- Display Wrap-->
<if match="{bm_authority_ass[.!='']}">
  <triple predicate="bmo:PX_display_wrap" value="Authority Association {bm_authority_ass} :: {bm_authority} :: {bm_authority_com}"/>
</if>
<if match="{bm_as_place_ass[.!='']}">
  <triple predicate="bmo:PX_display_wrap" value="Authority Association {bm_as_place_ass} :: {bm_as_place} :: {bm_as_place_com}"/>
</if>
<if match="{bm_as_name_ass[.!='']}">
  <triple predicate="bmo:PX_display_wrap" value="Authority Association {bm_as_name_ass} :: {bm_as_name} :: {bm_as_name_com}"/>
</if>

<!-- Increment the counter for every production-->
<counter iterate="true" name="prodCounter"/>
</mapping>

```

```

<!--ETHNIC GROUP-->
<mapping match="{bm_alias_eth_name/_}">
  <!-- Made By Group

```

M: Made by

```

<obj> P108i_was_produced_by <obj/production/M>.
<obj/production/M> P14_carried_out_by <group>.

```

-->

```

<if match="{bm_eth_name_ass[.= 'M']}">
  <usenamedmapping name="productionConfig"/>

<resource>
  <if match=".//mus_obj_parts[.= '1']">
    <identifier prefix="&id;object/" value=".//.//bm_prn}/production/{counter_prodCounter}"/>
  </if>
  <else>
    <identifier prefix="&id;object/" value=".//.//bm_prn}/{.//mus_obj_parts}/production/{counter_prodCounter}"/>
  </else>
  <type value="&crm;E12_Production"/>
  <triple predicate="crm:P14_carried_out_by" prefix="&id;thesauri/" object="{bm_eth_name_th_i}"/>
</resource>
<triple predicate="bmo:PX_display_wrap" value="Ethnic Group (Made by) :: {bm_eth_name} :: {bm_eth_com}" />

```

```

<counter name="prodCounter" iterate="true"/>
</if>
</mapping>

<!--SCHOOL-->
<mapping match="{bm_alias_school/_}">
  <!-- create the production node-->
  <usenamedmapping name="productionConfig"/>

  <triple predicate="bmo:PX_display_wrap" value="School of :: {bm_school} :: {bm_school_com}"/>
  <resource>
    <type value="&crm;E12_Production"></type>
    <if match=".//./mus_obj_parts[.='1']">
      <identifier prefix="&id;object/" value=".//./bm_prn}/production/{counter_prodCounter}"></identifier>
    </if>
    <else>
      <identifier prefix="&id;object/" value=".//./bm_prn}/{.//./mus_obj_parts}/production/{counter_prodCounter}"></identifier>
    </else>
    <triple predicate="crm:P14_carried_out_by" prefix="&id;thesauri/" object="{bm_school_th_i}"/>

    <!-- Reification-->
    <resource>
      <if match=".//./mus_obj_parts[.='1']">
        <identifier prefix="&id;object/" value=".//./bm_prn}/production/{counter_prodCounter}/association"/>
        <triple predicate="crm:P140_assigned_attribute_to" prefix="&id;object/" object=".//./bm_prn}/production/{counter_prodCounter}">
      </if>
      <else>
        <identifier prefix="&id;object/" value=".//./bm_prn}/{.//./mus_obj_parts}/production/{counter_prodCounter}/association">
        <triple predicate="crm:P140_assigned_attribute_to" prefix="&id;object/" object=".//./bm_prn}/{.//./mus_obj_parts}/production/{counter_prodCounter}">
      </else>
      <type value="&bmo;EX_Association"/>
      <triple predicate="crm:P141_assigned" prefix="&id;thesauri/" object="{bm_school_th_i}"/>
      <triple predicate="bmo:PX_property" prefix="&crm;" object="P14_carried_out_by"/>
      <!-- This is the same as production person association code: AJ, Circle/School of-->
      <triple predicate="crm:P2_has_type" prefix="&id;thesauri/group/" object="AJ"/>
    </resource>
  </resource>
  <counter iterate="true" name="prodCounter"></counter>
</mapping>

```

```

<!-- OBJECT STATE
      state (political) bm_state is a controlled list, so can use as basis for identifier-->
<mapping match="{bm_alias_state/_}">

<usenamedmapping name="productionConfig"/>

<resource>
  <type value="&crm;E12_Production"></type>
  <if match=".//mus_obj_parts[.=1]">
    <identifier prefix="&id;object/" value=".//bm_prn}/production/{counter_prodCounter}"></identifier>
  </if>
  <else>
    <identifier prefix="&id;object/" value=".//bm_prn}/{mus_obj_parts}/production/{counter_prodCounter}"></identifier>
  </else>
  <triple modifier="strToLower" object="{bm_state}" predicate="crm:P10_falls_within" prefix="&id;thesauri/political-state/"></triple>
</resource>
<triple predicate="bmo:PX_display_wrap" value="Produced in state :: {bm_state} :: {bm_state_com}"></triple>
<counter iterate="true" name="prodCounter"></counter>
</mapping>

<!--OBJECT SERIES - objects can be part of a series -->
<mapping match="{bm_alias_type_ser/_}">
  <triple object="{bm_type_ser}" predicate="bmo:PX_type_series" prefix="&id;thesauri/series-type/"></triple>
  <triple predicate="bmo:PX_display_wrap" value="Type series :: {bm_type_ser} :: {bm_type_ser_com}"></triple>
</mapping>

<!--ASSOCIATED NAME / ASSOCIATED PERSON -->
<!--ASSOCIATED PLACE-->
<!--ASSOCIATED EVENT (referred event & event in inscription only)-->
<!--ETHNIC GROUP (Associated with & representation of)-->
<!--SUBJECT-->
<counter name="objectImage" initialValue="1" iterator="increment"/>
<counter name="objectConcept" initialValue="1" iterator="increment"/>
<counter name="objectOriginalFeature" initialValue="1" iterator="increment"/>
<counter name="objectMaterial" initialValue="1" iterator="increment"/>

<counter initialValue="1" iterator="increment" name="inscriptionCounter"/>

```

```
<mapping match="{bm_alias_xml_as_name/_|bm_alias_as_place/_|bm_alias_as_event/_|bm_alias_eth_name/_|bm_alias_subject/_}">
```

```
<!--  
Person Depicted and in Inscription  
II: Named in inscription & portrayed
```

The object has two P65\_shows\_visual\_item: the portrait itself, and the inscription.

```
<obj> P62_depicts <person>.  
<obj> P65_shows_visual_item <obj/image/N>, <obj/inscription/N>.  
<obj/image/N> a E38_Image; P138_represents <person>; P2_has_type <type>.  
<obj/inscription/N> a E34_Inscription; P138_represents <person>; P2_has_type <type>.
```

This will be mapped the same as Depicted Person (e.g. AB) & Person in Inscription (e.g. PI)

-->

```
<!--Depicted Person
```

AB: Illustration of

IP: Portrait of

IR: Representation of

EE: Emblem of

We choose to state both the shortcut (P62) and longcut (P65-E36-P138) so we can use the intermediate node to attach the type:

Depicted Place

IT: Topographic representation of

PA: allegory/personification

EE: Emblem of: M.Doerr argues a place can have no emblem, but it's too complicated to make an anonymous group having its residence there

```
<obj> P62_depicts <person>.  
<obj> P65_shows_visual_item <obj/image/N>.  
<obj/image/N> a E38_Image; P138_represents <person>; P2_has_type <type>.
```

Note about Emblem (eg coat of arms, company logo, etc): it's not a literal depiction, but still very closely related to the Person, so we map it like the rest.

We considered stating it's a conceptual object that belongs to the person (P105\_right\_held\_by instead of P138), but decided that the association is more intimate than just holding a right.

-->

```
<!-- Depicted Group
```

IR: Representation of

```
<obj> P62_depicts <group>.
```

-->

```
<if match="{bm_as_name_ass[.= 'AB' or .= 'IP' or .= 'IR' or .= 'EE' or .= 'II'] | bm_as_place_ass[.= 'IT' or .= 'PA' or .= 'EE'] | bm_eth_name_ass[.= 'IR']}">
```

```

<if match="{bm_as_place_ass[.!='']}">
<triple predicate="crm:P62_depicts" prefix="&id;place/" object="{bm_as_place_th_i}"/>
<triple predicate="bmo:PX_display_wrap" value="Associated Place (Depicted - {bm_as_place_ass}) :: {bm_as_place} :: {bm_as_place_com}"/>
</if>
<else>
<if match="{bm_eth_name_ass[.=IR']}">
<triple predicate="crm:P62_depicts" prefix="&id;thesauri/" object="{bm_eth_name_th_i}"/>
<triple predicate="bmo:PX_display_wrap" value="Depicted Ethnic Group :: {bm_eth_name} :: {bm_eth_com}"/>
</if>
<else>
<triple predicate="crm:P62_depicts" prefix="&id;person-institution/" object="{mus_authority-bm_auth_biot_number}"/>
<triple predicate="bmo:PX_display_wrap" value="Associated Person (Depicted - {bm_as_name_ass}) :: {bm_as_name} :: {bm_as_name_com}"/>
</else>
</else>
</if match="{bm_as_place_ass[.!='']}"

<usenamedmapping name="objectImageConfig"/>

<resource>
<if match="{'./..../mus_obj_parts[.=1']}">
<identifier prefix="&id;object/" value="{'./..../bm_prn}/image/{counter_objectImage}"/>
</if>
<else>
<identifier prefix="&id;object/" value="{'./..../bm_prn}/{./..../mus_obj_parts}/image/{counter_objectImage}"/>
</else>

<if match="{bm_as_place_ass[.!='']}>
<switch>
<case match="{bm_as_name_ass[.=IT']}">
<triple predicate="crm:P2_has_type" prefix="&id;thesauri/association/" object="IT"/>
</case>
<case match="{bm_as_name_ass[.=PA']}">
<triple predicate="crm:P2_has_type" prefix="&id;thesauri/association/" object="PA"/>
</case>
<case match="{bm_as_name_ass[.=EE']}">
<triple predicate="crm:P2_has_type" prefix="&id;thesauri/association/" object="EE"/>
</case>
</switch>
<triple predicate="crm:P138_represents" prefix="&id;place/" object="{bm_as_place_th_i}"/>
</if>

```

```

<else>
<if match="{bm_eth_name_ass[.='IR']}">
  <!-- Since IR for ethnic group is the same as IR for associated person, this is OK-->
  <triple predicate="crm:P2_has_type" prefix="#id;thesauri/association/" object="{bm_eth_name_ass}"/>
  <triple predicate="crm:P138_represents" prefix="#id;thesauri/" object="{bm_eth_name_th_i}"/>
</if>
<else>
<switch>
  <case match="{bm_as_name_ass[.='AB']}">
    <triple predicate="crm:P2_has_type" prefix="#id;thesauri/association/" object="AB"/>
  </case>
  <case match="{bm_as_name_ass[.='IP' or .='II']}">
    <triple predicate="crm:P2_has_type" prefix="#id;thesauri/association/" object="IP"/>
    <if match="{bm_as_name_ass[.='II']}">
      <triple predicate="crm:P2_has_type" prefix="#id;thesauri/association/" object="PI"/>
    </if>
  </case>
  <case match="{bm_as_name_ass[.='IR']}">
    <triple predicate="crm:P2_has_type" prefix="#id;thesauri/association/" object="IR"/>
  </case>
  <case match="{bm_as_name_ass[.='EE']}">
    <triple predicate="crm:P2_has_type" prefix="#id;thesauri/association/" object="EE"/>
  </case>
</switch>
<triple predicate="crm:P138_represents" prefix="#id;person-institution/" object="{mus_authority-bm_auth_biot_number}"/>
</else>
</else>
</resource>
<!-- Increment counter-->
<counter name="objectImage" iterate="true"/>
</if>
<!-- Referred Person

```

PO: Associated with: the nature of association is unclear, so we use the weaker P67\_refers\_to

```

<obj> P128_carries <obj/concept/N>.
<obj/concept/N> a E73_Information_Object; P67_refers_to <person>; P2_has_type <type>.

```

#### Referred Place

AW: Associated with: the nature of association is unclear, so we use the weaker P67\_refers\_to  
 Similar to Referred Person

```

<obj> P128_carries <obj/concept/N>.

```

```

<obj/concept/N> a E73_Information_Object; P67_refers_to <place>; P2_has_type <type>.

Referred Event
IC: Commemoration of
IW: Associated Event

Similar to Referred Place

<obj> P128_carries <obj/concept/N>.
<obj/concept/N> a E73_Information_Object; P67_refers_to <event>; P2_has_type <type>.
-->

<if match="{bm_as_name_ass[.= 'PO'] | bm_as_place_ass[.= 'AW'] | bm_as_event_ass[.= 'IC' or .= 'IW'] | bm_eth_name_ass[.= 'AW'] | bm_subject[.!= '']}>

<if match="{../../mus_obj_parts[.= '1']}">
<triple predicate="crm:P128_carries" prefix="&id;object/" object="{../../bm_prn}/concept/{counter_objectConcept}"/>
</if>
<else>
<triple predicate="crm:P128_carries" prefix="&id;object/" object="{../../bm_prn}/{../../mus_obj_parts}/concept/{counter_objectConcept}"/>
</else>

<!-- Display Wraps -->
<if match="{bm_as_name_ass[.= 'PO']}">
<triple predicate="bmo:PX_display_wrap" value="Associated Person (Former Owner) :: {bm_as_name} :: {bm_as_name_com}"/>
</if>
<if match="{bm_as_place_ass[.= 'AW']}">
<triple predicate="bmo:PX_display_wrap" value="Associated Place (Referred Place) :: {bm_as_place} :: {bm_as_place_com}"/>
</if>
<if match="{bm_as_event_ass[.= 'IC']}">
<triple predicate="bmo:PX_display_wrap" value="Associated Event (Commemoration of) :: {bm_as_event} :: {bm_as_event_com}"/>
</if>
<if match="{bm_as_event_ass[.= 'IW']}">
<triple predicate="bmo:PX_display_wrap" value="Associated Event :: {bm_as_event} :: {bm_as_event_com}"/>
</if>
<if match="{bm_eth_name_ass[.= 'AW']}">
<triple predicate="bmo:PX_display_wrap" value="Ethnic Group (Associated With) :: {bm_eth_name} :: {bm_eth_com}"/>
</if>
<if match="{bm_eth_name_ass[.= 'IR']}">
<triple predicate="bmo:PX_display_wrap" value="Ethnic Group (Representation of) :: {bm_eth_name} :: {bm_eth_com}"/>
</if>
<if match="{bm_subject[.!= '']}>
<triple predicate="bmo:PX_display_wrap" value="Subject :: {bm_subject} :: {bm_subject_com}"/>
</if>

```

```

<resource>
  <if match=".//./mus_obj_parts[.=1]">
    <identifier prefix="&id;object/" value=".//./bm_prn/concept/{counter_objectConcept}"/>
  </if>
  <else>
    <identifier prefix="&id;object/" value=".//./bm_prn/.//./mus_obj_parts/concept/{counter_objectConcept}"/>
  </else>
  <type value="&crm;E73_Information_Object"/>

  <switch>
    <!-- Referred person-->
    <case match="{mus_authority-bm_auth_biog_number[.!=]}">
      <triple predicate="crm:P67_refers_to" prefix="&id;person-institution/" object="{mus_authority-bm_auth_biog_number}"/>
    </case>
    <!-- Referred event-->
    <case match="{bm_as_event_ass[.=IW]}">
      <triple predicate="crm:P67_refers_to" prefix="&id;event/" object="{bm_as_event}"/>
    </case>
    <!-- Referred event-->
    <case match="{bm_as_event_ass[.=IC]}">
      <triple predicate="bmo:PX_commemorates" prefix="&id;event/" object="{bm_as_event}"/>
    </case>
    <!-- Referred ethnic group -->
    <case match="{bm_eth_name_ass[.=AW]}">
      <triple predicate="crm:P67_refers_to" prefix="&id;thesauri/" object="{bm_eth_name_th_i}"/>
    </case>
    <!-- Referred place-->
    <case match="{bm_as_place_th_i[.!=]}">
      <triple predicate="crm:P67_refers_to" prefix="&id;place/" object="{bm_as_place_th_i}"/>
    </case>
    <!-- Subject of-->
    <case match="{bm_subject_th_i[.!=]}">
      <triple predicate="crm:P129_is_about" prefix="&id;thesauri/" object="{bm_subject_th_i}"/>
    </case>
  </switch>
</resource>

<!-- Increment counter-->
<counter name="objectConcept" iterate="true"/>
</if>

```

```
<!--  
ASSOCIATED PERSON  
Person in Inscription  
PI: Named in inscription
```

```
<obj> P65_shows_visual_item <obj/incription/N>  
<obj/incription/N> a E34_Inscription; P67_referes_to <person>; P2_has_type <type>.
```

```
Person Depicted and in Inscription  
II: Named in inscription & portrayed
```

The object has two P65\_shows\_visual\_item: the portrait itself, and the inscription.

```
<obj> P62_depicts <person>.  
<obj> P65_shows_visual_item <obj/image/N>, <obj/incription/N>.  
<obj/image/N> a E38_Image; P138_represents <person>; P2_has_type <type>.  
<obj/incription/N> a E34_Inscription; P138_represents <person>; P2_has_type <type>.
```

```
ASSOCIATED PLACE  
Place in Inscription  
NI: Named in inscription  
Map essentially the same as (and using the type defined in) Person in Inscription
```

```
<obj> P65_shows_visual_item <obj/incription/N>  
<obj/incription/N> a E34_Inscription; P138_represents <place>; P2_has_type <type>.
```

```
ASSOCIATED EVENT  
Event in Inscription  
PI: Named in Inscription  
Map essentially the same as Person in Inscription
```

```
<obj> P65_shows_visual_item <obj/incription/N>  
<obj/incription/N> a E34_Inscription; P67_refers_to <event>  
-->  
<if match="{bm_as_name_ass[.= 'PI' or .= 'II'] | bm_as_place_ass[.= 'NI'] | bm_as_event_ass[.= 'PI']}>  
<usenamedmapping name="inscriptionConfig"/>  
<if match="{bm_as_name_ass[.= 'II']}>  
<triple predicate="crm:P62_depicts" prefix="&id;person-institution/" object="{mus_authority-bm_auth_biot_number}"/>
```

```

</if>

<!-- Add relevant stuff to the inscription node-->
<resource>
<if match=".//./mus_obj_parts[.=1]">
  <identifier prefix=&id;object/ value=".//./bm_prn}/inscription/{counter_inscriptionCounter}"/>
</if>
<else>
  <identifier prefix=&id;object/ value=".//./bm_prn}/{.//./mus_obj_parts}/inscription/{counter_inscriptionCounter}"/>
</else>

<if match="{bm_as_place_th_i[.!=]">
  <triple predicate="crm:P67_referes_to" prefix=&id;place/" object="{bm_as_place_th_i}"/>
</if>
<if match="{bm_as_event[.!=]">
  <triple predicate="crm:P67_referes_to" prefix=&id;event/" object="{bm_as_event}"/>
</if>
<if match="{bm_as_name_ass[.=PI]}">
  <triple predicate="crm:P67_referes_to" prefix=&id;person-institution/" object="{mus_authority-bm_auth_biog_number}"/>
  <triple predicate="bmo:PX_display_wrap" value="Associated Person (Named in Inscription) :: {bm_as_name} :: {bm_as_name_com}"/>
</if>
<if match="{bm_as_name_ass[.=II]}">
  <triple predicate="crm:P138_represents" prefix=&id;person-institution/" object="{mus_authority-bm_auth_biog_number}"/>
  <triple predicate="bmo:PX_display_wrap" value="Associated Person (Named and Portrayed in Inscription) :: {bm_as_name} :: {bm_as_name_com}"/>
</if>

<!-- P2 has types-->

<if match="{bm_as_name_ass[.=PI or .=II]}">
  <triple predicate="crm:P2_has_type" prefix=&id;thesauri/association/" object="PI"/>
  <if match="{bm_as_name_ass[.=II]}">
    <triple predicate="bmo:PX_display_wrap" value="Associated Person (Named and Portrayed in Inscription) :: {bm_as_name} :: {bm_as_name_com}"/>
  </if>
  <else>
    <triple predicate="bmo:PX_display_wrap" value="Associated Person (Named in Inscription) :: {bm_as_name} :: {bm_as_name_com}"/>
  </else>
</if>
<if match="{bm_as_name_ass[.=II]}">
  <triple predicate="crm:P2_has_type" prefix=&id;thesauri/association/" object="IP"/>
</if>
</resource>

```

```

<if match="{bm_as_place_th_i[.!='']}">
  <triple predicate="bmo:PX_display_wrap" value="Associated Place (Named in Inscription) :: {bm_as_place} :: {bm_as_place_com}"/>
</if>
<if match="{bm_as_event[.!']}">
  <triple predicate="bmo:PX_display_wrap" value="Associated Event (Named in Inscription) :: {bm_as_event} :: {bm_as_event_com}"/>
</if>
<if match="{bm_as_name_ass[.=PI']}">
  <triple predicate="bmo:PX_display_wrap" value="Associated Person (Named in Inscription) :: {bm_as_name} :: {bm_as_name_com}"/>
</if>
<if match="{bm_as_name_ass[.=II']}">
  <triple predicate="bmo:PX_display_wrap" value="Associated Person (Named and Portrayed in Inscription) :: {bm_as_name} :: {bm_as_name_com}"/>
</if>

<counter name="inscriptionCounter" iterate="true"/>

</if>
<!-- Repaired By
      RP: Repaired by

      <obj/repair> a E11_Modification; P2_has_type <thesaurus/modification/repaired>;
      P14_carried_out_by <person>.-->
<if match="{bm_as_name_ass[.=RP']}|{bm_as_place_ass[.=RP']}">
  <!--We'll have a modification parent node so that other modifications will live under: -->
  <if match=".//mus_obj_parts[.=1']">
    <triple predicate="crm:P31i_was_modified_by" prefix="#id;object/" object=".//bm_prn}/modification"/>
  </if>
  <else>
    <triple predicate="crm:P31i_was_modified_by" prefix="#id;object/" object=".//bm_prn}/modification"/>
  </else>

  <!-- Modification node-->
  <resource>
    <if match=".//mus_obj_parts[.=1']">
      <identifier prefix="#id;object/" value=".//bm_prn}/modification"/>
      <triple predicate="crm:P9_consists_of" prefix="#id;object/" object=".//bm_prn}/repair"/>
    </if>
    <else>
      <identifier prefix="#id;object/" value=".//bm_prn}/modification"/>
      <triple predicate="crm:P9_consists_of" prefix="#id;object/" object=".//bm_prn}/repair"/>
    </else>
  </resource>

```

```

<type value="&crm;E11_Modification"/>
</resource>

<!-- Repair node-->
<resource>
<if match=".//./mus_obj_parts[.=1]">
  <identifier prefix="&id;object/" value=".//./bm_prn}/repair"/>
</if>
<else>
  <identifier prefix="&id;object/" value=".//./bm_prn}/{.//./mus_obj_parts}/repair"/>
</else>
<type value="&crm;E11_Modification"/>
<triple predicate="crm:P2_has_type" prefix="&id;thesauri/association/" object="RP"/>
<if match="{mus_authority-bm_auth_biot_number[.!=]}>
  <triple predicate="crm:P14_carried_out_by" prefix="&id;person-institution/" object="{mus_authority-bm_auth_biot_number}"/>
</if>
<else>
  <triple predicate="crm:P7_took_place_at" prefix="&id;place/" object="{bm_as_place_th_i}"/>
</else>
</resource>

<!-- Display Wrap-->
<if match="{bm_as_name_ass[.=RP]}>
  <triple predicate="bmo:PX_display_wrap" value="Associated Person (Repaired By) :: {bm_as_name} :: {bm_as_name_com}"/>
</if>
<if match="{bm_as_place_ass[.=RP]}>
  <triple predicate="bmo:PX_display_wrap" value="Associated Place (Repaired In) :: {bm_as_place} :: {bm_as_place_com}"/>
</if>
</if>
<!-- Natural Source
      NS: Natural source
      A raw material used in the object comes from Place. This is complicated (and is used in only 13 objects):
      a Material is a conceptual thing, so it doesn't have a location
      we say the Material was Created at Place, although that sounds a bit silly
      we should say the Material was P126-employed in the object's Production, but that is too complex, so we just say the Material P45i-is_incorporated_in the object
      <obj> P45_consists_of <obj/material>.
      <obj/material/M> P94i-was_created_by <obj/material/M/creation>.
      <obj/material/M/creation> P7-took_place_at <place>.
      -->
<if match="{bm_as_place_ass[.=NS]}>
  <if match=".//./mus_obj_parts[.=1]}>

```

```

<triple predicate="crm:P45_consists_of" prefix="#id;object/" object="#{..../..../bm_prn}/material/{counter_objectMaterial}" />
</if>
<else>
<triple predicate="crm:P45_consists_of" prefix="#id;object/" object="#{..../..../bm_prn}/{..../mus_obj_parts}/material/{counter_objectMaterial}" />
</else>

<!-- Display Wrap-->
<triple predicate="bmo:PX_display_wrap" value="Associated Place (Natural Source) :: {bm_as_place} :: {bm_as_place_com}" />

<!-- Object's Material / natural source-->
<resource>
<if match="#{..../mus_obj_parts[.=1]}">
<identifier prefix="#id;object/" value="#{..../..../bm_prn}/material/{counter_objectMaterial}" />
<triple predicate="crm:P94i_was_created_by" prefix="#id;object/" object="#{..../..../bm_prn}/material/{counter_objectMaterial}/creation" />
</if>
<else>
<identifier prefix="#id;object/" value="#{..../..../bm_prn}/{..../mus_obj_parts}/material/{counter_objectMaterial}" />
<triple predicate="crm:P94i_was_created_by" prefix="#id;object/" object="#{..../..../bm_prn}/{..../mus_obj_parts}/material/{counter_objectMaterial}/creation" />
</else>
<type value="#crm:E57_Material"/>
<triple predicate="crm:P3_has_note" value="Natural source of object"/>

<!-- Natural source creation-->
<resource>
<if match="#{..../mus_obj_parts[.=1]}">
<identifier prefix="#id;object/" value="#{..../..../bm_prn}/material/{counter_objectMaterial}/creation" />
</if>
<else>
<identifier prefix="#id;object/" value="#{..../..../bm_prn}/{..../mus_obj_parts}/material/{counter_objectMaterial}/creation" />
</else>
<type value="#crm:E65_Creation"/>
<triple predicate="crm:P7_took_place_at" prefix="#id;place/" object="#{bm_as_place_th_i}"/>
</resource>
</resource>

<counter name="objectMaterial" iterate="true"/>
</if>
<!-- Original From
      OF: Original from
      The object bears the features of an original that is from Place

```

```

<obj> P130_shows_features_of <obj/original/N>.
<obj/original/N> P108i_was_produced_by <obj/original/production>.
<obj/original/N/production> P7_took_place_at <place>; P2_has_type <type>.
-->
<if match="{bm_as_place_ass[.= 'OF']}">

<if match=".//./mus_obj_parts[.= '1']">
<triple predicate="crm:P130_shows_features_of" prefix="&id;object/" object=".//./bm_prn}/original/{counter_objectOriginalFeature}"/>
</if>
<else>
<triple predicate="crm:P130_shows_features_of" prefix="&id;object/" object=".//./bm_prn}/{.//./mus_obj_parts}/original/{counter_objectOriginalFeature}"/>
</else>

<!-- Display Wrap-->
<triple predicate="bmo:PX_display_wrap" value="Associated Place (Original From) :: {bm_as_place} :: {bm_as_place_com}"/>

<!-- Man Made Feature-->
<resource>
<if match=".//./mus_obj_parts[.= '1']">
<identifier prefix="&id;object/" value=".//./bm_prn}/original/{counter_objectOriginalFeature}"/>
<triple predicate="crm:P108i_was_produced_by" prefix="&id;object/" object=".//./bm_prn}/original/{counter_objectOriginalFeature}/production" />
</if>
<else>
<identifier prefix="&id;object/" value=".//./bm_prn}/{.//./mus_obj_parts}/original/{counter_objectOriginalFeature}"/>
<triple predicate="crm:P108i_was_produced_by" prefix="&id;object/" object=".//./bm_prn}/{.//./mus_obj_parts}/original/{counter_objectOriginalFeature}/production" />
</else>
<type value="&crm;E22_Man-Made_Object"/>

<!-- Man Made Feature's Production-->
<resource>
<if match=".//./mus_obj_parts[.= '1']">
<identifier prefix="&id;object/" value=".//./bm_prn}/original/{counter_objectOriginalFeature}/production" />
</if>
<else>
<identifier prefix="&id;object/" value=".//./bm_prn}/{.//./mus_obj_parts}/original/{counter_objectOriginalFeature}/production" />
</else>
<type value="&crm;E12_Production"/>
<triple predicate="crm:P7_took_place_at" prefix="&id;place/" object="{bm_as_place_th_i}"/>
<triple predicate="crm:P2_has_type" prefix="&id;thesauri/association/" object="OF"/>
</resource>

```

```

</resource>
<!-- Increment counter-->
<counter name="objectOriginalFeature" iterate="true"/>
</if>
</mapping>

<!--ASSOCIATED EVENT
    v1 comment:      we have assumed here that event names are unique in the thesauri,
                    and generate the URI for an event based on the name

    v2 comment:      The above assume is not true as the bm_as_event is a free text field and therefore not a good option to generate a URL

    -->
<mapping match="{bm_alias_as_event/_}">

<!-- Used at Event / Made for Event -->
<if match="{bm_as_event_ass[.= 'DF' or .= 'UI']}">

<!--IU: Used at
            <obj> P12i_was_present_at <event>.--
<triple predicate="crm:P12i_was_present_at" prefix ="&id;event/" object="{bm_as_event}" />

<!-- Made for Event
            DF: Designed for
            <obj> P19i_was_made_for <event>.
            <obj> P12i_was_present_at <event>.--

<if match="{bm_as_event_ass[.= 'DF']}">
    <triple predicate="crm:P19i_was_made_for" prefix ="&id;event/" object="{bm_as_event}" />
</if>
</if>
</if>

</mapping>

<!-- ASSOCIATED TITLE
    v1 comments:      associated title is very wooly. if TI then relates to an inscription
    v2 comments:      This is still true - the titles are just names of things which can exist to which the object is associated with.
                      It may have been described in other ways, but this is very generic and a lazy way in which to do this association.

    -->
<counter name="objectTitle" initialValue="1" iterator="increment"/>
<mapping match="{bm_alias_as_title/_}">
<!-- Associated Title

```

EI: Title

IT: Associated Title (will use <type> thesauri/association/associatedwith which is the same as any other 'Associated With' code used)

TI: Inscription from

This code associates a free text, which is the Title of a work of art (eg Koran, Ramayana, etc). It's not the title of the object, yet is a title that the object carries

P4\_ <obj> P128\_carries <obj/title/N>

<obj/title/N> a E35\_Title; rdfs:label "text"; P2\_has\_type <type>.

-->

```
<if match=".//.//mus_obj_parts[.=1']">
  <triple predicate="crm:P128_carries" prefix=&id;object/" object=".//.//.//bm_prn}/title/{counter_objectTitle}" />
</if>
<else>
  <triple predicate="crm:P128_carries" prefix=&id;object/" object=".//.//.//bm_prn}/{.//.//mus_obj_parts}/title/{counter_objectTitle}" />
</else>

<resource>
<if match=".//.//mus_obj_parts[.=1']">
  <identifier prefix=&id;object/" value=".//.//.//bm_prn}/title/{counter_objectTitle}" />
</if>
<else>
  <identifier prefix=&id;object/" value=".//.//.//bm_prn}/{.//.//mus_obj_parts}/title/{counter_objectTitle}" />
</else>
<type value=&crm;E35_Title"/>
<triple predicate="rdfs:label" value="{bm_as_title}" />
```

<switch>

<case match="{bm\_as\_title\_ass[.=EI']}">

<triple predicate="crm:P2\_has\_type" prefix=&id;thesauri/association/" object="EI"/>

</case>

<case match="{bm\_as\_title\_ass[.=IT']}">

<triple predicate="crm:P2\_has\_type" prefix=&id;thesauri/association/" object="AW"/>

</case>

<case match="{bm\_as\_title\_ass[.=TI']}">

<triple predicate="crm:P2\_has\_type" prefix=&id;thesauri/association/" object="IF"/>

</case>

</switch>

<triple predicate="crm:P3\_has\_note" value="{bm\_as\_title\_com}" />

</resource>

<counter name="objectTitle" iterate="true"/>

</mapping>

```

<!--OBJECT TITLE
      title for either the object or the series to which the object belongs -->
<mapping match="{mus_alias_title/_}">
<switch>
  <case match="{mus_title_type[.='Series']}">
    <triple object="{mus_title}" predicate="crm:P46i_forms_part_of" prefix="&id;series/"></triple>
    <triple predicate="bmo:PX_display_wrap" value="Component of series :: {mus_title} ::"></triple>
  </case>
  <!-- Add the title of Object Type which will be it's own resource. But also adding the title as a label to the object-->
  <case match="{mus_title_type[.='Object']}">
    <if match=".//./mus_obj_parts[.='1']">
      <triple predicate="crm:P102_has_title" prefix="&id;object/" object=".//./bm_prn/title/{counter_objectTitle}"></triple>
    </if>
    <else>
      <triple predicate="crm:P102_has_title" prefix="&id;object/" object=".//./bm_prn/.//./mus_obj_parts/title/{counter_objectTitle}"></triple>
    </else>
    <triple predicate="rdfs:label" value="{mus_title}"></triple>
    <resource>
      <if match=".//./mus_obj_parts[.='1']">
        <identifier prefix="&id;object/" value=".//./bm_prn/title/{counter_objectTitle}"></identifier>
      </if>
      <else>
        <identifier prefix="&id;object/" value=".//./bm_prn/.//./mus_obj_parts/title/{counter_objectTitle}"></identifier>
      </else>
      <type value="&crm;E35_Title"></type>
      <triple predicate="rdfs:label" value="{mus_title}" language="en"/>
      <triple predicate="rdfs:label" value="{mus_title_translation}"/>
    </resource>
    <triple predicate="bmo:PX_display_wrap" value="Title translation :: {mus_title_translation} ::"></triple>
  </case>
</switch>
<counter iterate="true" name="objectTitle"></counter>
</mapping>

```

#### <!-- LABELS

Labels are the little labels that go next to an object when on display in a collection.

We model the exhibition as an activity. bm\_label\_exhib\_name is a controlled list -->

```

<mapping match="{mus_alias_label/_}">
<triple predicate="crm:P12i_was_present_at" prefix="&id;exhibition/" object="{bm_label_exhib_name}"/>
<triple predicate="bmo:PX_display_wrap" value="Appeared in exhibition :: {bm_label_exhib_name} :: {bm_label_com}"/>

```

```

<triple predicate="bmo:PX_object_exhibition_label" value="Exhibition label :: {bm_label_exhib_name} :: {mus_label_text}" />
</mapping>

<!--CONDITION
      only one entry per object part -->
<mapping match="{mus_alias_condition}">
  <triple predicate="bmo:PX_condition" value="{mus_condition_note}" /></triple>
</mapping>

<!-- COLLECTION
      an object may be in an aggregation of objects
      bm_coll_name is a controlled list, so we can use it as basis for identifier -->
<mapping match="{bm_alias_coll_name/_}">
  <triple object="{bm_coll_name}" predicate="crm:P46i_forms_part_of" prefix="&id;collection/" /></triple>
</mapping>

<!-- SERIAL NO
      Mapped like an identifier - but uses a counter as there can be multiple
      -->
<counter name="serialNo" initialValue="1" iterator="increment"/>
<mapping match="{bm_alias_serial/_}">
  <if match=".//./mus_obj_parts[.=1]">
    <triple predicate="crm:P1_is_identified_by" prefix="&id;object/" object=".//./bm_prn}/serialno/{counter_serialNo" />
  </if>
  <else>
    <triple predicate="crm:P1_is_identified_by" prefix="&id;object/" object=".//./bm_prn}/{..//mus_obj_parts}/serialno/{counter_serialNo" />
  </else>

  <resource>
    <if match=".//./mus_obj_parts[.=1]">
      <identifier prefix="&id;object/" value=".//./bm_prn}/serialno/{counter_serialNo" /></identifier>
    </if>
    <else>
      <identifier prefix="&id;object/" value=".//./bm_prn}/{..//mus_obj_parts}/serialno/{counter_serialNo" /></identifier>
    </else>

    <type value="&crm:E42_Identifier"></type>
    <triple object="&id;thesauri/identifier/serialno" predicate="crm:P2_has_type" /></triple>
    <triple predicate="rdfs:label" value="{bm_serial}" />
    <triple predicate="crm:P3_has_note" value="{bm_serial_com}" />
  </resource>
<triple predicate="bmo:PX_display_wrap" value="Serial number :: {bm_serial} :: {bm_serial_com}" />

```

```
</mapping>

<!-- LOCATION
      location of an object. only expose if avail=G OR
```

```
      The department is Prints & Drawings-->

<mapping match="{bm_alias_loc/_}">
<if match="{bm_loc_avail[.=G]}|{./..../bm_owning_department[.=P]}">
<if match="{bm_loc[!=!]}">

<if match="{..../mus_obj_parts[.=1]}">
<triple predicate="crm:P55_has_current_location" prefix="&id;object/" object="{..../bm_prn}/location"/>
</if>
<else>
<triple predicate="crm:P55_has_current_location" prefix="&id;object/" object="{..../bm_prn}/{..../mus_obj_parts}/location"/>
</else>
<triple predicate="bmo:PX_display_wrap" value="Located in gallery :: {bm_loc} :: {bm_loc_date} {bm_loc_com}"/>
<resource>
<type value="&crm;E53_Place"></type>
<if match="{..../mus_obj_parts[.=1]}">
<identifier prefix="&id;object/" value="{..../bm_prn}/location"/>
</if>
<else>
<identifier prefix="&id;object/" value="{..../bm_prn}/{..../mus_obj_parts}/location"/>
</else>
<triple predicate="rdfs:label" value="The British Museum: Gallery {bm_loc}"></triple>
</resource>
</if>
</if>
</if>
</mapping>
```

```
<!-- ESCAPEMENT
      if there is a reference to the escapement thesauri, then infer that we have a part which is an escapement -->

<mapping match="{bm_object_part/_bm_alias_escalpement/_}">
<triple object="&id;thesauri/{bm_escalpement_th_i}" predicate="bmo:PX_escalpement"></triple>
<triple predicate="bmo:PX_display_wrap" value="Escapement :: {bm_escalpement} :: {bm_escalpement_com}"></triple>
</mapping>
</namedmapping>
<!-- End of object part mapping-->
```

```
<namedmapping name="objectImageConfig">
```

```

<if match=".//./mus_obj_parts[.='1']">
  <triple predicate="crm:P65_shows_visual_item" prefix="&id;object/" object=".//./bm_prn}/image/{counter_objectImage}"/>
</if>
<else>
  <triple predicate="crm:P65_shows_visual_item" prefix="&id;object/" object=".//./bm_prn}/{.//./mus_obj_parts}/image/{counter_objectImage}"/>
</else>

<resource>
<if match=".//./mus_obj_parts[.='1']">
  <identifier prefix="&id;object/" value=".//./bm_prn}/image/{counter_objectImage}"/>
</if>
<else>
  <identifier prefix="&id;object/" object=".//./bm_prn}/{.//./mus_obj_parts}/image/{counter_objectImage}"/>
</else>
<type value="&crm;E38_Image"/>
</resource>
</namedmapping>

<!-- Acquisition (Transfer of ownership - from & to)-->
<namedmapping name="acquisitionConfig">
<triple object="{mus_authority-bm_auth_biot_number}" predicate="crm:P51_has_former_or_current_owner" prefix="&id;person-institution/"/></triple>
<triple object="&id;the-british-museum" predicate="crm:P52_has_current_owner"></triple>

<if match=".//./mus_obj_parts[.='1']">
  <triple predicate="crm:P24i_changed_ownership_through" prefix="&id;object/" object=".//./bm_prn}/acquisition"/>
</if>
<else>
  <triple predicate="crm:P24i_changed_ownership_through" prefix="&id;object/" object=".//./bm_prn}/{.//./mus_obj_parts}/acquisition"/>
</else>
<resource>
<if match=".//./mus_obj_parts[.='1']">
  <identifier prefix="&id;object/" value=".//./bm_prn}/acquisition/{counter_acquisitionCount}"/>
</if>
<else>
  <identifier prefix="&id;object/" value=".//./bm_prn}/{.//./mus_obj_parts}/acquisition/{counter_acquisitionCount}"/>
</else>
</resource>

<!-- Parent Acquisition-->
<resource>
<if match=".//./mus_obj_parts[.='1']">
  <identifier prefix="&id;object/" value=".//./bm_prn}/acquisition"/>

```

```

<triple predicate="crm:P9_consists_of" prefix="&id;object/" object=".//..../bm_prn}/acquisition/{counter_acquisitionCount}"/>
</if>
<else>
<identifier prefix="&id;object/" value=".//..../bm_prn}/..../mus_obj_parts}/acquisition"></identifier>
<triple predicate="crm:P9_consists_of" prefix="&id;object/" object=".//..../bm_prn}/..../mus_obj_parts}/acquisition/{counter_acquisitionCount}"/>
</else>
<type value="&crm;E8_Acquisition"/>
<triple predicate="crm:P22_transferred_title_to" object="&id;the-british-museum"/>

<!-- Child Acquisition-->
<resource>
<if match=".//..../mus_obj_parts[.=1]">
<identifier prefix="&id;object/" value=".//..../bm_prn}/acquisition/{counter_acquisitionCount}"/>
<triple predicate="crm:P24_transferred_title_of" prefix="&id;object/" object=".//..../bm_prn}"/>
</if>
<else>
<identifier prefix="&id;object/" value=".//..../bm_prn}/..../mus_obj_parts}/acquisition/{counter_acquisitionCount}"/>
<triple predicate="crm:P24_transferred_title_of" prefix="&id;object/" object=".//..../bm_prn}/..../mus_obj_parts}"/>
</else>
<type value="&crm;E8_Acquisition"/>
<triple predicate="crm:P23_transferred_title_from" prefix="&id;person-institution/" object="{mus_authority-bm_auth_biot_number}"/>

</resource>
</resource>
</namedmapping>

<!-- Acquisition (Transfer of ownership - to only)-->
<namedmapping name="acquisitionConfigNoFrom">

<triple object="&id;the-british-museum" predicate="crm:P52_has_current_owner"></triple>

<if match=".//..../mus_obj_parts[.=1]">
<triple predicate="crm:P24i_changed_ownership_through" prefix="&id;object/" object=".//..../bm_prn}/acquisition"/>
</if>
<else>
<triple predicate="crm:P24i_changed_ownership_through" prefix="&id;object/" object=".//..../bm_prn}/..../mus_obj_parts}/acquisition"/>
</else>
<!--<resource>
<if match=".//..../mus_obj_parts[.=1]">
<identifier prefix="&id;object/" value=".//..../bm_prn}/acquisition/{counter_acquisitionCount}"/>
</if>

```

```

<else>
  <identifier prefix="&id;object/" value="../../../../bm_prn}/{../../mus_obj_parts}/acquisition/{counter_acquisitionCount}"/>
</else>
</resource>-->

<!-- Parent Acquisition-->
<resource>
<if match=".//.mus_obj_parts[.='1']">
  <identifier prefix="&id;object/" value="../../../../bm_prn}/acquisition"/>
  <triple predicate="crm:P9_consists_of" prefix="&id;object/" object="../../../../bm_prn}/acquisition/{counter_acquisitionCount}"/>
</if>
<else>
  <identifier prefix="&id;object/" value="../../../../bm_prn}/{../../mus_obj_parts}/acquisition/{counter_acquisitionCount}"/>
  <triple predicate="crm:P9_consists_of" prefix="&id;object/" object="../../../../bm_prn}/{../../mus_obj_parts}/acquisition/{counter_acquisitionCount}"/>
</else>
<type value="&crm;E8_Acquisition"/>
<triple predicate="crm:P22_transferred_title_to" object="&id;the-british-museum"/>

<!-- Child Acquisition-->
<resource>
<if match=".//.mus_obj_parts[.='1']">
  <identifier prefix="&id;object/" value="../../../../bm_prn}/acquisition/{counter_acquisitionCount}"/>
  <triple predicate="crm:P24_transferred_title_of" prefix="&id;object/" object="../../../../bm_prn}"/>
</if>
<else>
  <identifier prefix="&id;object/" value="../../../../bm_prn}/{../../mus_obj_parts}/acquisition/{counter_acquisitionCount}"/>
  <triple predicate="crm:P24_transferred_title_of" prefix="&id;object/" object="../../../../bm_prn}/{../../mus_obj_parts}"/>
</else>
<type value="&crm;E8_Acquisition"/>
</resource>
</resource>

</namedmapping>

<!-- Acquisition (Transfer of custody - from and to)-->
<namedmapping name="acquisitionTransferOfCustodyConfig">
<if match=".//.mus_obj_parts[.='1']">
  <triple predicate="crm:P30i_custody_transferred_through" prefix="&id;object/" object="../../../../bm_prn}/acquisition"/>
</if>
<else>
  <triple predicate="crm:P30i_custody_transferred_through" prefix="&id;object/" object="../../../../bm_prn}/{../../mus_obj_parts}/acquisition"/>

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</else>
<triple predicate="crm:P49_has_former_or_current_keeper" prefix="&id;person-institution/" object="{mus_authority-bm_auth_biot_number}"/>

<!-- Parent Acquisition-->
<resource>
<if match=".//./mus_obj_parts[.='1']">
  <identifier prefix="&id;object/" value=".//./bm_prn}/acquisition"></identifier>
  <triple predicate="crm:P9_consists_of" prefix="&id;object/" object=".//./bm_prn}/acquisition/{counter_acquisitionCount}"/>
</if>
<else>
  <identifier prefix="&id;object/" value=".//./bm_prn}/{.//mus_obj_parts}/acquisition"></identifier>
  <triple predicate="crm:P9_consists_of" prefix="&id;object/" object=".//./bm_prn}/{.//mus_obj_parts}/acquisition/{counter_acquisitionCount}"/>
</else>
<type value="&crm;E10_Transfer_of_Custody"></type>
<triple predicate="crm:P29_custody_received_by" object="&id;the-british-museum"/>

<!-- Child Acquisition-->
<resource>
<if match=".//./mus_obj_parts[.='1']">
  <identifier prefix="&id;object/" value=".//./bm_prn}/acquisition/{counter_acquisitionCount}"/>
  <triple predicate="crm:P30_transferred_custody_of" prefix="&id;object/" object=".//./bm_prn}"/>
</if>
<else>
  <identifier prefix="&id;object/" value=".//./bm_prn}/{.//mus_obj_parts}/acquisition/{counter_acquisitionCount}"/>
  <triple predicate="crm:P30_transferred_custody_of" prefix="&id;object/" object=".//./bm_prn}/{.//mus_obj_parts}"/>
</else>
<type value="&crm;E10_Transfer_of_Custody"></type>
<triple predicate="crm:P28_custody_surrendered_by" prefix="&id;person-institution/" object="{mus_authority-bm_auth_biot_number}"/>
</resource>

</resource>

</namedmapping>

<namedmapping name="dimensionconfig">
<counter name="dieaxisCounter" initialValue="1" iterator="increment"/>
<counter name="circumferenceCounter" initialValue="1" iterator="increment"/>
<counter name="diameterCounter" initialValue="1" iterator="increment"/>
<counter name="heightCounter" initialValue="1" iterator="increment"/>
<counter name="lengthCounter" initialValue="1" iterator="increment"/>
<counter name="weightCounter" initialValue="1" iterator="increment"/>

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<counter name="percentageCounter" initialValue="1" iterator="increment"/>
<counter name="curvatureCounter" initialValue="1" iterator="increment"/>
<counter name="thicknessCounter" initialValue="1" iterator="increment"/>
<counter name="volumeCounter" initialValue="1" iterator="increment"/>
<counter name="widthCounter" initialValue="1" iterator="increment"/>
<counter name="depthCounter" initialValue="1" iterator="increment"/>
<counter name="currencyCounter" initialValue="1" iterator="increment"/>

<mapping match="{mus_alias_dimension/_ | bm_alias_denomination/_}">
  <switch>
    <!-- Die-Axis -->
    <case match="{mus_dimension[.=A']}">
      <if match=".//./mus_obj_parts[.=1']">
        <triple object=".//./bm_prn/die-axis/{counter_dieaxisCounter}" predicate="crm:P43_has_dimension" prefix="&id;object/"></triple>
      </if>
      <else>
        <triple object=".//./bm_prn/.//mus_obj_parts/die-axis/{counter_dieaxisCounter}" predicate="crm:P43_has_dimension" prefix="&id;object/"></triple>
      </else>
    </case>
    <resource>
      <if match=".//./mus_obj_parts[.=1']">
        <identifier prefix="&id;object/" value=".//./bm_prn/die-axis/{counter_dieaxisCounter}"></identifier>
      </if>
      <else>
        <identifier prefix="&id;object/" value=".//./bm_prn/.//mus_obj_parts/die-axis/{counter_dieaxisCounter}"></identifier>
      </else>
    </resource>
    <type value="&crm;E54_Dimension"></type>
    <triple object="&id;thesauri/dimension/die-axis" predicate="crm:P2_has_type"></triple>
    <usenamedmapping name="dimensionunitconfig"></usenamedmapping>
    <triple predicate="crm:P3_has_note" value="{mus_dimension_notes}" />
  </resource>
  <triple predicate="bmo:PX_display_wrap" value="Dimension Die Axis :: {mus_dimension_value}{mus_dimension_measurement_unit} :: {mus_dimension_notes}"></triple>
  <counter name="dieaxisCounter" iterate="true"/>
</case>

    <!-- Circumference -->
    <case match="{mus_dimension[.=C']}">
      <if match=".//./mus_obj_parts[.=1']">
        <triple object=".//./bm_prn/circumference/{counter_circumferenceCounter}" predicate="crm:P43_has_dimension" prefix="&id;object/"></triple>
      </if>
    </case>
  </switch>
</mapping>

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</if>
<else>
  <triple object=".//..../bm_prn}/{..../mus_obj_parts}/circumference/{counter_circumferenceCounter" predicate="crm:P43_has_dimension" prefix="&id;object/"></triple>
</else>

<resource>
<if match=".//..../mus_obj_parts[.='1']">
  <identifier prefix="&id;object/" value=".//..../bm_prn}/circumference/{counter_circumferenceCounter"></identifier>
</if>
<else>
  <identifier prefix="&id;object/" value=".//..../bm_prn}/{..../mus_obj_parts}/circumference/{counter_circumferenceCounter"></identifier>
</else>

<type value="&crm;E54_Dimension"></type>
<triple object="&id;thesauri/dimension/circumference" predicate="crm:P2_has_type"></triple>
<usenamedmapping name="dimensionunitconfig"></usenamedmapping>
<triple predicate="crm:P3_has_note" value="{mus_dimension_notes}" />
</resource>
<triple predicate="bmo:PX_display_wrap" value="Dimension Circumference :: {mus_dimension_value}{mus_dimension_measurement_unit} :: {mus_dimension_notes}"></triple>
<counter name="circumferenceCounter" iterate="true"/>

</case>
<!-- Diameter -->
<case match="{mus_dimension[.='D']}">
  <if match=".//..../mus_obj_parts[.='1']">
    <triple object=".//..../bm_prn}/diameter/{counter_diameterCounter" predicate="crm:P43_has_dimension" prefix="&id;object/"></triple>
  </if>
  <else>
    <triple object=".//..../bm_prn}/{..../mus_obj_parts}/diameter/{counter_diameterCounter" predicate="crm:P43_has_dimension" prefix="&id;object/"></triple>
  </else>

  <resource>
  <if match=".//..../mus_obj_parts[.='1']">
    <identifier prefix="&id;object/" value=".//..../bm_prn}/diameter/{counter_diameterCounter"></identifier>
  </if>
  <else>
    <identifier prefix="&id;object/" value=".//..../bm_prn}/{..../mus_obj_parts}/diameter/{counter_diameterCounter"></identifier>
  </else>

  <type value="&crm;E54_Dimension"></type>
  <triple object="&id;thesauri/dimension/diameter" predicate="crm:P2_has_type"></triple>
  <usenamedmapping name="dimensionunitconfig"></usenamedmapping>

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<triple predicate="crm:P3_has_note" value="{mus_dimension_notes}"/>
</resource>
<triple predicate="bmo:PX_display_wrap" value="Dimension Diameter :: {mus_dimension_value}{mus_dimension_measurement_unit} :: {mus_dimension_notes}"></triple>
<counter name="diameterCounter" iterate="true"/>
</case>
<!-- Height -->
<case match="{mus_dimension[.='H']}">
<if match=".//./mus_obj_parts[.='1']">
<triple object=".//./bm_prn/height/{counter_heightCounter}" predicate="crm:P43_has_dimension" prefix="&id;object/"></triple>
</if>
<else>
<triple object=".//./bm_prn//{mus_obj_parts}/height/{counter_heightCounter}" predicate="crm:P43_has_dimension" prefix="&id;object/"></triple>
</else>

<resource>
<if match=".//./mus_obj_parts[.='1']">
<identifier prefix="&id;object/" value=".//./bm_prn/height/{counter_heightCounter}"></identifier>
</if>
<else>
<identifier prefix="&id;object/" value=".//./bm_prn//{mus_obj_parts}/height/{counter_heightCounter}"></identifier>
</else>

<type value="&crm;E54_Dimension"></type>
<triple object="&id;thesauri/dimension/height" predicate="crm:P2_has_type"></triple>
<usenamedmapping name="dimensionunitconfig"></usenamedmapping>
<triple predicate="crm:P3_has_note" value="{mus_dimension_notes}"/>
</resource>
<triple predicate="bmo:PX_display_wrap" value="Dimension Height :: {mus_dimension_value}{mus_dimension_measurement_unit} :: {mus_dimension_notes}"></triple>
<counter name="heightCounter" iterate="true"/>

</case>
<!-- Length -->
<case match="{mus_dimension[.='L']}">
<if match=".//./mus_obj_parts[.='1']">
<triple object=".//./bm_prn/length/{counter_lengthCounter}" predicate="crm:P43_has_dimension" prefix="&id;object/"></triple>
</if>
<else>
<triple object=".//./bm_prn//{mus_obj_parts}/length/{counter_lengthCounter}" predicate="crm:P43_has_dimension" prefix="&id;object/"></triple>
</else>

<resource>
<if match=".//./mus_obj_parts[.='1']">

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<identifier prefix="&id;object/" value="../../bm_prn}/length/{counter_lengthCounter}"></identifier>
</if>
<else>
  <identifier prefix="&id;object/" value="../../bm_prn}/../mus_obj_parts}/length/{counter_lengthCounter}"></identifier>
</else>

<type value="&crm;E54_Dimension"></type>
<triple object="&id;thesauri/dimension/length" predicate="crm:P2_has_type"></triple>
<usenamedmapping name="dimensionunitconfig"></usenamedmapping>
<triple predicate="crm:P3_has_note" value="{mus_dimension_notes}" />
</resource>
<triple predicate="bmo:PX_display_wrap" value="Dimension Length :: {mus_dimension_value}{mus_dimension_measurement_unit} :: {mus_dimension_notes}"></triple>
<counter name="lengthCounter" iterate="true"/>

</case>
<!-- Weight -->
<case match="{mus_dimension[.='M']}">
  <if match="../../mus_obj_parts[.='1']">
    <triple object="../../bm_prn}/weight/{counter_weightCounter" predicate="crm:P43_has_dimension" prefix="&id;object/"></triple>
  </if>
  <else>
    <triple object="../../bm_prn}/../mus_obj_parts}/weight/{counter_weightCounter" predicate="crm:P43_has_dimension" prefix="&id;object/"></triple>
  </else>
<resource>
  <if match="../../mus_obj_parts[.='1']">
    <identifier prefix="&id;object/" value="../../bm_prn}/weight/{counter_weightCounter}"></identifier>
  </if>
  <else>
    <identifier prefix="&id;object/" value="../../bm_prn}/../mus_obj_parts}/weight/{counter_weightCounter}"></identifier>
  </else>
<type value="&crm;E54_Dimension"></type>
<triple object="&id;thesauri/dimension/weight" predicate="crm:P2_has_type"></triple>
<usenamedmapping name="dimensionunitconfig"></usenamedmapping>
<triple predicate="crm:P3_has_note" value="{mus_dimension_notes}" />
</resource>
<triple predicate="bmo:PX_display_wrap" value="Dimension Weight :: {mus_dimension_value}{mus_dimension_measurement_unit} :: {mus_dimension_notes}"></triple>
<counter name="weightCounter" iterate="true"/>

</case>
<!-- Percentage -->
<case match="{mus_dimension[.='P']}">
  <if match="../../mus_obj_parts[.='1']">

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<triple object=".//..../bm_prn}/percentage/{counter_percentageCounter" predicate="crm:P43_has_dimension" prefix="&id;object/"></triple>
</if>
<else>
<triple object=".//..../bm_prn}/{..../mus_obj_parts}/percentage/{counter_percentageCounter" predicate="crm:P43_has_dimension" prefix="&id;object/"></triple>
</else>

<resource>
<if match=".//..../mus_obj_parts[.=1]">
<identifier prefix="&id;object/" value=".//..../bm_prn}/percentage/{counter_percentageCounter"></identifier>
</if>
<else>
<identifier prefix="&id;object/" value=".//..../bm_prn}/{..../mus_obj_parts}/percentage/{counter_percentageCounter"></identifier>
</else>

<type value="&crm;E54_Dimension"></type>
<triple object="&id;thesauri/dimension/percentage" predicate="crm:P2_has_type"></triple>
<usenamedmapping name="dimensionunitconfig"></usenamedmapping>
<triple predicate="crm:P3_has_note" value="{mus_dimension_notes}">
</resource>
<triple predicate="bmo:PX_display_wrap" value="Dimension Percentage :: {mus_dimension_value}{mus_dimension_measurement_unit} :: {mus_dimension_notes}"></triple>
<counter name="percentageCounter" iterate="true"/>
</case>
<!-- Curvature -->
<case match=".//..../mus_dimension[.=S]">
<if match=".//..../mus_obj_parts[.=1]">
<triple object=".//..../bm_prn}/curvature/{counter_curvatureCounter" predicate="crm:P43_has_dimension" prefix="&id;object/"></triple>
</if>
<else>
<triple object=".//..../bm_prn}/{..../mus_obj_parts}/curvature/{counter_curvatureCounter" predicate="crm:P43_has_dimension" prefix="&id;object/"></triple>
</else>

<resource>
<if match=".//..../mus_obj_parts[.=1]">
<identifier prefix="&id;object/" value=".//..../bm_prn}/curvature/{counter_curvatureCounter"></identifier>
</if>
<else>
<identifier prefix="&id;object/" value=".//..../bm_prn}/{..../mus_obj_parts}/curvature/{counter_curvatureCounter"></identifier>
</else>

<type value="&crm;E54_Dimension"></type>
<triple object="&id;thesauri/dimension/curvature" predicate="crm:P2_has_type"></triple>
<usenamedmapping name="dimensionunitconfig"></usenamedmapping>

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<triple predicate="crm:P3_has_note" value="{mus_dimension_notes}"/>
</resource>
<triple predicate="bmo:PX_display_wrap" value="Dimension Curvature :: {mus_dimension_value}{mus_dimension_measurement_unit} :: {mus_dimension_notes}"></triple>
<counter name="curvatureCounter" iterate="true"/>
</case>
<!-- Thickness -->
<case match="{mus_dimension[.='T']}>
<if match=".//./mus_obj_parts[.='1']">
<triple object=".//./bm_prn}/thickness/{counter_thicknessCounter}" predicate="crm:P43_has_dimension" prefix="&id;object/"></triple>
</if>
<else>
<triple object=".//./bm_prn}/.//./mus_obj_parts}/thickness/{counter_thicknessCounter}" predicate="crm:P43_has_dimension" prefix="&id;object/"></triple>
</else>

<resource>
<if match=".//./mus_obj_parts[.='1']">
<identifier prefix="&id;object/" value=".//./bm_prn}/thickness/{counter_thicknessCounter}"></identifier>
</if>
<else>
<identifier prefix="&id;object/" value=".//./bm_prn}/.//./mus_obj_parts}/thickness/{counter_thicknessCounter}"></identifier>
</else>

<type value="&crm;E54_Dimension"></type>
<triple object="&id;thesauri/dimension/thickness" predicate="crm:P2_has_type"></triple>
<usenamedmapping name="dimensionunitconfig"></usenamedmapping>
<triple predicate="crm:P3_has_note" value="{mus_dimension_notes}"/>
</resource>
<triple predicate="bmo:PX_display_wrap" value="Dimension Thickness :: {mus_dimension_value}{mus_dimension_measurement_unit} :: {mus_dimension_notes}"></triple>
<counter name="thicknessCounter" iterate="true"/>
</case>
<!-- Volume -->
<case match="{mus_dimension[.='V']}>
<if match=".//./mus_obj_parts[.='1']">
<triple object=".//./bm_prn}/volume/{counter_volumeCounter}" predicate="crm:P43_has_dimension" prefix="&id;object/"></triple>
</if>
<else>
<triple object=".//./bm_prn}/.//./mus_obj_parts}/volume/{counter_volumeCounter}" predicate="crm:P43_has_dimension" prefix="&id;object/"></triple>
</else>

<resource>
<if match=".//./mus_obj_parts[.='1']">
<identifier prefix="&id;object/" value=".//./bm_prn}/volume/{counter_volumeCounter}"></identifier>

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</if>
<else>
<identifier prefix=&id;object/ value="../../../../bm_prn}/{../../mus_obj_parts}/volume/{counter_volumeCounter}"></identifier>
</else>

<type value="&crm;E54_Dimension"></type>
<triple object=&id;thesauri/dimension/volume predicate="crm:P2_has_type"></triple>
<usenamedmapping name="dimensionunitconfig"></usenamedmapping>
<triple predicate="crm:P3_has_note" value="{mus_dimension_notes}" />
</resource>
<triple predicate="bmo:PX_display_wrap" value="Dimension Volume :: {mus_dimension_value}{mus_dimension_measurement_unit} :: {mus_dimension_notes}"></triple>
<counter name="volumeCounter" iterate="true"/>

</case>
<!-- Width -->
<case match="{mus_dimension[.='W']}">
<if match="../../../../mus_obj_parts[.='1']">
<triple object="../../../../bm_prn}/width/{counter_widthCounter" predicate="crm:P43_has_dimension" prefix=&id;object/"></triple>
</if>
<else>
<triple object="../../../../bm_prn}/{../../mus_obj_parts}/width/{counter_widthCounter" predicate="crm:P43_has_dimension" prefix=&id;object/"></triple>
</else>

<resource>
<if match="../../../../mus_obj_parts[.='1']">
<identifier prefix=&id;object/ value="../../../../bm_prn}/width/{counter_widthCounter"></identifier>
</if>
<else>
<identifier prefix=&id;object/ value="../../../../bm_prn}/{../../mus_obj_parts}/width/{counter_widthCounter"></identifier>
</else>

<type value="&crm;E54_Dimension"></type>
<triple object=&id;thesauri/dimension/width predicate="crm:P2_has_type"></triple>
<usenamedmapping name="dimensionunitconfig"></usenamedmapping>
<triple predicate="crm:P3_has_note" value="{mus_dimension_notes}" />
</resource>
<triple predicate="bmo:PX_display_wrap" value="Dimension Width :: {mus_dimension_value}{mus_dimension_measurement_unit} :: {mus_dimension_notes}"></triple>
<counter name="widthCounter" iterate="true"/>
</case>
<!-- Depth -->
<case match="{mus_dimension[.='X']}">
<if match="../../../../mus_obj_parts[.='1']">

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<triple object=".//..../bm_prn}/depth/{counter_depthCounter}" predicate="crm:P43_has_dimension" prefix="&id;object/"></triple>
</if>
<else>
<triple object=".//..../bm_prn}/{..../mus_obj_parts}/depth/{counter_depthCounter}" predicate="crm:P43_has_dimension" prefix="&id;object/"></triple>
</else>

<resource>
<if match=".//..../mus_obj_parts[.=1]">
<identifier prefix="&id;object/" value=".//..../bm_prn}/depth/{counter_depthCounter"></identifier>
</if>
<else>
<identifier prefix="&id;object/" value=".//..../bm_prn}/{..../mus_obj_parts}/depth/{counter_depthCounter"></identifier>
</else>

<type value="&crm;E54_Dimension"></type>
<triple object="&id;thesauri/dimension/depth" predicate="crm:P2_has_type"></triple>
<usenamedmapping name="dimensionunitconfig"></usenamedmapping>
<triple predicate="crm:P3_has_note" value="{mus_dimension_notes}">
</resource>
<triple predicate="bmo:PX_display_wrap" value="Dimension Depth :: {mus_dimension_value}{mus_dimension_measurement_unit} :: {mus_dimension_notes}"></triple>
<counter name="depthCounter" iterate="true"/>
</case>
<!-- Currency-->
<case match="{bm_denomination[.!=]"}}>
<if match=".//..../mus_obj_parts[.=1]">
<triple object=".//..../bm_prn}/currency/{counter_currencyCounter" predicate="crm:P43_has_dimension" prefix="&id;object/"></triple>
</if>
<else>
<triple object=".//..../bm_prn}/{..../mus_obj_parts}/currency/{counter_currencyCounter" predicate="crm:P43_has_dimension" prefix="&id;object/"></triple>
</else>
<resource>
<if match=".//..../mus_obj_parts[.=1]">
<identifier prefix="&id;object/" value=".//..../bm_prn}/currency/{counter_currencyCounter"></identifier>
</if>
<else>
<identifier prefix="&id;object/" value=".//..../bm_prn}/{..../mus_obj_parts}/currency/{counter_currencyCounter"></identifier>
</else>

<type value="&crm;E54_Dimension"></type>

<!-- This is created manually in the flat-conig.xml-->
<triple predicate="crm:P2_has_type" object="&id;thesauri/dimension/currency"></triple>

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<triple predicate="crm:P91_has_unit" prefix="&id;thesauri/currency/" object="{bm_denomination}" modifier="extractCurrency"></triple>
<triple predicate="crm:P90_has_value" value="{bm_denomination}" modifier="extractdenomination"></triple>
<triple predicate="crm:P3_has_note" value="{bm_denomination_com}"/>
</resource>
<triple predicate="bmo:PX_display_wrap" value="Denomination :: {bm_denomination} :: {bm_denomination_com}"></triple>
<counter name="currencyCounter" iterate="true"/>

</case>
</switch>
</mapping>
</namedmapping>

<namedmapping name="dimensionunitconfig">
<switch>
<case match="mus_dimension_measurement_unit[.= '%' ]">
<triple object="&id;thesauri/unit/percentage-of-rim" predicate="crm:P91_has_unit"></triple>
</case>
<case match="mus_dimension_measurement_unit[.= 'cm' ]">
<triple object="http://qudt.org/vocab/unit#Centimeter" predicate="crm:P91_has_unit"></triple>
</case>
<case match="mus_dimension_measurement_unit[.= 'ft' ]">
<triple object="http://qudt.org/vocab/unit#Foot" predicate="crm:P91_has_unit"></triple>
</case>
<case match="mus_dimension_measurement_unit[.= 'g' ]">
<triple object="http://qudt.org/vocab/unit#Gram" predicate="crm:P91_has_unit"></triple>
</case>
<case match="mus_dimension_measurement_unit[.= 'grains' ]">
<triple object="http://qudt.org/vocab/unit#Grain" predicate="crm:P91_has_unit"></triple>
</case>
<case match="mus_dimension_measurement_unit[.= 'in' ]">
<triple object="http://qudt.org/vocab/unit#Inch" predicate="crm:P91_has_unit"></triple>
</case>
<case match="mus_dimension_measurement_unit[.= 'kg' ]">
<triple object="http://qudt.org/vocab/unit#Kilogram" predicate="crm:P91_has_unit"></triple>
</case>
<case match="mus_dimension_measurement_unit[.= 'lb' ]">
<triple object="http://qudt.org/vocab/unit#PoundMass" predicate="crm:P91_has_unit"></triple>
</case>
<case match="mus_dimension_measurement_unit[.= 'm' ]">
<triple object="http://qudt.org/vocab/unit#Meter" predicate="crm:P91_has_unit"></triple>
</case>

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<case match="mus_dimension_measurement_unit[.='mg']">
  <triple object="http://qudt.org/vocab/unit#Gram" predicate="crm:P91_has_unit"></triple>
</case>
<case match="mus_dimension_measurement_unit[.='ml']">
  <triple object="http://qudt.org/vocab/unit#Liter" predicate="crm:P91_has_unit"></triple>
</case>
<case match="mus_dimension_measurement_unit[.='mm']">
  <triple object="http://qudt.org/vocab/unit#Millimeter" predicate="crm:P91_has_unit"></triple>
</case>
<case match="mus_dimension_measurement_unit[.='oc']">
  <triple object="&id;thesauri/unit/oclock" predicate="crm:P91_has_unit"></triple>
</case>
<case match="mus_dimension_measurement_unit[.='oz']">
  <triple object="http://qudt.org/vocab/unit#OunceMass" predicate="crm:P91_has_unit"></triple>
</case>
</switch>
<!-- Here we add the actual value - if the dimension is milli-whatever, then we'll divide by 1000 using modifier function unitTomilliunit-->
<if match="{mus_dimension_value[.=] or bm_dimension_value_end[.=]}">
<if match="{mus_dimension_value[.!=]}">
  <if match="{mus_dimension_measurement_unit[.='mg'] or mus_dimension_measurement_unit[.='ml']}">
    <triple modifier="unitTomilliunit" predicate="crm:P90_has_value" type="http://www.w3.org/2001/XMLSchema#double" value="{mus_dimension_value}"></triple>
  </if>
<else>
  <triple predicate="crm:P90_has_value" type="http://www.w3.org/2001/XMLSchema#double" value="{mus_dimension_value}"></triple>
</else>
</if>
<if match="{bm_dimension_value_end[.!=]}">
  <if match="{mus_dimension_measurement_unit[.='mg'] or mus_dimension_measurement_unit[.='ml']}">
    <triple modifier="unitTomilliunit" predicate="crm:P90_has_value" type="http://www.w3.org/2001/XMLSchema#double" value="{bm_dimension_value_end}"></triple>
  </if>
<else>
  <triple predicate="crm:P90_has_value" type="http://www.w3.org/2001/XMLSchema#double" value="{bm_dimension_value_end}"></triple>
</else>
</if>
</if>
<if match="{mus_dimension_value[..../bm_dimension_value_end]}">
<if match="{mus_dimension_measurement_unit[.='mg'] or mus_dimension_measurement_unit[.='ml']}">
  <triple modifier="unitTomilliunit" predicate="crm:P90_has_value" type="http://www.w3.org/2001/XMLSchema#double" value="{mus_dimension_value}"></triple>
</if>
<else>

```

```

<triple predicate="crm:P90_has_value" type="http://www.w3.org/2001/XMLSchema#double" value="{mus_dimension_value}"></triple>
</else>
</if>

<if match="{mus_dimension_value[.=..]/bm_dimension_value_end} and {mus_dimension_value[.=!]} and {bm_dimension_value_end[.=!]}>

<if match="{mus_dimension_measurement_unit[.=mg] or mus_dimension_measurement_unit[.=ml]}">
  <triple modifier="unitTomilliunit" predicate="bmo:PX_min_value" type="http://www.w3.org/2001/XMLSchema#double" value="{mus_dimension_value}"></triple>
  <triple modifier="unitTomilliunit" predicate="bmo:PX_max_value" type="http://www.w3.org/2001/XMLSchema#double" value="{bm_dimension_value_end}"></triple>
</if>
<else>
  <triple predicate="bmo:PX_min_value" type="http://www.w3.org/2001/XMLSchema#double" value="{mus_dimension_value}"></triple>
  <triple predicate="bmo:PX_max_value" type="http://www.w3.org/2001/XMLSchema#double" value="{bm_dimension_value_end}"></triple>
</else>
</if>
</if>
</namedmapping>

<namedmapping name="discoveryConfig">

<if match=".//mus_obj_parts[.=1]">
  <triple predicate="crm:P12i_was_present_at" prefix="&id;object/" object=".//bm_prn/find"/>
</if>
<else>
  <triple predicate="crm:P12i_was_present_at" prefix="&id;object/" object=".//bm_prn/.//mus_obj_parts/find"/>
</else>

<resource>
<if match=".//mus_obj_parts[.=1]">
  <identifier prefix="&id;object/" value=".//bm_prn/find"/>
</if>
<else>
  <identifier prefix="&id;object/" value=".//bm_prn/.//mus_obj_parts/find"/>
</else>
<type value="&bmo;EX_Discovery"/>
<type value="&crm;E10_Transfer_of_Custody"/>

<!-- Findspot & Found By - ACQUISITION NAME /ACQUISITION PERSON-->
<if match="{bm_acq_name_ass[.=C]}">
  <!-- Collected By-->
  <triple predicate="crm:P2_has_type" prefix="&id;" object="thesauri/find/C"/>
</if>
<if match="{bm_acq_name_ass[.=EX]}|{mus_field_collection_place_association[.=E]}">

```

```

<!-- Excavated By-->
<triple predicate="crm:P2_has_type" prefix="&id;" object="thesauri/find/E"/>
</if>
<if match="{bm_acq_name_ass[.= 'DA'] | mus_field_collection_place_association[.= 'F']}">
<!-- Division of Finds-->
<triple predicate="crm:P2_has_type" prefix="&id;" object="thesauri/find/F"/>
<if match="{bm_acq_name_ass[.!= '']}">
<triple predicate="crm:P14_carried_out_by" prefix="&id;" object="the-british-museum"/>
</if>
</if>
<if match="{mus_field_collection_place_association[.!= '']}">
<triple predicate="crm:P7_took_place_at" prefix="&id;place/" object="{mus_field_collection_place_th_i}"/>
</if>
</if>
<triple predicate="crm:P14_carried_out_by" prefix="&id;person-institution/" object="{mus_authority-bm_auth_biog_number}"/>
</else>
</resource>
<!-- Display Wraps-->
<if match="{bm_acq_name_ass[.= 'C' or .= 'EX']}">
<triple predicate="bmo:PX_display_wrap" value="Found/Excavated/Collected (by) :: {bm_acq_name} :: {bm_acq_name_com}"/>
</if>
<if match="{bm_acq_name_ass[.= 'DA']}">
<triple predicate="bmo:PX_display_wrap" value="Found/Acquired (by) :: {bm_acq_name} and The British Museum :: {bm_acq_name_com}"/>
</if>
<if match="{mus_field_collection_place_association[.!= '']}">
<triple predicate="bmo:PX_display_wrap" value="Found (in) :: {mus_field_collection_place} :: {mus_field_collection_place_note}"/>
</if>
</namedmapping>

<!-- Basic Production-->
<namedmapping name="productionConfig">

<if match=".//./mus_obj_parts[.= '1']">
<triple predicate="crm:P108i_was_produced_by" prefix="&id;object/" object=".//./..//bm_prn}/production" />
</if>
<else>
<triple predicate="crm:P108i_was_produced_by" prefix="&id;object/" object=".//./..//bm_prn}/{.//./mus_obj_parts}/production" />
</else>

<!-- Parent Production-->

```

```

<resource>
<if match=".//./mus_obj_parts[.=1]">
<identifier prefix="&id;object/" value=".//./bm_prn}/production"/>
<triple predicate="crm:P9_consists_of" prefix="&id;object/" object=".//./bm_prn}/production/{counter_prodCounter}"/>
</if>
<else>
<identifier prefix="&id;object/" value=".//./bm_prn}/.//mus_obj_parts}/production"/>
<triple predicate="crm:P9_consists_of" prefix="&id;object/" object=".//./bm_prn}/.//mus_obj_parts}/production/{counter_prodCounter}"/>
</else>
<type value="&crm;E12_Production"/>
</resource>

<!-- Child Production-->
<resource>
<if match=".//./mus_obj_parts[.=1]">
<identifier prefix="&id;object/" value=".//./bm_prn}/production/{counter_prodCounter}"/>

</if>
<else>
<identifier prefix="&id;object/" value=".//./bm_prn}/.//mus_obj_parts}/production/{counter_prodCounter}"/>
</else>
<type value="&crm;E12_Production"/>
</resource>

</namedmapping>

<!-- Inscription-->
<namedmapping name="inscriptionConfig">
<if match=".//./mus_obj_parts[.=1]">
<triple predicate="crm:P65_shows_visual_item" prefix="&id;object/" object=".//./bm_prn}/inscription/{counter_inscriptionCounter}"/>
</if>
<else>
<triple predicate="crm:P65_shows_visual_item" prefix="&id;object/" object=".//./bm_prn}/.//mus_obj_parts}/inscription/{counter_inscriptionCounter}"/>
</else>

<!-- -->
<resource>
<if match=".//./mus_obj_parts[.=1]">
<identifier prefix="&id;object/" value=".//./bm_prn}/inscription/{counter_inscriptionCounter}"/>
</if>
<else>
<identifier prefix="&id;object/" value=".//./bm_prn}/.//mus_obj_parts}/inscription/{counter_inscriptionCounter}"/>

```

```
</else>
<type value="&crm;E34_Inscription"/>
</resource>
</namedmapping>
</config>
```

## 6.2 Bibliography configuration

```
<?xml version="1.0" encoding="UTF-8" ?>

<!DOCTYPE seme4_makeRDF [
  <!ENTITY id "http://collection.britishmuseum.org/id/">
  <!ENTITY bmo "http://collection.britishmuseum.org/id/ontology/">
  <!ENTITY crm "http://erlangen-crm.org/current/">
  <!ENTITY bibo "http://purl.org/ontology/bibo/">
  <!ENTITY dc "http://purl.org/dc/elements/1.1/">
  <!ENTITY dcterms "http://purl.org/dc/terms/">
  <!ENTITY rdfs "http://www.w3.org/2000/01/rdf-schema#">
  <!ENTITY skos "http://www.w3.org/2004/02/skos/core#">
]>

<config xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="configschema.xsd">

  <!--The namespaces to be delivered in the output RDF file-->
  <namespaces>
    <namespace prefix="id" uri="http://collection.britishmuseum.org/id/" />
    <namespace prefix="bmo" uri="http://collection.britishmuseum.org/id/ontology/" />
    <namespace prefix="crm" uri="http://erlangen-crm.org/current/" />
    <namespace prefix="foaf" uri="http://xmlns.com/foaf/0.1/" />
    <namespace prefix="bibo" uri="http://purl.org/ontology/bibo/" />
    <namespace prefix="dc" uri="http://purl.org/dc/elements/1.1/" />
    <namespace prefix="dcterms" uri="http://purl.org/dc/terms/" />
    <namespace prefix="rdfs" uri="http://www.w3.org/2000/01/rdf-schema#" />
    <namespace prefix="skos" uri="http://www.w3.org/2004/02/skos/core#" />
  </namespaces>

  <!-- configuration for BM bibliography -->
  <mapping match="/{bm_alias_bibliography}" namedgraph="&id;bibliography/{bm_auth_bib_number}/graph">
    <resource>
      <identifier prefix="&id;bibliography/" value="{bm_auth_bib_number}" modifier="strToLower" />

        <!-- CRM Type -->
        <type value="&crm;E31_Document"/>
        <!-- SKOS Type -->
        <type value="&skos;Concept"/>
        <triple predicate="skos:prefLabel" value="{bm_bib_title}" />
        <triple predicate="skos:inScheme" object="&id;bibliography" />
    
```

```

<!-- Bibo Type-->
    <!-- Journal or Book-->
    <if match="{bm_bib_journal[.!="]}">
        <type value="&bibo;Journal" />
        <triple predicate="bibo:shortTitle" value="{bm_bib_journal}" />
    </if>
    <else>
        <type value="&bibo;Document" />
    </else>

<triple predicate="crm:P94i_was_created_by" prefix="&id;bibliography/" object="{bm_auth_bib_number}/publication" />
<triple predicate="crm:P94i_was_created_by" prefix="&id;bibliography/" object="{bm_auth_bib_number}/authoring" />

<!--Notes-->
<if match="{bm_bib_notes[.!="]}">
    <triple predicate="crm:P3_has_note" value="{bm_bib_notes}" />
</if>

<!--Series/Collection-->
<if match="{bm_bib_series_title[.!="] or bm_bib_coll_title[.!="]}>
    <if match="{bm_bib_series_title[.!="]}>
        <triple predicate="crm:P148i_is_component_of" prefix="http://collection.britishmuseum.org/id/bibliographic-series/" object="{bm_bib_series_title}" />
    </if>
    <else>
        <triple predicate="crm:P148i_is_component_of" prefix="http://collection.britishmuseum.org/id/bibliographic-series/" object="{bm_bib_coll_title}" />
    </else>
    <resource>
        <type value="&bmo;EX_Bibliographic_Series"/>
        <type value="&skos;Concept"/>
        <if match="{bm_bib_series_title[.!="]}>
            <identifier prefix="http://collection.britishmuseum.org/id/bibliographic-series/" value="{bm_bib_series_title}" />
            <triple predicate="rdfs:label" value="{bm_bib_series_title}" />
        </if>
        <else>
            <identifier prefix="http://collection.britishmuseum.org/id/bibliographic-series/" value="{bm_bib_coll_title}" />
            <triple predicate="rdfs:label" value="{bm_bib_coll_title}" />
        </else>
    </resource>
</if>
</if>

<!--ISBN / ISSN-->

```

```

<mapping match="{bm_bib_isbn}">
  <triple predicate="bibo:identifier" value=".\" />
</mapping>

<!--Edition-->
<mapping match="{bm_bib_edition}">
  <triple predicate="bibo:edition" value=".\" />
</mapping>

<!--Volume-->
<mapping match="{bm_bib_volume}">
  <triple predicate="bibo:volume" value=".\" />
</mapping>

<!--Issue-->
<mapping match="{bm_bib_issue}">
  <triple predicate="bibo:issue" value=".\" />
</mapping>

<!--Pages nos-->
<mapping match="{bm_bib_page_nos}">
  <triple predicate="bibo:numPages" value=".\" />
</mapping>

<!-- Creation event for the publication -->
<resource>
  <identifier prefix="&id;bibliography/" value="{bm_auth_bib_number}/publication"/>
  <!-- Published By - production person association code-->
  <triple predicate="crm:P2_has_type" prefix="&id;thesauri/" object="production/publishing"/>

  <type value="&crm;E65_Creation"/>

  <!-- Publish Date -->
  <if match="{bm_bib_publication_date_text[.!=""]}">
    <triple predicate="crm:P4_has_time-span" prefix="&id;bibliography/" object="{bm_auth_bib_number}/publication/date"/>
    <resource>
      <identifier prefix="&id;bibliography/" value="{bm_auth_bib_number}/publication/date"/>
      <type value="&crm;E52_Time-Span"/>
      <triple predicate="crm:P82a_begin_of_the_begin" type="http://www.w3.org/2001/XMLSchema#date" value="{bm_bib_publication_date_earliest}">
        <modifier>formatmerlinearliestdateasxsddate</modifier>
      </triple>
    </resource>
  </if>
</resource>

```

```

<triple predicate="crm:P82b_end_of_the_end" type="http://www.w3.org/2001/XMLSchema#date" value="{bm_bib_publication_date_latest}" modifier="formatmerlinearliestdateasxsddate"/>
    <triple predicate="crm:P3_has_note" type="http://www.w3.org/2001/XMLSchema#string" value="{bm_bib_publication_date_text}" />
</resource>
</if>

<!-- Published Place -->
<if match="{bm_bib_publication_place[.!=""]}">
    <triple predicate="crm:P7_took_place_at" prefix="&id;bibliography/" object="{bm_auth_bib_number}/publication/place"/>
    <resource>
        <identifier prefix="&id;bibliography/" value="{bm_auth_bib_number}/publication/place"/>
        <type value="&crm;E53_Place"/>
        <triple predicate="rdfs:label" value="{bm_bib_publication_place}" />
    </resource>
</if>
</if>

<!-- Published By / Publisher -->
<if match="{bm_bib_publisher[.!=""]}">
    <triple predicate="crm:P14_carried_out_by" prefix="&id;bibliography/" object="{bm_auth_bib_number}/publication/publisher"/>
    <resource>
        <identifier prefix="&id;bibliography/" value="{bm_auth_bib_number}/publication/publisher"/>
        <type value="&crm;E40_Legal_Body"/>
        <triple predicate="rdfs:label" value="{bm_bib_publisher}" />
    </resource>
</if>
</if>

</resource>

<!-- Creation Event for the authoring-->
<resource>
    <identifier prefix="&id;bibliography/" value="{bm_auth_bib_number}/authoring"/>
    <!-- Author - production person association code-->
    <triple predicate="crm:P2_has_type" prefix="&id;thesauri/" object="production/authoring"/>
    <type value="&crm;E65_Creation"/>
    <counter name="authorCount" initialValue="1" iterator="increment"/>

    <!-- Author(s) -->
<mapping match="{bm_bib_author/_}">
    <triple predicate="crm:P14_carried_out_by" prefix="&id;bibliography/" object="../../bm_auth_bib_number}/authoring/author/{counter_authorCount}" />
    <resource>
        <identifier prefix="&id;bibliography/" value="../../bm_auth_bib_number}/authoring/author/{counter_authorCount}"/>
        <type value="&crm;E21_Person"/>

```

```
<triple predicate="rdfs:label" value="."/> />
</resource>
</mapping>
</resource>

</resource>
</mapping>
</config>
```

### 6.3 Biography configuration

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE seme4_makeRDF [
<!ENTITY id "http://collection.britishmuseum.org/id/">
<!ENTITY bmo "http://collection.britishmuseum.org/id/ontology/">
<!ENTITY crm "http://erlangen-crm.org/current/">
<!ENTITY foaf "http://xmlns.com/foaf/0.1/">
<!ENTITY dc "http://purl.org/dc/elements/1.1/">
<!ENTITY dcterms "http://purl.org/dc/terms/">
<!ENTITY rdfs "http://www.w3.org/2000/01/rdf-schema#">
<!ENTITY skos "http://www.w3.org/2004/02/skos/core#">
]>
<config xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="configschema.xsd">

    <!--Split files into chunks
    type=elementcount|filesize - informs the RDFFer how to split the files
    size=the size of the files or number of elements to split by-->
    <split type="filesize" size="25000" inputdirectoryname="in" outputdirectoryname="out"/>

    <!--The namespaces to be delivered in the output RDF file-->
    <namespaces>
        <namespace prefix="id" uri="http://collection.britishmuseum.org/id/" />
        <namespace prefix="bmo" uri="http://collection.britishmuseum.org/id/ontology/" />
        <namespace prefix="crm" uri="http://erlangen-crm.org/current/" />
        <namespace prefix="foaf" uri="http://xmlns.com/foaf/0.1/" />
        <namespace prefix="dc" uri="http://purl.org/dc/elements/1.1/" />
        <namespace prefix="dcterms" uri="http://purl.org/dc/terms/" />
        <namespace prefix="rdfs" uri="http://www.w3.org/2000/01/rdf-schema#" />
        <namespace prefix="xsd" uri="http://www.w3.org/2001/XMLSchema#" />
        <namespace prefix="skos" uri="http://www.w3.org/2004/02/skos/core#" />
    </namespaces>

    <!-- configuration for BM bibliography -->
    <mapping match="{//bm_alias_bibliography}" namedgraph="http://collection.britishmuseum.org/id/person-institution/{bm_auth_biog_number}/graph">
        <resource>
            <!--Resource Identifier-->
            <identifier prefix="http://collection.britishmuseum.org/id/person-institution/" value="{bm_auth_biog_number}" modifier="strToLower"/>

            <!-- TYPE
            type as crm:actor
```

Not more specific as there is no way in which to tell from the data whether the record is about a Person or organisation.

```

-->
<type value="&skos;Concept"/>

<!--GENDER-->
<if match="{bm_bi_gender!="}>
    <triple predicate="bmo:PX_gender" prefix="&id;thesauri/" object="gender/{bm_bi_gender}" modifier="strToLower"/>
    <!-- Since they have a gender then we'll say they're a person-->
    <type value="http://erlangen-crm.org/current/E21_Person"/>
</if>
<else>
    <!-- If there is no Gender, then we'll that they're an actor-->
    <type value="http://erlangen-crm.org/current/E39_Actor"/>
</else>

<triple predicate="skos:inScheme" prefix="http://collection.britishmuseum.org/id/" object="person-institution"/>

<!-- NAMES -->
<!--Each name will be an actor appellation as there are dates associated with it-->
<counter name="appellationCounter" initialValue="1" iterator="increment"/>
<mapping match="{bm_alias.bi_names/_}">
    <triple predicate="crm:P131_is_identified_by" prefix="http://collection.britishmuseum.org/id/person-institution/" object="{$../.bm_auth.biog_number}/appellation/{counter_appellationCounter}">
        <resource>
            <type value="http://erlangen-crm.org/current/E82_Actor_Appellation"/>
            <identifier prefix="http://collection.britishmuseum.org/id/person-institution/" value="{$../.bm_auth.biog_number}/appellation/{counter_appellationCounter}">
                <triple predicate="rdfs:label" value="{$bm.bi.names}">
                    <triple predicate="bmo:PX_display_wrap" value="{$bm.bi.title} {$bm.bi.names} {$bm.bi.ntype}">
                    <!-- NAME DATES -->
                    <if match="{$bm.bi.ndate.text[.!=]}">
                        <triple predicate="crm:P37i_was_assigned_by" prefix="&id;person-institution/" object="{$../.bm_auth.biog_number}/appellation/{counter_appellationCounter}/assigned"/>
                        <resource>
                            <identifier prefix="&id;person-institution/" value="{$../.bm_auth.biog_number}/appellation/{counter_appellationCounter}/assigned"/>
                            <type value="&crm;E15_Identifier_Assignment"/>
                            <triple predicate="crm:P4_has_time-span" prefix="&id;person-institution/" value="{$../.bm_auth.biog_number}/appellation/{counter_appellationCounter}/assigned/date"/>
                            <resource>
                                <type value="&crm;E52_Time-Span"/>
                                <identifier prefix="&id;person-institution/" value="{$../.bm_auth.biog_number}/appellation/{counter_appellationCounter}/assigned/date"/>

```

```

modifier="formatmerlinearliestdateasxsddate">></triple>
<triple predicate="crm:P82_at_some_time_within" value="{bm_bi_ndate_earliest}" type="http://www.w3.org/2001/XMLSchema#date"
object="{../../bm_auth_biog_number}/appellation/{counter_appellationCounter}/deassigned">
<resource>
<triple predicate="crm:P3_has_note" type="http://www.w3.org/2001/XMLSchema#string" value="{bm_bi_ndet}"></triple>
</resource>
</resource>

<triple predicate="crm:P38i_was_deassigned_by" prefix="&id;person-institution/">
<resource>
<identifier prefix="&id;person-institution/" value="{../../bm_auth_biog_number}/appellation/{counter_appellationCounter}/deassigned"/>
<type value="&crm;E15_Identifier_Assignment"/>
<triple predicate="crm:P4_has_time-span" prefix="&id;person-institution/">
<resource>
<type value="&crm;E52_Time-Span"/>
<identifier prefix="&id;person-institution/" value="{../../bm_auth_biog_number}/appellation/{counter_appellationCounter}/deassigned/date"/>
<triple predicate="crm:P82_at_some_time_within" value="{bm_bi_ndate_latest}" type="http://www.w3.org/2001/XMLSchema#date"
object="{../../bm_auth_biog_number}/appellation/{counter_appellationCounter}/deassigned/date">
<resource>
<triple predicate="crm:P3_has_note" type="http://www.w3.org/2001/XMLSchema#string" value="{bm_bi_ndet}"></triple>
</resource>
</resource>
<triple predicate="bmo:PX_display_wrap" value="Name Date :: {bm_bi_ndate_text} :: {bm_bi_ndet}"/>
</if>
</resource>
<counter name="appellationCounter" iterate="true"/>
</mapping>
<triple predicate="skos:prefLabel" value="{bm_bi_disname}"/>

<!-- BIOGRAPHY--&gt;
&lt;triple predicate="crm:P3_has_note" value="{bm_bi_biog}"/&gt;

<!---PROFESSION / FIELD OF ACTIVITY--&gt;
&lt;mapping match="{bm_bi_prof/_}"&gt;
&lt;triple predicate="bmo:PX_profession" prefix ="&amp;id;thesauri/profession/" object=". "/&gt;
&lt;/mapping&gt;

<!---NATIONALITY/CULTURE
More of a CRM way in which to model this
Represent the nationality as a E74_group
</pre>

```

```

-->
<mapping match="{bm_bi_nat/_}">
    <if match="{.!=}">
        <!--<triple predicate="crm:P107i_is_current_or_former_member_of" prefix="&id;thesauri/nationality/" object="."/>-->
<triple predicate="bmo:PX_nationality" prefix="&id;thesauri/nationality/" object="."/>
    </if>
</mapping>

<!--SCHOOL
More of a CRM way in which to model this
Represent the nationality as a E74_group
-->
<mapping match="{bm_bi_school/_}">
    <if match="{.!=}">
        <triple predicate="crm:P107i_is_current_or_former_member_of" prefix="&id;thesauri/school/" object="."/>
        <resource>
            <identifier prefix="&id;thesauri/school/" value="."/>
            <type value="&crm;E74_Group"/>
            <triple predicate="rdfs:label" value="."/>
            <triple predicate="bmo:PX_display_wrap" value="School :: ."/>
        </resource>
    </if>
</mapping>

<!-- DATES
Need to associate date with the bio record - ambiguous in the relation

if the details field is empty, assumption is life dates:

<person-institution> crm:P92i_was_brought_into_existence_by <person-institution/birth>
<person-institution> crm:P93i_was_taken_out_of_existence_by <person-institution/death>

<person-institution/birth> a E63_Beginning_of_Existence
<person-institution/birth> crm:P4_has_time-span <person-institution/birth/date>
<person-institution/birth/date> a E52_Time-Span

<person-institution/death> a E64_End_of_Existence
<person-institution/death> crm:P4_has_time-span <person-institution/death/date>
<person-institution/death/date> a E52_Time-Span

ELSE

```

```

<person-institution> a E39_Actor.
<person-institution> crm:P12_was_present_at <person-institution/activity/M>

<person-institution/activity/M> a E7_Activity
<person-institution/activity/M> rdfs:label "Details Text"
<person-institution/activity/M> crm:P4_has_time-span <person-institution/activity/M/date>

<person-institution/activity/M/date> a E52_Time-Span

...
-->
<counter name="datesCounter" initialValue="1" iterator="increment"/>
<mapping match="{bm_alias_bi_dates/_}">

    <!-- If empty then we'll assume that it is birth/death date-->
    <if match="{bm_bi_datedet[.=]}">
        <!-- There is a birth date-->
        <if match="{bm_bi_fdate_text[.!="]}">
            <triple predicate="crm:P92i_was_brought_into_existence_by" prefix="&id;person-institution/" object="../../../../bm_auth_biog_number/birth"/>
            <resource>
                <identifier prefix="&id;person-institution/" value="../../../../bm_auth_biog_number/birth"/>
                <type value="&crm;E63_Beginning_of_Existence"/>
                <triple predicate="crm:P4_has_time-span" prefix="&id;person-institution/" object="../../../../bm_auth_biog_number/birth/date"/>

                <resource>
                    <type value="&crm;E52_Time-Span"/>
                    <identifier prefix="&id;person-institution/" value="../../../../bm_auth_biog_number/birth/date"/>
                    <triple predicate="rdfs:label" value="{bm_bi_fdate_text}"/>
                    <triple predicate="crm:P82a_begin_of_the_begin" type="http://www.w3.org/2001/XMLSchema#date" value="{bm_bi_fdate_earliest}">
                        <triple predicate="crm:P82b_end_of_the_end" type="http://www.w3.org/2001/XMLSchema#date" value="{bm_bi_fdate_latest}">
                            <triple predicate="crm:P3_has_note" type="http://www.w3.org/2001/XMLSchema#string" value="{bm_bi_fdate_text} :: {bm_bi_datedet}">
                                </resource>
                            </triple>
                        </triple>
                    </resource>
                </if>
                <!-- There is a death date-->
                <if match="{bm_bi_ldate_text[.!="]}">
                    <triple predicate="crm:P93i_was_taken_out_of_existence_by" prefix="&id;person-institution/" object="../../../../bm_auth_biog_number/death"/>
                </if>
            </resource>
        </if>
    </mapping>

```

```

<resource>
    <identifier prefix="&id;person-institution/" value=".//bm_auth_biog_number}/death"/>
    <type value="&crm;E64_End_of_Existence"/>
    <triple predicate="crm:P4_has_time-span" prefix="&id;person-institution/" object=".//bm_auth_biog_number}/death/date"/>

    <resource>
        <type value="&crm;E52_Time-Span"/>
        <identifier prefix="&id;person-institution/" value=".//bm_auth_biog_number}/death/date"/>
        <triple predicate="rdfs:label" value="{bm_bi_ldate_text}"/>
        <triple predicate="crm:P82a_begin_of_the_begin" type="http://www.w3.org/2001/XMLSchema#date" value="{bm_bi_ldate_earliest}">
            <triple predicate="crm:P82b_end_of_the_end" type="http://www.w3.org/2001/XMLSchema#date" value="{bm_bi_ldate_latest}">
                <triple predicate="crm:P3_has_note" type="http://www.w3.org/2001/XMLSchema#string" value="{bm_bi_ldate_text} :: {bm_bi_datedet}"></triple>
            </triple>
        </triple>
    </resource>
</resource>
</if>
</else>
<!-- Another activities dates-->
<triple predicate="crm:P12i_was_present_at" prefix="&id;person-institution/" object=".//bm_auth_biog_number}/activity/{counter_datesCounter}">
<resource>
    <identifier prefix="&id;person-institution/" value=".//bm_auth_biog_number}/activity/{counter_datesCounter}">
    <type value="&crm;E7_Activity"/>
    <triple predicate="crm:P3_has_note" value="{bm_bi_datedet}">
        <triple predicate="crm:P4_has_time-span" prefix="&id;person-institution/" object=".//bm_auth_biog_number}/activity/{counter_datesCounter}/date"/>
        <resource>
            <type value="&crm;E52_Time-Span"/>
            <identifier prefix="&id;person-institution/" value=".//bm_auth_biog_number}/activity/{counter_datesCounter}/date"/>
        </resource>
    </triple>
</resource>
<!-- If we have both dates, then we'll use P82a/b-->
<if match="{bm_bi_fdate_text[.!=]" and bm_bi_ldate_text[.!=]}">
    <triple predicate="crm:P82a_begin_of_the_begin" type="http://www.w3.org/2001/XMLSchema#date" value="{bm_bi_fdate_earliest}" modifier="formatmerlinearliestdateasxsddate"></triple>
    <triple predicate="crm:P81a_end_of_the_begin" type="http://www.w3.org/2001/XMLSchema#date" value="{bm_bi_fdate_latest}" modifier="formatmerlinearliestdateasxsddate"></triple>

    <triple predicate="crm:P81b_begin_of_the_end" type="http://www.w3.org/2001/XMLSchema#date" value="{bm_bi_ldate_earliest}" modifier="formatmerlinearliestdateasxsddate"></triple>
    <triple predicate="crm:P82b_end_of_the_end" type="http://www.w3.org/2001/XMLSchema#date" value="{bm_bi_ldate_latest}" modifier="formatmerlinearliestdateasxsddate"></triple>
</if>
<else>
    <if match="{bm_bi_fdate_text[.!=]}">
        <triple predicate="crm:P82_at_some_time_within" value="{bm_bi_fdate_text}"></triple>

```

```

</if>
<if match="{bm_bi_ldate_text[.!='']}>
  <triple predicate="crm:P82_at_some_time_within" value="{bm_bi_ldate_text}"></triple>
</if>
</else>
  <!-- put in the actual dates-->
  <if match="{bm_bi_ldate_text[.!='']|bm_bi_fdate_text[.!='']}>
    <triple predicate="crm:P3_has_note" type="http://www.w3.org/2001/XMLSchema#string" value="{bm_bi_fdate_text} - {bm_bi_ldate_text}>
    <triple predicate="rdfs:label" type="http://www.w3.org/2001/XMLSchema#string" value="{bm_bi_fdate_text} - 
{bm_bi_ldate_text}"></triple>
  </if>
</resource>
</resource>

<counter name="datesCounter" iterate="true"/>
</else>

</mapping>
</resource>
</mapping>

</config>

```

## 6.4 Dimension & Unit configuration

```
<!DOCTYPE jm_RDFer [  
<!ENTITY id "http://collection.britishmuseum.org/id/">  
<!ENTITY bmo "http://collection.britishmuseum.org/id/ontology/">  
<!ENTITY crm "http://erlangen-crm.org/current/">  
<!ENTITY skos "http://www.w3.org/2004/02/skos/core#">  
<!ENTITY thesUnit "http://collection.britishmuseum.org/id/thesauri/units/">  
>  
<config xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="configschema.xsd">  
  
    <!--The namespaces to be delivered in the output RDF file-->  
    <namespaces>  
        <namespace prefix="owl" uri="http://www.w3.org/2002/07/owl#"></namespace>  
        <namespace prefix="rdf" uri="http://www.w3.org/1999/02/22-rdf-syntax-ns#"></namespace>  
        <namespace prefix="rdfs" uri="http://www.w3.org/2000/01/rdf-schema#"></namespace>  
        <namespace prefix="crm" uri="http://erlangen-crm.org/current/"></namespace>  
        <namespace prefix="xsd" uri="http://www.w3.org/2001/XMLSchema#"></namespace>  
        <namespace prefix="thes" uri="http://collection.britishmuseum.org/id/thesauri/"></namespace>  
        <namespace prefix="thesDimension" uri="http://collection.britishmuseum.org/id/thesauri/dimension/"></namespace>  
        <namespace prefix="thesUnit" uri="http://collection.britishmuseum.org/id/thesauri/unit/"></namespace>  
        <namespace prefix="bmo" uri="http://collection.britishmuseum.org/id/ontology/"></namespace>  
        <namespace prefix="id" uri="http://collection.britishmuseum.org/id/"></namespace>  
        <namespace prefix="unit" uri="http://qudt.org/vocab/unit#"></namespace>  
        <namespace prefix="skos" uri="http://www.w3.org/2004/02/skos/core#"></namespace>  
    </namespaces>  
  
    <mapping match="/rmxml/mus_auth_dimension_unit" namedgraph="http://collection.britishmuseum.org/id/thesauri/unit/{mus_auth_dimension_unit}/graph">  
        <if match="{mus_auth_dimension_unit_abbrev[.= 'oc' or .= '%']}"/>  
            <resource>  
                <if match="{mus_auth_dimension_unit_abbrev[.= '%']}"/>  
                    <identifier prefix="&thesUnit;" value="percentage-of-rim"/>  
                </if>  
                <else>  
                    <identifier prefix="&thesUnit;" value="oclock"/>  
                </else>  
                <type value="http://erlangen-crm.org/current/E58_Measurement_Unit"/>  
                <type value="&skos;Concept"/>  
                <triple predicate="skos:inScheme" prefix="&id;" object="thesauri/unit"/>  
            </resource>  
        </if>  
    </mapping>
```

```
        <triple predicate="skos:prefLabel" value="{mus_auth_dimension_unit}" />
        <triple predicate="skos:scopeNote" value="Dimension Unit :: {mus_auth_dimension_unit} :: {mus_auth_dimension_unit_abbrev}" />
    </resource>
</if>

</mapping>

</config>
```

## 6.5 Flat configuration

```
<!DOCTYPE jm_RDFer [  
  <!ENTITY id "http://collection.britishmuseum.org/id/">  
  <!ENTITY bmo "http://collection.britishmuseum.org/id/ontology/">  
  <!ENTITY crm "http://erlangen-crm.org/current/">  
  <!ENTITY foaf "http://xmlns.com/foaf/0.1/">  
  <!ENTITY skos "http://www.w3.org/2004/02/skos/core#">  
>  
<config xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="configschema.xsd">  
  <!--Split files into chunks  
      type=elementcount|filesize - informs the RDfer how to split the files  
      size=the size of the files or number of elements to split by-->  
  <split inputdirectoryname="in" outputdirectoryname="out" size="25000" type="filesize"/>  
  
  <!--The namespaces to be delivered in the output RDF file-->  
  <namespaces>  
    <namespace prefix="id" uri="http://collection.britishmuseum.org/id/"></namespace>  
    <namespace prefix="bmo" uri="http://collection.britishmuseum.org/id/ontology/"></namespace>  
    <namespace prefix="crm" uri="http://erlangen-crm.org/current/"></namespace>  
    <namespace prefix="foaf" uri="http://xmlns.com/foaf/0.1/"></namespace>  
    <namespace prefix="skos" uri="http://www.w3.org/2004/02/skos/core#"></namespace>  
    <namespace prefix="csw" uri="http://semantic-web.at/ontologies/csw.owl#"></namespace>  
    <namespace prefix="dc" uri="http://purl.org/dc/elements/1.1/"></namespace>  
    <namespace prefix="dcterms" uri="http://purl.org/dc/terms/"></namespace>  
    <namespace prefix="xsd" uri="http://www.w3.org/2001/XMLSchema#"></namespace>  
    <namespace prefix="rdfs" uri="http://www.w3.org/2000/01/rdf-schema#"></namespace>  
  </namespaces>  
  
  <!-- Manually created resources -->  
  <mapping match="/{rmxml}" namedgraph="http://collection.britishmuseum.org/id/thesauri/manual/graph">  
  
    <!-- Association thesaurus for Subject-->  
    <resource>  
      <type value="http://erlangen-crm.org/current/E55_Type"/>  
      <type value="http://www.w3.org/2004/02/skos/core#Concept"/>  
      <identifier prefix="http://collection.britishmuseum.org/id/thesauri/association/" value="subjectof"/>  
      <triple predicate="skos:prefLabel" value="Subject Of"/>  
      <triple predicate="skos:inScheme" object="http://collection.britishmuseum.org/id/thesauri/association"/>
```

```

</resource>

<!-- Currency Dimension Type-->
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/dimension/" value="currency"/>
<type value="http://erlangen-crm.org/current/E55_Type"/>
<type value="http://www.w3.org/2004/02/skos/core#Concept"/>
<triple predicate="skos:inScheme" object="http://collection.britishmuseum.org/id/thesauri/dimension"/>
<triple predicate="skos:prefLabel" value="Currency"/>
</resource>
</mapping>

<!-- ASPECTS
      Views Only
      -->
<mapping match="{//mus_auth_flat[mus_auth_flat_type='Aspect' and mus_auth_type='d s v view']}" namedgraph="http://collection.britishmuseum.org/id/thesauri/aspect/{mus_auth_flat_term}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/aspect/" value="{mus_auth_flat_term}"/>
<type value="http://erlangen-crm.org/current/E55_Type"/>
<type value="http://www.w3.org/2004/02/skos/core#Concept"/>
<triple predicate="skos:inScheme" object="http://collection.britishmuseum.org/id/thesauri/aspect"/>
<triple predicate="skos:prefLabel" value="{mus_auth_flat_term}"/>
<triple predicate="skos:scopeNote" value="Aspect :: {mus_auth_flat_term} :: {mus_auth_flat_description}"/>
</resource>
</mapping>
<!-- DEPARTMENT
      Leaving out department external
      -->
<mapping match="{//mus_auth_flat[mus_auth_flat_type='Department' and mus_auth_flat_term != 'X']}" namedgraph="http://collection.britishmuseum.org/id/thesauri/department/{mus_auth_flat_term}/graph">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/department/" value="{mus_auth_flat_term}"/>
<type value="http://erlangen-crm.org/current/E74_Group"/>
<type value="http://www.w3.org/2004/02/skos/core#Concept"/>
<triple predicate="skos:inScheme" object="http://collection.britishmuseum.org/id/thesauri/department"/>
<triple predicate="skos:prefLabel" value="BM Department {mus_auth_flat_description}"/>
<triple predicate="skos:scopeNote" value="Department {mus_auth_flat_description} at The British Museum"/>
</resource>
</mapping>

<!-- DIMENSION TYPES-->
<mapping match="{//mus_auth_flat[mus_auth_flat_type='Dim.Type']}" namedgraph="http://collection.britishmuseum.org/id/thesauri/dimension/graph">
<resource>

```

```

<switch>
  <!-- Die-Axis -->
  <case match="{mus_auth_flat_term[.='A']}">
    <identifier value="http://collection.britishmuseum.org/id/thesauri/dimension/die-axis"/>
    <type value="http://erlangen-crm.org/current/E55_Type"/>
    <type value="http://www.w3.org/2004/02/skos/core#Concept"/>
    <triple predicate="skos:inScheme" object="http://collection.britishmuseum.org/id/thesauri/dimension"/>
    <triple predicate="skos:prefLabel" value="{mus_auth_flat_description}"/>
  </case>
  <!-- Circumference -->
  <case match="{mus_auth_flat_term[.='C']}">
    <identifier value="http://collection.britishmuseum.org/id/thesauri/dimension/circumference"/>
    <type value="http://erlangen-crm.org/current/E55_Type"/>
    <type value="http://www.w3.org/2004/02/skos/core#Concept"/>
    <triple predicate="skos:inScheme" object="http://collection.britishmuseum.org/id/thesauri/dimension"/>
    <triple predicate="skos:prefLabel" value="{mus_auth_flat_description}"/>
  </case>
  <!-- Diameter -->
  <case match="{mus_auth_flat_term[.='D']}">
    <identifier value="http://collection.britishmuseum.org/id/thesauri/dimension/diameter"/>
    <type value="http://erlangen-crm.org/current/E55_Type"/>
    <type value="http://www.w3.org/2004/02/skos/core#Concept"/>
    <triple predicate="skos:inScheme" object="http://collection.britishmuseum.org/id/thesauri/dimension"/>
    <triple predicate="skos:prefLabel" value="{mus_auth_flat_description}"/>
  </case>
  <!-- Height -->
  <case match="{mus_auth_flat_term[.='H']}">
    <identifier value="http://collection.britishmuseum.org/id/thesauri/dimension/height"/>
    <type value="http://erlangen-crm.org/current/E55_Type"/>
    <type value="http://www.w3.org/2004/02/skos/core#Concept"/>
    <triple predicate="skos:inScheme" object="http://collection.britishmuseum.org/id/thesauri/dimension"/>
    <triple predicate="skos:prefLabel" value="{mus_auth_flat_description}"/>
  </case>
  <!-- Length -->
  <case match="{mus_auth_flat_term[.='L']}">
    <identifier value="http://collection.britishmuseum.org/id/thesauri/dimension/length"/>
    <type value="http://erlangen-crm.org/current/E55_Type"/>
    <type value="http://www.w3.org/2004/02/skos/core#Concept"/>
    <triple predicate="skos:inScheme" object="http://collection.britishmuseum.org/id/thesauri/dimension"/>
    <triple predicate="skos:prefLabel" value="{mus_auth_flat_description}"/>
  </case>
  <!-- Weight -->

```

```

<case match="{mus_auth_flat_term[.=M']}>
  <identifier value="http://collection.britishmuseum.org/id/thesauri/dimension/weight"/>
  <type value="http://erlangen-crm.org/current/E55_Type"/>
  <type value="http://www.w3.org/2004/02/skos/core#Concept"/>
  <triple predicate="skos:inScheme" object="http://collection.britishmuseum.org/id/thesauri/dimension"/>
  <triple predicate="skos:prefLabel" value="{mus_auth_flat_description}"/>
</case>
<!-- Percentage -->
<case match="{mus_auth_flat_term[.=P']}>
  <identifier value="http://collection.britishmuseum.org/id/thesauri/dimension/percentage"/>
  <type value="http://erlangen-crm.org/current/E55_Type"/>
  <type value="http://www.w3.org/2004/02/skos/core#Concept"/>
  <triple predicate="skos:inScheme" object="http://collection.britishmuseum.org/id/thesauri/dimension"/>
  <triple predicate="skos:prefLabel" value="{mus_auth_flat_description}"/>
</case>
<!-- Curvature -->
<case match="{mus_auth_flat_term[.=S']}>
  <identifier value="http://collection.britishmuseum.org/id/thesauri/dimension/curvature"/>
  <type value="http://erlangen-crm.org/current/E55_Type"/>
  <type value="http://www.w3.org/2004/02/skos/core#Concept"/>
  <triple predicate="skos:inScheme" object="http://collection.britishmuseum.org/id/thesauri/dimension"/>
  <triple predicate="skos:prefLabel" value="{mus_auth_flat_description}"/>
</case>
<!-- Thickness -->
<case match="{mus_auth_flat_term[.=T']}>
  <identifier value="http://collection.britishmuseum.org/id/thesauri/dimension/thickness"/>
  <type value="http://erlangen-crm.org/current/E55_Type"/>
  <type value="http://www.w3.org/2004/02/skos/core#Concept"/>
  <triple predicate="skos:inScheme" object="http://collection.britishmuseum.org/id/thesauri/dimension"/>
  <triple predicate="skos:prefLabel" value="{mus_auth_flat_description}"/>
</case>
<!-- Volume -->
<case match="{mus_auth_flat_term[.=V']}>
  <identifier value="http://collection.britishmuseum.org/id/thesauri/dimension/volume"/>
  <type value="http://erlangen-crm.org/current/E55_Type"/>
  <type value="http://www.w3.org/2004/02/skos/core#Concept"/>
  <triple predicate="skos:inScheme" object="http://collection.britishmuseum.org/id/thesauri/dimension"/>
  <triple predicate="skos:prefLabel" value="{mus_auth_flat_description}"/>
</case>
<!-- Width -->
<case match="{mus_auth_flat_term[.=W']}>
  <identifier value="http://collection.britishmuseum.org/id/thesauri/dimension/width"/>

```

```

<type value="http://erlangen-crm.org/current/E55_Type"/>
<type value="http://www.w3.org/2004/02/skos/core#Concept"/>
<triple predicate="skos:inScheme" object="http://collection.britishmuseum.org/id/thesauri/dimension"/>
<triple predicate="skos:prefLabel" value="{mus_auth_flat_description}"/>
</case>
<!-- Depth -->
<case match="{mus_auth_flat_term[.=\']}">
<identifier value="http://collection.britishmuseum.org/id/thesauri/dimension/depth"/>
<type value="http://erlangen-crm.org/current/E55_Type"/>
<type value="http://www.w3.org/2004/02/skos/core#Concept"/>
<triple predicate="skos:inScheme" object="http://collection.britishmuseum.org/id/thesauri/dimension"/>
<triple predicate="skos:prefLabel" value="{mus_auth_flat_description}"/>
</case>
</switch>
</resource>
</mapping>

<!-- INSCRIPTION TYPE-->
<mapping match="{//mus_auth_flat[mus_auth_flat_type='Insc.Type']}" namedgraph="http://collection.britishmuseum.org/id/thesauri/inscription/{mus_auth_flat_term}/graph">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/inscription/" value="{mus_auth_flat_term}"/>
<type value="http://erlangen-crm.org/current/E55_Type"/>
<type value="http://www.w3.org/2004/02/skos/core#Concept"/>
<triple predicate="skos:inScheme" object="http://collection.britishmuseum.org/id/thesauri/inscription"/>
<triple predicate="skos:prefLabel" value="{mus_auth_flat_term}" modifier="settotitlecasingoflabel"/>
<triple predicate="skos:scopeNote" value="{mus_auth_flat_description}"/>
</resource>
</mapping>

<!-- INSCRIPTION SUBJECT-->
<mapping match="{//mus_auth_flat[mus_auth_flat_type='Insc.Subj']}" namedgraph="http://collection.britishmuseum.org/id/thesauri/inscription-subject/{mus_auth_flat_term}/graph">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/inscription-subject/" value="{mus_auth_flat_term}"/>
<triple predicate="skos:prefLabel" value="{mus_auth_flat_term}" modifier="settotitlecasingoflabel"/>
<triple predicate="skos:scopeNote" value="{mus_auth_flat_description}"/>
<type value="http://erlangen-crm.org/current/E55_Type"/>
<type value="http://www.w3.org/2004/02/skos/core#Concept"/>
<triple predicate="skos:inScheme" object="http://collection.britishmuseum.org/id/thesauri/inscription-subject"/>
</resource>
</mapping>

<!-- STATE-->

```

```

<mapping match="/{mus_auth_flat[mus_auth_flat_type='State']} namedgraph="http://collection.britishmuseum.org/id/thesauri/political-state/{mus_auth_flat_term}/graph">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/political-state/" value="{mus_auth_flat_term}"/>
<type value="http://erlangen-crm.org/current/E4_Period"/>
<type value="http://www.w3.org/2004/02/skos/core#Concept"/>
<triple predicate="skos:inScheme" object="http://collection.britishmuseum.org/id/thesauri/political-state"/>
<triple predicate="skos:prefLabel" value="{mus_auth_flat_term}"/>
<triple predicate="skos:scopeNote" value="{mus_auth_flat_description}"/>
</resource>
</mapping>

<!-- PLACE TYPE-->
<mapping match="/{mus_auth_flat[mus_auth_flat_type='Place.Type']} namedgraph="http://collection.britishmuseum.org/id/place/type/{mus_auth_flat_term}/graph">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/place/type/" value="{mus_auth_flat_term}"/>
<type value="http://erlangen-crm.org/current/E55_Type"/>
<type value="http://www.w3.org/2004/02/skos/core#Concept"/>
<triple predicate="skos:inScheme" object="http://collection.britishmuseum.org/id/place/type"/>
<triple predicate="skos:prefLabel" value="{mus_auth_flat_description}"/>
</resource>
</mapping>

<!-- ACQUISITION NAME & FINDSPOT-->
<mapping match="/{mus_auth_flat[mus_auth_flat_type='Acq.Ass' or mus_auth_flat_type='Place.Ass']} namedgraph="http://collection.britishmuseum.org/id/thesauri/acquisition/graph">
<if match="({mus_auth_flat_term[.= 'B'] or mus_auth_flat_term[.= 'BT']) and mus_auth_flat_type='Acq.Ass'}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/acquisition/" value="B"/>
<triple predicate="skos:prefLabel" value="Bequeathed"/>
<usenamedmapping name="AcquisitionConcept"/>
</resource>
</if>
<if match="({mus_auth_flat_term[.= 'D'] or mus_auth_flat_term[.= 'V']) and mus_auth_flat_type='Acq.Ass'}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/acquisition/" value="D"/>
<triple predicate="skos:prefLabel" value="Donated"/>
<usenamedmapping name="AcquisitionConcept"/>
</resource>
</if>
<if match="({mus_auth_flat_term[.= 'E'] or mus_auth_flat_term[.= 'EC']) and mus_auth_flat_type='Acq.Ass'}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/acquisition/" value="E"/>

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<triple predicate="skos:prefLabel" value="Exchanged"/>
<usenamedmapping name="AcquisitionConcept"/>
</resource>
</if>
<if match="{{mus_auth_flat_term[.='F']) and mus_auth_flat_type='Acq.Ass'}}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/acquisition/" value="F"/>
<triple predicate="skos:prefLabel" value="From"/>
<usenamedmapping name="AcquisitionConcept"/>
</resource>
</if>
<if match="{{(mus_auth_flat_term[.='P'] or mus_auth_flat_term[.='A']) and mus_auth_flat_type='Acq.Ass'}}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/acquisition/" value="P"/>
<triple predicate="skos:prefLabel" value="Purchased"/>
<usenamedmapping name="AcquisitionConcept"/>
</resource>
</if>
<if match="{{(mus_auth_flat_term[.='T']) and mus_auth_flat_type='Acq.Ass'}}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/acquisition/" value="T"/>
<triple predicate="skos:prefLabel" value="Transferred"/>
<usenamedmapping name="AcquisitionConcept"/>
</resource>
</if>
<if match="{{(mus_auth_flat_term[.='U']) and mus_auth_flat_type='Acq.Ass'}}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/acquisition/" value="U"/>
<triple predicate="skos:prefLabel" value="Unclaimed Item"/>
<usenamedmapping name="AcquisitionConcept"/>
</resource>
</if>
<if match="{{(mus_auth_flat_term[.='TT'] or mus_auth_flat_term[.='TR']) and mus_auth_flat_type='Acq.Ass'}}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/acquisition/" value="TA"/>
<triple predicate="skos:prefLabel" value="Treasure Act"/>
<usenamedmapping name="AcquisitionConcept"/>
</resource>
</if>
<if match="{{(mus_auth_flat_term[.='L']) and mus_auth_flat_type='Acq.Ass'}}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/acquisition/" value="L"/>

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<triple predicate="skos:prefLabel" value="Loan"/>
<usenamedmapping name="AcquisitionConcept"/>
</resource>
</if>
<if match="{{mus_auth_flat_term[.='CF']) and mus_auth_flat_type='Acq.Ass'}}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/acquisition/" value="C"/>
<triple predicate="skos:prefLabel" value="With Contribution"/>
<usenamedmapping name="AcquisitionConcept"/>
</resource>
</if>
<if match="{{mus_auth_flat_term[.='FU']) and mus_auth_flat_type='Acq.Ass'}}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/acquisition/" value="FU"/>
<triple predicate="skos:prefLabel" value="Funded"/>
<usenamedmapping name="AcquisitionConcept"/>
</resource>
</if>
<if match="{{mus_auth_flat_term[.='S']) and mus_auth_flat_type='Acq.Ass'}}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/acquisition/" value="S"/>
<triple predicate="skos:prefLabel" value="Sponsored"/>
<usenamedmapping name="AcquisitionConcept"/>
</resource>
</if>
<if match="{{mus_auth_flat_term[.='IH']) and mus_auth_flat_type='Acq.Ass'}}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/acquisition/" value="IH"/>
<triple predicate="skos:prefLabel" value="In Honour"/>
<usenamedmapping name="AcquisitionConcept"/>
</resource>
</if>
<if match="{{mus_auth_flat_term[.='IM']) and mus_auth_flat_type='Acq.Ass'}}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/acquisition/" value="IM"/>
<triple predicate="skos:prefLabel" value="In Memory"/>
<usenamedmapping name="AcquisitionConcept"/>
</resource>
</if>
<if match="{{mus_auth_flat_term[.='C']) and mus_auth_flat_type='Acq.Ass'}}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/find/" value="C"/>

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<triple predicate="skos:prefLabel" value="Collected"/>
<usenamedmapping name="AcquisitionConcept"/>
</resource>
</if>
<if match="{{mus_auth_flat_term[.='EX'] and mus_auth_flat_type='Acq.Ass'} or {mus_auth_flat_term[.='E'] and mus_auth_flat_type='Place.Ass'}}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/find/" value="E"/>
<triple predicate="skos:prefLabel" value="Excavated / Findspot"/>
<usenamedmapping name="FindConcept"/>
</resource>
</if>
<if match="{{mus_auth_flat_term[.='F'] and mus_auth_flat_type='Place.Ass'}}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/find/" value="F"/>
<triple predicate="skos:prefLabel" value="Found / Acquired"/>
<usenamedmapping name="FindConcept"/>
</resource>
</if>
</mapping>
<!-- To be used in the above mapping-->
<namedmapping name="AcquisitionConcept">
<triple predicate="skos:inScheme" object="http://collection.britishmuseum.org/id/thesauri/acquisition"/>
<type value="http://erlangen-crm.org/current/E55_Type"/>
<type value="http://www.w3.org/2004/02/skos/core#Concept"/>
</namedmapping>
<namedmapping name="FindConcept">
<triple predicate="skos:inScheme" object="http://collection.britishmuseum.org/id/thesauri/find"/>
<type value="http://erlangen-crm.org/current/E55_Type"/>
<type value="http://www.w3.org/2004/02/skos/core#Concept"/>
</namedmapping>

<!-- PRODUCTION ASSOCIATION CODES-->
<!-- PRODUCTION PERSON / PRODUCTION AUTHORITY / PRODUCTION PLACE -->
<mapping match="{{/mus_auth_flat[mus_auth_flat_type='Pr.Name.Ass' or mus_auth_flat_type='Authority.Ass' or mus_auth_flat_type='Pr.Place.Ass']}"}>
<namedgraph="http://collection.britishmuseum.org/id/thesauri/production/graph">
<if match="{{mus_auth_flat_term[.='E'] and mus_auth_flat_type='Authority.Ass'}}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/authority/" value="E"/>
<triple predicate="skos:prefLabel" value="Eponym"/>
<usenamedmapping name="AuthorityConcept"/>
</resource>

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</if>
<if match="{"{({mus_auth_flat_term[.= 'G'] and mus_auth_flat_type='Authority.Ass'})}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/authority/" value="G"/>
<triple predicate="skos:prefLabel" value="Govenor"/>
<usenamedmapping name="AuthorityConcept"/>
</resource>
</if>
<if match="{"{({mus_auth_flat_term[.= 'I'] and mus_auth_flat_type='Authority.Ass'})}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/authority/" value="I"/>
<triple predicate="skos:prefLabel" value="Issuer"/>
<usenamedmapping name="AuthorityConcept"/>
</resource>
</if>
<if match="{"{({mus_auth_flat_term[.= 'K'] and mus_auth_flat_type='Authority.Ass'})}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/authority/" value="K"/>
<triple predicate="skos:prefLabel" value="Ruler"/>
<usenamedmapping name="AuthorityConcept"/>
</resource>
</if>
<if match="{"{({mus_auth_flat_term[.= 'Y'] and mus_auth_flat_type='Authority.Ass'})}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/authority/" value="Y"/>
<triple predicate="skos:prefLabel" value="Magistrate"/>
<usenamedmapping name="AuthorityConcept"/>
</resource>
</if>
<if match="{"{({mus_auth_flat_term[.= '5'] and mus_auth_flat_type='Pr.Name.Ass'})}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/production/" value="5"/>
<triple predicate="skos:prefLabel" value="Drawn"/>
<usenamedmapping name="ProductionConcept"/>
</resource>
</if>
<if match="{"{({mus_auth_flat_term[.= 'AU'] and mus_auth_flat_type='Pr.Name.Ass'})}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/production/" value="AU"/>
<triple predicate="skos:prefLabel" value="Author"/>
<usenamedmapping name="ProductionConcept"/>
</resource>

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</if>
<if match="{"{({mus_auth_flat_term[.= 'BC'] and mus_auth_flat_type='Pr.Name.Ass'})}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/production/" value="BC"/>
<triple predicate="skos:prefLabel" value="Block cut"/>
<usenamedmapping name="ProductionConcept"/>
</resource>
</if>
<if match="{"{({mus_auth_flat_term[.= 'CA'] and mus_auth_flat_type='Pr.Name.Ass'})}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/production/" value="CA"/>
<triple predicate="skos:prefLabel" value="Calligrapher"/>
<usenamedmapping name="ProductionConcept"/>
</resource>
</if>
<if match="{"{(({mus_auth_flat_term[.= 'D'] or mus_auth_flat_term[.= 'DM']) and mus_auth_flat_type='Pr.Name.Ass') or ({mus_auth_flat_term[.= 'D'] and mus_auth_flat_type='Pr.Place.Ass'})}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/production/" value="D"/>
<triple predicate="skos:prefLabel" value="Designed"/>
<usenamedmapping name="ProductionConcept"/>
</resource>
</if>
<if match="{"{({mus_auth_flat_term[.= 'DE'] and mus_auth_flat_type='Pr.Name.Ass') or ({mus_auth_flat_term[.= 'DE'] and mus_auth_flat_type='Pr.Place.Ass'})}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/production/" value="DE"/>
<triple predicate="skos:prefLabel" value="Decorated"/>
<usenamedmapping name="ProductionConcept"/>
</resource>
</if>
<if match="{"{({mus_auth_flat_term[.= 'E'] and mus_auth_flat_type='Pr.Name.Ass'})}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/production/" value="E"/>
<triple predicate="skos:prefLabel" value="Engraved"/>
<usenamedmapping name="ProductionConcept"/>
</resource>
</if>
<if match="{"{({mus_auth_flat_term[.= 'I'] and mus_auth_flat_type='Pr.Name.Ass') or ({mus_auth_flat_term[.= 'I'] and mus_auth_flat_type='Pr.Place.Ass'})}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/production/" value="I"/>
<triple predicate="skos:prefLabel" value="Issued"/>
<usenamedmapping name="ProductionConcept"/>

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</resource>
</if>
<if match="{{mus_auth_flat_term[.='ID'] and mus_auth_flat_type='Pr.Name.Ass'}}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/production/" value="ID"/>
<triple predicate="skos:prefLabel" value="Intermediary draught"/>
<usenamedmapping name="ProductionConcept"/>
</resource>
</if>
<if match="{{mus_auth_flat_term[.='J'] and mus_auth_flat_type='Pr.Name.Ass'}}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/production/" value="J"/>
<triple predicate="skos:prefLabel" value="Modelled"/>
<usenamedmapping name="ProductionConcept"/>
</resource>
</if>
<if match="{{(mus_auth_flat_term[.='L'] and mus_auth_flat_type='Pr.Name.Ass') or (mus_auth_flat_term[.='L'] and mus_auth_flat_type='Pr.Place.Ass')}}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/production/" value="L"/>
<triple predicate="skos:prefLabel" value="Lustered"/>
<usenamedmapping name="ProductionConcept"/>
</resource>
</if>
<if match="{{((mus_auth_flat_term[.='M'] or mus_auth_flat_term[.='DM']) and mus_auth_flat_type='Pr.Name.Ass') or (mus_auth_flat_term[.='M'] and mus_auth_flat_type='Pr.Place.Ass')}}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/production/" value="M"/>
<triple predicate="skos:prefLabel" value="Made"/>
<usenamedmapping name="ProductionConcept"/>
</resource>
</if>
<if match="{{(mus_auth_flat_term[.='P']) and mus_auth_flat_type='Pr.Name.Ass') or (mus_auth_flat_term[.='P'] and mus_auth_flat_type='Pr.Place.Ass')}}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/production/" value="P"/>
<triple predicate="skos:prefLabel" value="Painted"/>
<usenamedmapping name="ProductionConcept"/>
</resource>
</if>

<if match="{{((mus_auth_flat_term[.='PH']) and mus_auth_flat_type='Pr.Name.Ass') or (mus_auth_flat_term[.='PH'] and mus_auth_flat_type='Pr.Place.Ass')}}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/production/" value="PH"/>
<triple predicate="skos:prefLabel" value="Photographed"/>

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<usenamedmapping name="ProductionConcept"/>
</resource>
</if>

<if match="{{(mus_auth_flat_term[.='SC']) and mus_auth_flat_type='Pr.Name.Ass')}}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/production/" value="SC"/>
<triple predicate="skos:prefLabel" value="Scribe"/>
<usenamedmapping name="ProductionConcept"/>
</resource>
</if>

<if match="{{(mus_auth_flat_term[.='WR']) and mus_auth_flat_type='Pr.Name.Ass'}}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/production/" value="WR"/>
<triple predicate="skos:prefLabel" value="Written"/>
<usenamedmapping name="ProductionConcept"/>
</resource>
</if>

<if match="{{(mus_auth_flat_term[.='Z']) and mus_auth_flat_type='Pr.Name.Ass'} or (mus_auth_flat_term[.='Z'] and mus_auth_flat_type='Pr.Place.Ass')}}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/production/" value="Z"/>
<triple predicate="skos:prefLabel" value="Published"/>
<usenamedmapping name="ProductionConcept"/>
</resource>
</if>

<if match="{{(mus_auth_flat_term[.='G'] or mus_auth_flat_term[.='T']) and mus_auth_flat_type='Pr.Name.Ass'} or (mus_auth_flat_term[.='M'] and mus_auth_flat_type='Authority.Ass') or (mus_auth_flat_term[.='MI'] and mus_auth_flat_type='Pr.Place.Ass')}}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/production/" value="MO"/>
<triple predicate="skos:prefLabel" value="Monyer, Mint"/>
<usenamedmapping name="ProductionConcept"/>
</resource>
</if>

<if match="{{(mus_auth_flat_term[.='R']) and mus_auth_flat_type='Pr.Place.Ass'}}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/production/" value="R"/>
<triple predicate="skos:prefLabel" value="Printed"/>
<usenamedmapping name="ProductionConcept"/>
</resource>
</if>

<if match="{{(mus_auth_flat_term[.='RT']) and mus_auth_flat_type='Pr.Place.Ass'}}">

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<resource>
  <identifier prefix="http://collection.britishmuseum.org/id/thesauri/production/" value="RT"/>
  <triple predicate="skos:prefLabel" value="Retailed"/>
  <usenamedmapping name="ProductionConcept"/>
</resource>
</if>
<if match="{{(mus_auth_flat_term[.= 'AG']) and mus_auth_flat_type='Pr.Name.Ass')}}">
<resource>
  <identifier prefix="http://collection.britishmuseum.org/id/thesauri/group/" value="AG"/>
  <triple predicate="skos:prefLabel" value="Office/Studio"/>
  <usenamedmapping name="GroupConcept"/>
</resource>
</if>
<if match="{{(mus_auth_flat_term[.= 'AJ']) and mus_auth_flat_type='Pr.Name.Ass'}}">
<resource>
  <identifier prefix="http://collection.britishmuseum.org/id/thesauri/group/" value="AJ"/>
  <triple predicate="skos:prefLabel" value="Circle/School"/>
  <usenamedmapping name="GroupConcept"/>
</resource>
</if>
<if match="{{(mus_auth_flat_term[.= 'F']) and mus_auth_flat_type='Pr.Name.Ass'} or (mus_auth_flat_term[.= 'F'] and mus_auth_flat_type='Pr.Place.Ass')}}">
<resource>
  <identifier prefix="http://collection.britishmuseum.org/id/thesauri/group/" value="F"/>
  <triple predicate="skos:prefLabel" value="Factory"/>
  <usenamedmapping name="GroupConcept"/>
</resource>
</if>
<if match="{{(mus_auth_flat_term[.= 'O']) and mus_auth_flat_type='Pr.Name.Ass'}}">
<resource>
  <identifier prefix="http://collection.britishmuseum.org/id/thesauri/group/" value="O"/>
  <triple predicate="skos:prefLabel" value="Official/Office/Dept"/>
  <usenamedmapping name="GroupConcept"/>
</resource>
</if>
<if match="{{(mus_auth_flat_term[.= 'W']) and mus_auth_flat_type='Pr.Name.Ass'} or (mus_auth_flat_term[.= 'W'] and mus_auth_flat_type='Pr.Place.Ass')}}">
<resource>
  <identifier prefix="http://collection.britishmuseum.org/id/thesauri/group/" value="W"/>
  <triple predicate="skos:prefLabel" value="Workshop"/>
  <usenamedmapping name="GroupConcept"/>
</resource>
</if>
<if match="{{(mus_auth_flat_term[.= 'A']) and mus_auth_flat_type='Pr.Name.Ass'} or (mus_auth_flat_term[.= 'A'] and mus_auth_flat_type='Pr.Place.Ass')}}">

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<resource>
  <identifier prefix="http://collection.britishmuseum.org/id/thesauri/likelihood/" value="A"/>
  <triple predicate="skos:prefLabel" value="Attributed"/>
  <triple predicate="skos:broader" object="&id;thesauri/likelihood/probably" />
  <usenamedmapping name="LikelihoodConcept"/>
</resource>
</if>
<if match="{{(mus_auth_flat_term[.= 'AA']) and mus_auth_flat_type='Pr.Name.Ass')}}">
<resource>
  <identifier prefix="http://collection.britishmuseum.org/id/thesauri/likelihood/" value="AA"/>
  <triple predicate="skos:prefLabel" value="Attributed to an Apprentice/Pupil"/>
  <triple predicate="skos:broader" object="&id;thesauri/likelihood/probably" />
  <usenamedmapping name="LikelihoodConcept"/>
</resource>
</if>

<if match="{{(mus_auth_flat_term[.= 'AB']) and mus_auth_flat_type='Pr.Name.Ass'}}">
<resource>
  <identifier prefix="http://collection.britishmuseum.org/id/thesauri/likelihood/" value="AB"/>
  <triple predicate="skos:prefLabel" value="Ascribed"/>
  <triple predicate="skos:broader" object="&id;thesauri/likelihood/probably" />
  <usenamedmapping name="LikelihoodConcept"/>
</resource>
</if>

<if match="{{(mus_auth_flat_term[.= 'AC']) and mus_auth_flat_type='Pr.Name.Ass'}}">
<resource>
  <identifier prefix="http://collection.britishmuseum.org/id/thesauri/likelihood/" value="AC"/>
  <triple predicate="skos:prefLabel" value="Attributed to the Circle"/>
  <triple predicate="skos:broader" object="&id;thesauri/likelihood/probably" />
  <usenamedmapping name="LikelihoodConcept"/>
</resource>
</if>

<if match="{{(mus_auth_flat_term[.= 'AD']) and mus_auth_flat_type='Pr.Name.Ass'}}">
<resource>
  <identifier prefix="http://collection.britishmuseum.org/id/thesauri/likelihood/" value="AD"/>
  <triple predicate="skos:prefLabel" value="Assigned"/>
  <triple predicate="skos:broader" object="&id;thesauri/likelihood/probably" />
  <usenamedmapping name="LikelihoodConcept"/>
</resource>
</if>

<if match="{{(mus_auth_flat_term[.= 'AW']) and mus_auth_flat_type='Pr.Name.Ass'}}">
<resource>

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<identifier prefix="http://collection.britishmuseum.org/id/thesauri/likelihood/" value="AW"/>
<triple predicate="skos:prefLabel" value="Attribute to the Workshop"/>
<triple predicate="skos:broader" object="&id;thesauri/likelihood/probably" />
<usenamedmapping name="LikelihoodConcept"/>
</resource>
</if>
<if match="{{(mus_auth_flat_term[.='CB']) and mus_auth_flat_type='Pr.Name.Ass') or (mus_auth_flat_term[.='CF'] and mus_auth_flat_type='Pr.Place.Ass')}}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/likelihood/" value="CB"/>
<triple predicate="skos:prefLabel" value="Claimed"/>
<triple predicate="skos:broader" object="&id;thesauri/likelihood/probably" />
<usenamedmapping name="LikelihoodConcept"/>
</resource>
</if>
<if match="{{(mus_auth_flat_term[.='AE']) and mus_auth_flat_type='Pr.Name.Ass'}}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/likelihood/" value="AE"/>
<triple predicate="skos:prefLabel" value="Formerly attributed"/>
<triple predicate="skos:broader" object="&id;thesauri/likelihood/unlikely" />
<usenamedmapping name="LikelihoodConcept"/>
</resource>
</if>
<if match="{{(mus_auth_flat_term[.='IR']) and mus_auth_flat_type='Pr.Name.Ass'}}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/production/" value="IR"/>
<triple predicate="skos:prefLabel" value="Inscription"/>
<usenamedmapping name="ProductionConcept"/>
</resource>
</if>
<if match="{{(mus_auth_flat_term[.='LE']) and mus_auth_flat_type='Pr.Name.Ass'}}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/production/" value="LE"/>
<triple predicate="skos:prefLabel" value="Engraving"/>
<usenamedmapping name="ProductionConcept"/>
</resource>
</if>
<if match="{{(mus_auth_flat_term[.='MB']) and mus_auth_flat_type='Pr.Name.Ass') or (mus_auth_flat_term[.='MB'] and mus_auth_flat_type='Pr.Place.Ass')}}">
<!-- This is not really needed as it'll be generated by the thesaurus mapping but we'll do it just in case it's removed-->
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/" value="x12541"/>
<triple predicate="skos:prefLabel" value="Bell"/>

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<usenamedmapping name="ObjectThesaurusConcept"/>
</resource>
</if>
<if match="{{{mus_auth_flat_term[.= 'MC']] and mus_auth_flat_type='Pr.Name.Ass') or (mus_auth_flat_term[.= 'MC'] and mus_auth_flat_type='Pr.Place.Ass')}}">
<!-- This is not really needed as it'll be generated by the thesaurus mapping but we'll do it just in case it's removed-->
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/" value="x5827"/>
<triple predicate="skos:prefLabel" value="Case"/>
<usenamedmapping name="ObjectThesaurusConcept"/>
</resource>
</if>
<if match="{{{(mus_auth_flat_term[.= 'MD']) and mus_auth_flat_type='Pr.Name.Ass') or (mus_auth_flat_term[.= 'MD'] and mus_auth_flat_type='Pr.Place.Ass')}}">
<!-- This is not really needed as it'll be generated by the thesaurus mapping but we'll do it just in case it's removed-->
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/" value="x6411"/>
<triple predicate="skos:prefLabel" value="Dial"/>
<usenamedmapping name="ObjectThesaurusConcept"/>
</resource>
</if>
<if match="{{{(mus_auth_flat_term[.= 'ME']) and mus_auth_flat_type='Pr.Name.Ass') or (mus_auth_flat_term[.= 'ME'] and mus_auth_flat_type='Pr.Place.Ass')}}">
<!-- This is not really needed as it'll be generated by the thesaurus mapping but we'll do it just in case it's removed-->
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/" value="x6622"/>
<triple predicate="skos:prefLabel" value="Ebauche"/>
<usenamedmapping name="ObjectThesaurusConcept"/>
</resource>
</if>
<if match="{{{(mus_auth_flat_term[.= 'MM']) and mus_auth_flat_type='Pr.Name.Ass') or (mus_auth_flat_term[.= 'MM'] and mus_auth_flat_type='Pr.Place.Ass')}}">
<!-- This is not really needed as it'll be generated by the thesaurus mapping but we'll do it just in case it's removed-->
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/object/" value="MM"/>
<triple predicate="skos:prefLabel" value="Movement"/>
<usenamedmapping name="ObjectThesaurusConcept"/>
</resource>
</if>
<if match="{{{(mus_auth_flat_term[.= 'MP']) and mus_auth_flat_type='Pr.Name.Ass') or (mus_auth_flat_term[.= 'MP'] and mus_auth_flat_type='Pr.Place.Ass')}}">
<!-- This is not really needed as it'll be generated by the thesaurus mapping but we'll do it just in case it's removed-->
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/object/" value="MP"/>
<triple predicate="skos:prefLabel" value="Watch Pendant"/>
<usenamedmapping name="ObjectThesaurusConcept"/>
</resource>

```

```

</if>
<if match="(((mus_auth_flat_term[.='MQ']) and mus_auth_flat_type='Pr.Name.Ass') or (mus_auth_flat_term[.='MQ'] and mus_auth_flat_type='Pr.Place.Ass'))">
  <!-- This is not really needed as it'll be generated by the thesaurus mapping but we'll do it just in case it's removed-->
  <resource>
    <identifier prefix="http://collection.britishmuseum.org/id/thesauri/" value="x6596"/>
    <triple predicate="skos:prefLabel" value="Dust-cup"/>
    <usenamedmapping name="ObjectThesaurusConcept"/>
  </resource>
</if>
<if match="(((mus_auth_flat_term[.='AF']) and mus_auth_flat_type='Pr.Name.Ass'))">
  <!-- This is not really needed as it'll be generated by the thesaurus mapping but we'll do it just in case it's removed-->
  <resource>
    <identifier prefix="http://collection.britishmuseum.org/id/thesauri/production/" value="AF"/>
    <triple predicate="skos:prefLabel" value="Attributed to a Follower"/>
    <usenamedmapping name="ProductionConcept"/>
  </resource>
</if>
<if match="(((mus_auth_flat_term[.='AI']) and mus_auth_flat_type='Pr.Name.Ass'))">
  <!-- This is not really needed as it'll be generated by the thesaurus mapping but we'll do it just in case it's removed-->
  <resource>
    <identifier prefix="http://collection.britishmuseum.org/id/thesauri/production/" value="AI"/>
    <triple predicate="skos:prefLabel" value="Attributed to a Imitator"/>
    <usenamedmapping name="ProductionConcept"/>
  </resource>
</if>
<if match="(((mus_auth_flat_term[.='AL']) and mus_auth_flat_type='Pr.Name.Ass'))">
  <!-- This is not really needed as it'll be generated by the thesaurus mapping but we'll do it just in case it's removed-->
  <resource>
    <identifier prefix="http://collection.britishmuseum.org/id/thesauri/production/" value="AL"/>
    <triple predicate="skos:prefLabel" value="Manner/Style"/>
    <usenamedmapping name="ProductionConcept"/>
  </resource>
</if>
<if match="(((mus_auth_flat_term[.='AM']) and mus_auth_flat_type='Pr.Name.Ass'))">
  <!-- This is not really needed as it'll be generated by the thesaurus mapping but we'll do it just in case it's removed-->
  <resource>
    <identifier prefix="http://collection.britishmuseum.org/id/thesauri/production/" value="AM"/>
    <triple predicate="skos:prefLabel" value="Attributed to the Manner"/>
    <usenamedmapping name="ProductionConcept"/>
  </resource>
</if>
<if match="(((mus_auth_flat_term[.='AT']) and mus_auth_flat_type='Pr.Name.Ass'))">

```

```

<!-- This is not really needed as it'll be generated by the thesaurus mapping but we'll do it just in case it's removed-->
<resource>
  <identifier prefix="http://collection.britishmuseum.org/id/thesauri/production/" value="AT"/>
  <triple predicate="skos:prefLabel" value="After"/>
  <usenamedmapping name="ProductionConcept"/>
</resource>
</if>
<if match="((mus_auth_flat_term[.= 'C']) and mus_auth_flat_type='Pr.Name.Ass'))">
<!-- This is not really needed as it'll be generated by the thesaurus mapping but we'll do it just in case it's removed-->
<resource>
  <identifier prefix="http://collection.britishmuseum.org/id/thesauri/production/" value="C"/>
  <triple predicate="skos:prefLabel" value="Close to"/>
  <usenamedmapping name="ProductionConcept"/>
</resource>
</if>
<if match="((mus_auth_flat_term[.= 'CF']) and mus_auth_flat_type='Pr.Name.Ass'))">
<!-- This is not really needed as it'll be generated by the thesaurus mapping but we'll do it just in case it's removed-->
<resource>
  <identifier prefix="http://collection.britishmuseum.org/id/thesauri/production/" value="CF"/>
  <triple predicate="skos:prefLabel" value="Compare with"/>
  <usenamedmapping name="ProductionConcept"/>
</resource>
</if>
<if match="((mus_auth_flat_term[.= 'CM']) and mus_auth_flat_type='Pr.Name.Ass'))">
<!-- This is not really needed as it'll be generated by the thesaurus mapping but we'll do it just in case it's removed-->
<resource>
  <identifier prefix="http://collection.britishmuseum.org/id/thesauri/production/" value="CM"/>
  <triple predicate="skos:prefLabel" value="Connected with the Manner"/>
  <usenamedmapping name="ProductionConcept"/>
</resource>
</if>
<if match="((mus_auth_flat_term[.= 'CW']) and mus_auth_flat_type='Pr.Name.Ass'))">
<!-- This is not really needed as it'll be generated by the thesaurus mapping but we'll do it just in case it's removed-->
<resource>
  <identifier prefix="http://collection.britishmuseum.org/id/thesauri/production/" value="CW"/>
  <triple predicate="skos:prefLabel" value="Connected with"/>
  <usenamedmapping name="ProductionConcept"/>
</resource>
</if>
<if match="((mus_auth_flat_term[.= 'S']) and mus_auth_flat_type='Pr.Name.Ass'))">
<!-- This is not really needed as it'll be generated by the thesaurus mapping but we'll do it just in case it's removed-->
<resource>

```

```

<identifier prefix="http://collection.britishmuseum.org/id/thesauri/production/" value="S"/>
<triple predicate="skos:prefLabel" value="School / Style"/>
<usenamedmapping name="ProductionConcept"/>
</resource>
</if>
<if match="{{{mus_auth_flat_term[.= 'RE']) and mus_auth_flat_type='Pr.Name.Ass')}}">
<!-- This is not really needed as it'll be generated by the thesaurus mapping but we'll do it just in case it's removed-->
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/production/" value="RE"/>
<triple predicate="skos:prefLabel" value="Related"/>
<usenamedmapping name="ProductionConcept"/>
</resource>
</if>
<if match="{{{mus_auth_flat_term[.= 'NE']) and mus_auth_flat_type='Pr.Name.Ass')}}">
<!-- This is not really needed as it'll be generated by the thesaurus mapping but we'll do it just in case it's removed-->
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/production/" value="NE"/>
<triple predicate="skos:prefLabel" value="Near"/>
<usenamedmapping name="ProductionConcept"/>
</resource>
</if>
<if match="{{{mus_auth_flat_term[.= 'RC']) and mus_auth_flat_type='Pr.Name.Ass')}}">
<!-- This is not really needed as it'll be generated by the thesaurus mapping but we'll do it just in case it's removed-->
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/production/" value="RC"/>
<triple predicate="skos:prefLabel" value="Recalls"/>
<usenamedmapping name="ProductionConcept"/>
</resource>
</if>
</if>
</mapping>

<namedmapping name="AuthorityConcept">
<triple predicate="skos:inScheme" object="http://collection.britishmuseum.org/id/thesauri/authority"/>
<type value="http://erlangen-crm.org/current/E55_Type"/>
<type value="http://www.w3.org/2004/02/skos/core#Concept"/>
</namedmapping>
<namedmapping name="ProductionConcept">
<triple predicate="skos:inScheme" object="http://collection.britishmuseum.org/id/thesauri/production"/>
<type value="http://erlangen-crm.org/current/E55_Type"/>
<type value="http://www.w3.org/2004/02/skos/core#Concept"/>
</namedmapping>
<namedmapping name="GroupConcept">
```

```

<triple predicate="skos:inScheme" object="http://collection.britishmuseum.org/id/thesauri/group"/>
<type value="http://erlangen-crm.org/current/E55_Type"/>
<type value="http://www.w3.org/2004/02/skos/core#Concept"/>
</namedmapping>
<namedmapping name="LikelihoodConcept">
<triple predicate="skos:inScheme" object="http://collection.britishmuseum.org/id/thesauri/likelihood"/>
<type value="http://erlangen-crm.org/current/E55_Type"/>
<type value="http://www.w3.org/2004/02/skos/core#Concept"/>
</namedmapping>
<namedmapping name="ObjectThesaurusConcept">
<triple predicate="skos:inScheme" object="http://collection.britishmuseum.org/id/thesauri/object"/>
<type value="http://erlangen-crm.org/current/E55_Type"/>
<type value="http://www.w3.org/2004/02/skos/core#Concept"/>
</namedmapping>

<!-- ASSOCIATED THING CODES-->

<!-- ASSOCIATED PERSON-->
<!-- ASSOCIATED PLACE-->
<!-- ASSOCIATED EVENT-->
<!-- ETHNIC GROUP-->
<mapping match="//mus_auth_flat[mus_auth_flat_type='As.Name.Ass' or mus_auth_flat_type='As.Place.Ass' or mus_auth_flat_type='As.Event.Ass' or mus_auth_flat_type='Eth.Name.Ass']">
<namedgraph="http://collection.britishmuseum.org/id/thesauri/association/graph">
<if match="((mus_auth_flat_term[.='AB']) and mus_auth_flat_type='As.Name.Ass'))">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/association/" value="AB"/>
<triple predicate="skos:prefLabel" value="Illustration"/>
<usenamedmapping name="AssociationConcept"/>
</resource>
</if>
<if match="((mus_auth_flat_term[.='IP'] or mus_auth_flat_term[.='II']) and mus_auth_flat_type='As.Name.Ass'))">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/association/" value="IP"/>
<triple predicate="skos:prefLabel" value="Portrait"/>
<usenamedmapping name="AssociationConcept"/>
</resource>
</if>
<if match="((mus_auth_flat_term[.='IR']) and mus_auth_flat_type='As.Name.Ass') or (mus_auth_flat_term[.='IR'] and mus_auth_flat_type='Eth.Name.Ass'))">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/association/" value="IR"/>
<triple predicate="skos:prefLabel" value="Representation"/>

```

```

<usenamedmapping name="AssociationConcept"/>
</resource>
</if>
<if match="(((mus_auth_flat_term[.='EE']) and mus_auth_flat_type='As.Name.Ass') or (mus_auth_flat_term[.='EE'] and mus_auth_flat_type='As.Place.Ass'))">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/association/" value="EE"/>
<triple predicate="skos:prefLabel" value="Emblem"/>
<usenamedmapping name="AssociationConcept"/>
</resource>
</if>
<if match="(((mus_auth_flat_term[.='PI'] or mus_auth_flat_term[.='II']) and mus_auth_flat_type='As.Name.Ass') or (mus_auth_flat_term[.='PI'] and mus_auth_flat_type='As.Event.Ass'))">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/association/" value="PI"/>
<triple predicate="skos:prefLabel" value="Named in Inscription"/>
<usenamedmapping name="AssociationConcept"/>
</resource>
</if>
<if match="(((mus_auth_flat_term[.='F']) and mus_auth_flat_type='As.Name.Ass') or (mus_auth_flat_term[.='MF'] and mus_auth_flat_type='As.Place.Ass'))">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/association/" value="F"/>
<triple predicate="skos:prefLabel" value="(Made) For"/>
<usenamedmapping name="AssociationConcept"/>
</resource>
</if>
<if match="(((mus_auth_flat_term[.='PP']) and mus_auth_flat_type='As.Name.Ass'))">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/association/" value="PP"/>
<triple predicate="skos:prefLabel" value="Authorised/Patronised"/>
<usenamedmapping name="AssociationConcept"/>
</resource>
</if>
<if match="(((mus_auth_flat_term[.='RP']) and mus_auth_flat_type='As.Name.Ass') or (mus_auth_flat_term[.='RP'] and mus_auth_flat_type='As.Place.Ass'))">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/association/" value="RP"/>
<triple predicate="skos:prefLabel" value="Repaired"/>
<usenamedmapping name="AssociationConcept"/>
</resource>
</if>
<if match="(((mus_auth_flat_term[.='IT']) and mus_auth_flat_type='As.Place.Ass'))">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/association/" value="TR"/>
<triple predicate="skos:prefLabel" value="Topographical Representation"/>

```

```

<usenamedmapping name="AssociationConcept"/>
</resource>
</if>
<if match="{{{mus_auth_flat_term[.= 'PA']}} and mus_auth_flat_type='As.Place.Ass'}}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/association/" value="PA"/>
<triple predicate="skos:prefLabel" value="Allegory/Personification"/>
<usenamedmapping name="AssociationConcept"/>
</resource>
</if>
<if match="{{{mus_auth_flat_term[.= 'OF']}} and mus_auth_flat_type='As.Place.Ass'}}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/association/" value="OF"/>
<triple predicate="skos:prefLabel" value="Original"/>
<usenamedmapping name="AssociationConcept"/>
</resource>
</if>
</mapping>

<!-- Associated Title-->
<mapping match="{{/{mus_auth_flat[mus_auth_flat_type='As.Title.Ass']}}" namedgraph="http://collection.britishmuseum.org/id/thesauri/association/graph">
<if match="{{mus_auth_flat_term[.= 'El']}}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/association/" value="El"/>
<triple predicate="skos:prefLabel" value="Title"/>
<usenamedmapping name="AssociationConcept"/>
</resource>
</if>
<if match="{{mus_auth_flat_term[.= 'IT']}}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/association/" value="IT"/>
<triple predicate="skos:prefLabel" value="Associated Title"/>
<usenamedmapping name="AssociationConcept"/>
</resource>
</if>
<if match="{{mus_auth_flat_term[.= 'TI']}}">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/association/" value="TI"/>
<triple predicate="skos:prefLabel" value="Inscription From"/>
<usenamedmapping name="AssociationConcept"/>
</resource>
</if>

```

```

</mapping>

<namedmapping name="AssociationConcept">
<triple predicate="skos:inScheme" object="http://collection.britishmuseum.org/id/thesauri/association"/>
<type value="http://erlangen-crm.org/current/E55_Type"/>
<type value="http://www.w3.org/2004/02/skos/core#Concept"/>
</namedmapping>

<!-- CURRENCY-->
<mapping match="{//mus_auth_flat[mus_auth_flat_type='Currency']}" namedgraph="http://collection.britishmuseum.org/id/thesauri/currency/{mus_auth_flat_term}/graph">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/currency/" value="{mus_auth_flat_term}" modifier="extractcurrency"/>
<type value="http://erlangen-crm.org/current/E58_Measurement_Unit"/>
<type value="http://www.w3.org/2004/02/skos/core#Concept"/>
<triple predicate="skos:inScheme" object="http://collection.britishmuseum.org/id/thesauri/currency"/>
<triple predicate="skos:prefLabel" value="{mus_auth_flat_term}" modifier="extractcurrency"/>
<triple predicate="skos:scopeNote" value="{mus_auth_flat_description}"/>
</resource>
</mapping>

<!-- NATIONALITY -->
<mapping match="{//mus_auth_flat[mus_auth_flat_type='Bi.Nationality']}" namedgraph="http://collection.britishmuseum.org/id/thesauri/nationality/{mus_auth_flat_term}/graph">
<resource>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/nationality/" value="{mus_auth_flat_term}"/>
<type value="http://erlangen-crm.org/current/E55_Type"/>
<type value="http://erlangen-crm.org/current/E74_Group"/>
<type value="http://www.w3.org/2004/02/skos/core#Concept"/>
<triple predicate="skos:inScheme" object="http://collection.britishmuseum.org/id/thesauri/nationality"/>
<triple predicate="skos:prefLabel" value="{mus_auth_flat_term}"/>
<triple predicate="skos:scopeNote" value="{mus_auth_flat_description}"/>
</resource>
</mapping>

<!-- LABELS (EXHIBITIONS) -->
<mapping match="{//mus_auth_flat[mus_auth_flat_type='Label.Exhib']}" namedgraph="http://collection.britishmuseum.org/id/exhibition/{mus_auth_flat_term}/graph">
<resource>
<identifier modifier="strToLower" prefix="http://collection.britishmuseum.org/id/exhibition/" value="{mus_auth_flat_term}"/>
<type value="http://erlangen-crm.org/current/E5_Event"/>
<triple predicate="rdfs:label" value="{mus_auth_flat_term}"/>
<triple predicate="crm:P2_has_type" object="http://collection.britishmuseum.org/id/thesauri/event/exhibition"/>
</resource>
</mapping>
```

```

<!-- COLLECTION NAME -->
<mapping match="{//mus_auth_flat[mus_auth_flat_type='Coll.Name']}" namedgraph="http://collection.britishmuseum.org/id/collection/{mus_auth_flat_term}/graph">
<resource>
<type value="http://erlangen-crm.org/current/E78_Collection"></type>
<identifier prefix="http://collection.britishmuseum.org/id/collection/" value="{mus_auth_flat_term}"/>
<triple predicate="rdfs:label" value="{mus_auth_flat_term}"></triple>
</resource>
</mapping>

<!-- PROFESSION/STATUS -->
<mapping match="{//mus_auth_flat[mus_auth_flat_type='Bi.Profession']}" namedgraph="http://collection.britishmuseum.org/id/thesauri/profession/{mus_auth_flat_term}/graph">
<resource>
<type value="http://erlangen-crm.org/current/E74_Group"></type>
<identifier prefix="http://collection.britishmuseum.org/id/thesauri/profession/" value="{mus_auth_flat_term}"/>
<triple predicate="rdfs:label" value="{mus_auth_flat_term}"></triple>
</resource>
</mapping>
</config>

```

## 6.6 Image File configuration

```
<!DOCTYPE jm_RDFer [
<!ENTITY id "http://collection.britishmuseum.org/id/"
<!ENTITY thesIdentifier "http://collection.britishmuseum.org/id/thesauri/identifier/"
<!ENTITY bmo "http://collection.britishmuseum.org/id/ontology/"
<!ENTITY crm "http://erlangen-crm.org/current/"
<!ENTITY rso "http://www.researchspace.org/ontology/"
]>
<config xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="configschema.xsd">
    <!--Split files into chunks
    type=elementcount|filesize - informs the RDFer how to split the files
    size=the size of the files or number of elements to split by-->
    <split inputdirectoryname="image_in" outputdirectoryname="image_out" size="25000" type="filesize" />

    <!--The namespaces to be delivered in the output RDF file-->
    <namespaces>
        <namespace prefix="id" uri="http://collection.britishmuseum.org/id/"></namespace>
        <namespace prefix="thesIdentifier" uri="http://collection.britishmuseum.org/id/"></namespace>
        <namespace prefix="bmo" uri="http://collection.britishmuseum.org/id/ontology/"></namespace>
        <namespace prefix="crm" uri="http://erlangen-crm.org/current/"></namespace>
        <namespace prefix="rdfs" uri="http://www.w3.org/2000/01/rdf-schema#"></namespace>
        <namespace prefix="rso" uri="http://www.researchspace.org/ontology/"></namespace>
    </namespaces>

    <!-- IMAGES -->
    <mapping match="{//assets/asset}" namedgraph="http://collection.britishmuseum.org/id/object/{Merlin_prn}/graph">
        <!-- Create the Object resource using the prn-->
        <resource>
            <identifier value="&id;object/{Merlin_prn}"/>

            <!-- Say that the object has a representation in an Image -->
            <!--<triple predicate="crm:P138i_has_representation" prefix="&id;object/" object="{Merlin_prn}/image/{asset_id}" />-->

            <!-- Main image -->
            <if match="{FirstImage[.=Y]}">
                <triple predicate="bmo:PX_has_main_representation" object="{image_Url}"/>
            </if>
            <else>
                <triple predicate="crm:P138i_has_representation" object="{image_Url}"/>
            </else>
        </resource>
    </mapping>
</config>
```

```

<!-- Create the /images E38_Image -->
<resource>
    <identifier value="{image_Url}"/>
    <type value="&crm;E38_Image"/>

    <!-- We can say that we are the keeper of this document (the fact that we document images for this object) -->
    <triple predicate="crm:P105_right_held_by" object="&id;the-british-museum"/>

    <!-- Put the asset description as part of the document -->
    <triple predicate="crm:P3_has_note" value="{Asset_description}"/>

    <!-- Talk about identifier -->
    <triple predicate="crm:P48_has_preferred_identifier" object="{image_Url}/id"/>
    <resource>
        <identifier value="{image_Url}/id"/>
        <type value="&crm;E42_Identifier"/>
        <triple predicate="rdfs:label" value="{asset_id}"/>
        <triple predicate="crm:P3_has_note" value="Asset ID :: {asset_id}"/>
        <triple predicate="crm:P2_has_type" object="&thesIdentifier;assetid"/>
    </resource>
    </resource>
</resource>
</mapping>

</config>

```

## 6.7 Inline sameAs configuration

```
<!DOCTYPE bm_RDFer [  
<!ENTITY owl "http://www.w3.org/2002/07/owl#">  
<!ENTITY id "http://collection.britishmuseum.org/id/">  
<!ENTITY bmo "http://collection.britishmuseum.org/id/ontology/">  
<!ENTITY crm "http://erlangen-crm.org/current/">  
<!ENTITY rdf "http://www.w3.org/1999/02/22-rdf-syntax-ns#">  
<!ENTITY rdfs "http://www.w3.org/2000/01/rdf-schema#">  
<!ENTITY dc "http://purl.org/dc/elements/1.1/">  
<!ENTITY dcterms "http://purl.org/dc/terms/">  
<!ENTITY skos "http://www.w3.org/2004/02/skos/core#">  
]>  
  
<config xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="configschema.xsd">  
  
    <namespaces>  
        <namespace prefix="owl" uri="http://www.w3.org/2002/07/owl#"></namespace>  
        <namespace prefix="rdf" uri="http://www.w3.org/1999/02/22-rdf-syntax-ns#"></namespace>  
        <namespace prefix="rdfs" uri="http://www.w3.org/2000/01/rdf-schema#"></namespace>  
        <namespace prefix="crm" uri="http://erlangen-crm.org/current/"></namespace>  
        <namespace prefix="bmo" uri="http://collection.britishmuseum.org/id/ontology/"></namespace>  
        <namespace prefix="id" uri="http://collection.britishmuseum.org/id/"></namespace>  
        <namespace prefix="skos" uri="http://www.w3.org/2004/02/skos/core#"></namespace>  
    </namespaces>  
  
    <!-- Create sameAs ||/bm_photo_r||/bm_photo_e-->  
    <mapping match="{//bm_object[bm_object_part/_[mus_obj_parts='1' and bm_alias_admin_no/_/bm_admin_type='WEB']]}" namedgraph="&id;object/{bm_prn}/graph">  
        <resource>  
            <identifier prefix="http://collection.britishmuseum.org/id/object/" value="{bm_prn}"/>  
            <!-- Assert other sameAs-->  
            <triple predicate="owl:sameAs" object="&id;object/{bm_object_id}"/>  
            <triple predicate="owl:sameAs" object="&id;object/{bm_codex_object_id/_}"/>  
        </resource>  
    </mapping>  
</config>
```

## 6.8 Inline Thesauri configuration

```
<!DOCTYPE bm_RDFer [
<!ENTITY owl "http://www.w3.org/2002/07/owl#"
<!ENTITY id "http://collection.britishmuseum.org/id/"
<!ENTITY bmo "http://collection.britishmuseum.org/id/ontology/"
<!ENTITY crm "http://erlangen-crm.org/current/"
<!ENTITY rdf "http://www.w3.org/1999/02/22-rdf-syntax-ns#"
<!ENTITY rdfs "http://www.w3.org/2000/01/rdf-schema#"
<!ENTITY dc "http://purl.org/dc/elements/1.1/"
<!ENTITY dcterms "http://purl.org/dc/terms/"
<!ENTITY skos "http://www.w3.org/2004/02/skos/core#"
]>

<config xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="configschema.xsd">

<split inputdirectoryname="in" outputdirectoryname="out" size="10000" type="filesize"></split>

<namespaces>
    <namespace prefix="owl" uri="http://www.w3.org/2002/07/owl#"></namespace>
    <namespace prefix="rdf" uri="http://www.w3.org/1999/02/22-rdf-syntax-ns#"></namespace>
    <namespace prefix="rdfs" uri="http://www.w3.org/2000/01/rdf-schema#"></namespace>
    <namespace prefix="crm" uri="http://erlangen-crm.org/current/"></namespace>
    <namespace prefix="bmo" uri="http://collection.britishmuseum.org/id/ontology/"></namespace>
    <namespace prefix="id" uri="http://collection.britishmuseum.org/id/"></namespace>
    <namespace prefix="skos" uri="http://www.w3.org/2004/02/skos/core#"></namespace>
</namespaces>

<!-- LANGUAGES - mainly used for inscription -->
<mapping match="{//bm_object/bm_object_part/_/mus_alias_inscription/_/mus_inscription_language[not(.=preceding::mus_inscription_language) and .!=[]]}"
namedgraph="http://collection.britishmuseum.org/id/thesauri/language/{.}/graph">
    <resource>
        <identifier modifier="strToLower" prefix="&id;thesauri/" value="language/{.}"></identifier>
        <type value="&crm;E56_Language"></type>
        <type value="&skos;Concept"/>
        <triple predicate="skos:prefLabel" value=".{.}"></triple>
        <triple predicate="skos:inScheme" prefix="&id;thesauri/" object="language"></triple>
    </resource>
</mapping>

<!-- SCRIPTS - mainly used for inscription -->
```

```

<mapping match="/bm_object/bm_object_part/_/mus_alias_inscription/_/mus_inscription_script[not(.=preceding::mus_inscription_script) and .!="]" namedgraph="http://collection.britishmuseum.org/id/thesauri/script/.graph">
    <resource>
        <identifier modifier="strToLower" prefix="#id;thesauri/" value="script/{.}" />
        <type value="#crm;E55_Type"/>
        <type value="#skos;Concept"/>
        <triple predicate="skos:prefLabel" value="{.}" />
        <triple predicate="skos:inScheme" prefix="#id;thesauri/" object="script" />
    </resource>
</mapping>

<!-- TYPE SERIES -->
<mapping match="/bm_object/bm_object_part/_/bm_alias_type_ser/_/bm_type_ser[not(.=preceding::bm_type_ser) and .!="]" namedgraph="http://collection.britishmuseum.org/id/thesauri/series-type/.graph">
    <resource>
        <identifier prefix="http://collection.britishmuseum.org/id/thesauri/series-type/" value="{.}" />
        <type value="http://erlangen-crm.org/current/E55_Type" />
        <type value="#skos;Concept"/>
        <triple predicate="skos:prefLabel" value="{.}" />
        <triple predicate="skos:inScheme" object="http://collection.britishmuseum.org/id/thesauri/series-type" />
    </resource>
</mapping>

<!-- EVENT -->
<mapping match="/bm_object/bm_object_part/_/bm_alias_as_event/_/bm_as_event[not(.=preceding::bm_as_event) and .!="]/.." namedgraph="http://collection.britishmuseum.org/id/event/bm_as_event/graph">
    <resource>
        <identifier prefix="#id;event/" value="bm_as_event" />
        <type value="#crm;E5_Event" />
        <type value="#skos;Concept" />
        <triple predicate="rdfs:label" value="bm_as_event" />
        <triple predicate="crm:P3_has_note" value="bm_as_event_com" />
        <triple predicate="crm:P2_has_type" object="#id;thesauri/event/normal" />
        <triple predicate="skos:inScheme" object="#id;thesauri/event" />
        <if match="bm_as_event_date_text[.!="] or bm_as_event_date_earliest[.!="] or bm_as_event_date_latest[.!="]">
            <triple predicate="crm:P4_has_time-span" prefix="#id;event/" object="bm_as_event/date" />
            <resource>
                <identifier prefix="#id;event/" value="bm_as_event/date" />
                <type value="http://erlangen-crm.org/current/E52_Time-Span" />
                <triple predicate="crm:P82_at_some_time_within" type="http://www.w3.org/2001/XMLSchema#string" value="bm_as_event_date_text" />
                <triple predicate="bmo:PX_display_wrap" value="Event date :: {bm_as_event_date_text} :: {bm_as_event_date_com}" />
            </resource>
        </if>
    </resource>
</mapping>

```

```

        </if>
    </resource>
</mapping>

<!-- SERIES -->
<mapping match="{!!bm_object/bm_object_part/_/mus_alias_title/_[mus_title_type='Series']/mus_title[not(.=preceding::mus_title) and .!='])}" namedgraph="http://collection.britishmuseum.org/id/series/.graph">
    <resource>
        <type value="&crm;E78_Collection"/></type>
        <identifier prefix="http://collection.britishmuseum.org/id/series/" value="."/>"
        <triple predicate="rdfs:label" value=".{}" language="en"/></triple>
        <triple predicate="rdfs:label" value="{mus_title_translation}"/>
        <triple predicate="bmo:PX_display_wrap" value="Title translation :: {mus_title_translation}"/></triple>
    </resource>
</mapping>
</config>

```

{To be inserted}

## 6.9 Thesaurus configuration

```
<config xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="configschema.xsd">
    <!--Split files into chunks
    type=elementcount|filesize - informs the RDFor how to split the files
    size=the size of the files or number of elements to split by-->
    <split inputdirectoryname="in" outputdirectoryname="out" type="filesize" size="25000"/>

    <!--The namespaces to be delivered in the output RDF file-->
    <namespaces>
        <namespace prefix="id" uri="http://collection.britishmuseum.org/id/"></namespace>
        <namespace prefix="idThes" uri="http://collection.britishmuseum.org/id/thesauri/"></namespace>
        <namespace prefix="bmo" uri="http://collection.britishmuseum.org/id/ontology/"></namespace>
        <namespace prefix="crm" uri="http://erlangen-crm.org/current/"></namespace>
        <namespace prefix="foaf" uri="http://xmlns.com/foaf/0.1/"></namespace>
        <namespace prefix="skos" uri="http://www.w3.org/2004/02/skos/core#"></namespace>
        <namespace prefix="csw" uri="http://semantic-web.at/ontologies/csw.owl#"></namespace>
        <namespace prefix="dc" uri="http://purl.org/dc/elements/1.1/"></namespace>
        <namespace prefix="dcterms" uri="http://purl.org/dc/terms/"></namespace>
        <namespace prefix="xsd" uri="http://www.w3.org/2001/XMLSchema#"></namespace>
        <namespace prefix="rdfs" uri="http://www.w3.org/2000/01/rdf-schema#"></namespace>
    </namespaces>

    <!-- configuration for BM thesauri -->

    <!--Create the ConceptSchemes for normal thesaurus or places-->
    <mapping match="{//bm_alias_place/mus_auth_thes_name[not(.=preceding::mus_auth_thes_name) and .!=\"}]" namedgraph="http://collection.britishmuseum.org/id/{.}/graph">
        <identifier modifier="strToLower" prefix="http://collection.britishmuseum.org/id/" value=".{.}"></identifier>
        <type value="http://www.w3.org/2004/02/skos/core#ConceptScheme"/>
        <triple predicate="rdfs:label" value="BM {.}"></triple>
        <triple predicate="rdfs:comment" value="Place, allowing both historical and modern names"></triple>
        <triple predicate="dc:contributor" value="The British Museum"></triple>
    </mapping>

    <mapping match="{//bm_alias_thesaurus/mus_auth_thes_name[not(.=preceding::mus_auth_thes_name) and .!=\"}]" namedgraph="http://collection.britishmuseum.org/id/thesauri/{.}/graph">
        <resource>
            <type value="http://www.w3.org/2004/02/skos/core#ConceptScheme"></type>
            <triple predicate="rdfs:label" value="BM {.}"></triple>
            <if match=".='Place'">
```

```

        <identifier modifier="strToLower" prefix="http://collection.britishmuseum.org/id/" value=".">></identifier>
        <triple predicate="rdfs:comment" value="Place, allowing both historical and modern names"></triple>
    </if>
    <else>
        <identifier modifier="strToLower" prefix="http://collection.britishmuseum.org/id/thesauri/" value=".">></identifier>
    </else>
    <if match=".='ESCAPE'">
        <triple predicate="rdfs:comment" value="Horological (clock/watches) components"></triple>
    </if>
    <if match=".='ETHNAME'">
        <triple predicate="rdfs:comment" value="Ethnic Name of object"></triple>
    </if>
    <if match=".='OBJECT'">
        <triple predicate="rdfs:comment" value="Type of object, eg arrow, knife"></triple>
    </if>
    <if match=".='MATERIAL'">
        <triple predicate="rdfs:comment" value="Physical material"></triple>
    </if>
    <if match=".='TECHNIQUE'">
        <triple predicate="rdfs:comment" value="Craft and manufacturing technique"></triple>
    </if>
    <if match=".='MATCULT'">
        <triple predicate="rdfs:comment" value="Material culture / Historic period"></triple>
    </if>
    <if match=".='SUBJECT'">
        <triple predicate="rdfs:comment" value="Actual and abstract themes and subjects depicted in a work"></triple>
    </if>
    <if match=".='WARE'">
        <triple predicate="rdfs:comment" value="Type of pottery and ceramics"></triple>
    </if>
    <if match=".='SCHOOL'">
        <triple predicate="rdfs:comment" value="Historic, regional and artistic genre, style, school of work"></triple>
    </if>
    <if match=".='TREATMENT'">
        <triple predicate="rdfs:comment" value="Conservation treatment "></triple>
    </if>
    <triple predicate="dc:contributor" value="The British Museum"></triple>
</resource>
</mapping>

<!-- Thesaurus Concepts--&gt;
&lt;mapping match="{!!bm_alias_thesaurus}" namedgraph="http://collection.britishmuseum.org/id/thesauri/{mus_auth_thes_id}/graph"&gt;
</pre>

```

```

<resource>

<identifier modifier="strToLower" prefix="http://collection.britishmuseum.org/id/thesauri/" value="{mus_auth_thes_id}"></identifier>
<triple modifier="strToLower" object="{mus_auth_thes_name}" predicate="skos:inScheme" prefix="http://collection.britishmuseum.org/id/thesauri/"></triple>

<type value="http://www.w3.org/2004/02/skos/core#Concept"></type>

<triple predicate="skos:prefLabel" value="{mus_auth_thes_term} {mus_auth_thes_term_discrim}"></triple>
<triple predicate="skos:altLabel" value="{mus_auth_thes_display_term}"></triple>
<triple predicate="skos:scopeNote" value="{mus_auth_thes_scope_note}"></triple>

<!-- broader terms -->
<mapping match="{bm_calc_thes_b_term_ids/_}">
    <triple modifier="strToLower" object="http://collection.britishmuseum.org/id/thesauri/{.}" predicate="skos:broader"></triple>
    <if match="{mus_auth_thes_name[.= 'MATCULT']}">
        <triple modifier="strToLower" object="http://collection.britishmuseum.org/id/thesauri/{.}" predicate="crm:P9i_forms_part_of"></triple>
    </if>
</mapping>

<!-- narrower terms -->
<mapping match="{mus_auth_thes_calc_n_term_ids/_}">
    <triple modifier="strToLower" object="http://collection.britishmuseum.org/id/thesauri/{.}" predicate="skos:narrower"></triple>
</mapping>

<!-- related terms -->
<mapping match="{bm_calc_thes_r_term_ids/_}">
    <triple modifier="strToLower" object="http://collection.britishmuseum.org/id/thesauri/{.}" predicate="skos:related"></triple>
</mapping>

<!-- use-for terms -->
<mapping match="{mus_auth_thes_use_for/_}">
    <triple predicate="skos:altLabel" value=".">></triple>
</mapping>

<!-- For Period/Culture, define as E4_Period-->
<if match="{mus_auth_thes_name[.= 'MATCULT']}">
    <type value="http://erlangen-crm.org/current/E4_Period"></type>
</if>
<else>
    <!-- For Material, define as E57_Material-->
    <if match="{mus_auth_thes_name[.= 'MATERIAL']}">
        <type value="http://erlangen-crm.org/current/E57_Material"></type>
    </if>
</else>

```

```

        </if>
        <else>
            <!-- If it's a school then we'll say they're a group of people / actor
                If it is an ethnic group then that will also by a group-->
            <if match="{mus_auth_thes_name[.= 'SCHOOL'] | mus_auth_thes_name[.= 'ETHNAME']}>
                <type value="http://erlangen-crm.org/current/E74_Group"></type>
            </if>
            <else>
                <!-- If it is not anything else we'll just assert a E55_Type-->
                <type value="http://erlangen-crm.org/current/E55_Type"></type>
            </else>
        </else>
    </resource>
</mapping>

<!--Place Concepts -->
<mapping match="{!!bm_alias_place}" namedgraph="http://collection.britishmuseum.org/id/place/{mus_auth_thes_id}/graph">
    <resource>

        <identifier modifier="strToLower" prefix="http://collection.britishmuseum.org/id/place/" value="{mus_auth_thes_id}"></identifier>
        <triple modifier="strToLower" object="http://collection.britishmuseum.org/id/place" predicate="skos:inScheme"></triple>
        <mapping match="{mus_auth_thes_place_type}">
            <triple object="place/type/.{" predicate="crm:P2_has_type" prefix="http://collection.britishmuseum.org/id/"></triple>
        </mapping>
        <!--<mapping match="{!!bm_auth_thes_name_type}">-->
        <switch>
            <case match="{!!bm_auth_thes_name_type[.= 'modern']}">
                <triple object="place/name/type/modern" predicate="crm:P2_has_type" prefix="http://collection.britishmuseum.org/id/"></triple>
            </case>
            <case match="{!!bm_auth_thes_name_type[.= 'archaic']}">
                <triple object="place/name/type/archaic" predicate="crm:P2_has_type" prefix="http://collection.britishmuseum.org/id/"></triple>
            </case>
            <case match="{!!bm_auth_thes_name_type[.= 'both']}">
                <triple object="place/name/type/modern" predicate="crm:P2_has_type" prefix="http://collection.britishmuseum.org/id/"></triple>
                <triple object="place/name/type/archaic" predicate="crm:P2_has_type" prefix="http://collection.britishmuseum.org/id/"></triple>
            </case>
        </switch>
    </resource>
</mapping>

<type value="http://www.w3.org/2004/02/skos/core#Concept"></type>

```

```

<triple predicate="skos:prefLabel" value="{mus_auth_thes_term} {mus_auth_thes_term_discrim}"></triple>
<triple predicate="skos:altLabel" value="{mus_auth_thes_display_term}"></triple>
<triple predicate="skos:scopeNote" value="{mus_auth_thes_scope_note}"></triple>

<!-- broader terms -->
<mapping match="{bm_calc_thes_b_term_ids/_}">
    <triple modifier="strToLower" object="http://collection.britishmuseum.org/id/place/{}" predicate="crm:P88i_forms_part_of"></triple>
    <triple modifier="strToLower" object="http://collection.britishmuseum.org/id/place/{}" predicate="skos:broader"></triple>
</mapping>

<!-- narrower terms -->
<mapping match="{mus_auth_thes_calc_n_term_ids/_}">
    <triple modifier="strToLower" object="http://collection.britishmuseum.org/id/place/{}" predicate="skos:narrower"></triple>
</mapping>

<!-- related terms -->
<mapping match="{bm_calc_thes_r_term_ids/_}">
    <triple modifier="strToLower" object="http://collection.britishmuseum.org/id/place/{}" predicate="skos:related"></triple>
</mapping>

<!-- use-for terms -->
<mapping match="{mus_auth_thes_use_for/_}">
    <triple predicate="skos:altLabel" value="{}"/></triple>
</mapping>

<!-- Type -->
<type value="http://erlangen-crm.org/current/E53_Place"></type>

</resource>
</mapping>
</config>
```