

# Creating new CIDOC CRM classes and properties to describe silk-related artefacts

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## The SILKNOW project : a very short presentation

- Many museums devoted to silk preservation.
- Lack size and resources to establish networks and connections with other collections
- H2020 [SILKNOW](#) project : **producing a platform** to give access to a wide variety of data describing silk-related objects to researchers or curators, but also do the general public

## Collecting the datasets

- SILKNOW has crawled datasets from websites or online databases of Cultural Heritage Institutions (CHIs) preserving silk-related artefacts
- For 2 datasets only : SILKNOW has received them directly from 2 institutions (from the GARIN company and the Università degli Studi di Palermo)
- SILKNOW crawler made in Node.js, source code available on [Github](#)

- ❑ [GARIN](#) company
- ❑ [Rhode Island School of Design Museum](#)
- ❑ [Red Digital de Colecciones de Museos de España](#)
- ❑ [CDMT Terrassa](#)
- ❑ [Joconde](#) database
- ❑ [Musée des Arts Décoratifs](#)
- ❑ [Metropolitan Museum of Arts](#)
- ❑ [Boston Museum of Fine Arts](#)
- ❑ [Musée des Tissus et des arts décoratifs](#)
- ❑ [Victoria and Albert Museum](#)
- ❑ Caccamo
- ❑ [Museo Diocesano di Palermi](#)
- ❑ Chiesa Madre di Termini Imerese

## Collecting the datasets

- The content of the fields of the museum records are normalized in JSON format.
- The JSON files stick with the data models of the source museums.

```
CE01122_MNAD.json x
1 {
2   "fields": [
3     {
4       "label": "Museo",
5       "value": "Museo Nacional de Artes Decorativas"
6     },
7     {
8       "label": "Inventario",
9       "value": "CE01122"
10    },
11    {
12      "label": "Clasificación Genérica",
13      "value": "Tejidos"
14    },
15    {
16      "label": "Objeto/Documento",
17      "value": "Fragmento de tejido"
18    },
19    {
20      "label": "Materia/Soporte",
21      "value": "Seda [granate y amarilla] Hilo metálico [anillado en dos tamaños: el mas grande es plata y el mas pequeño es plata dorada."
22    },
23    {
24      "label": "Técnica",
25      "value": "Brocatel"
26    },
27  ]
28 }
```

Example of JSON file from the Red Digital de Colecciones  
de Museos de España

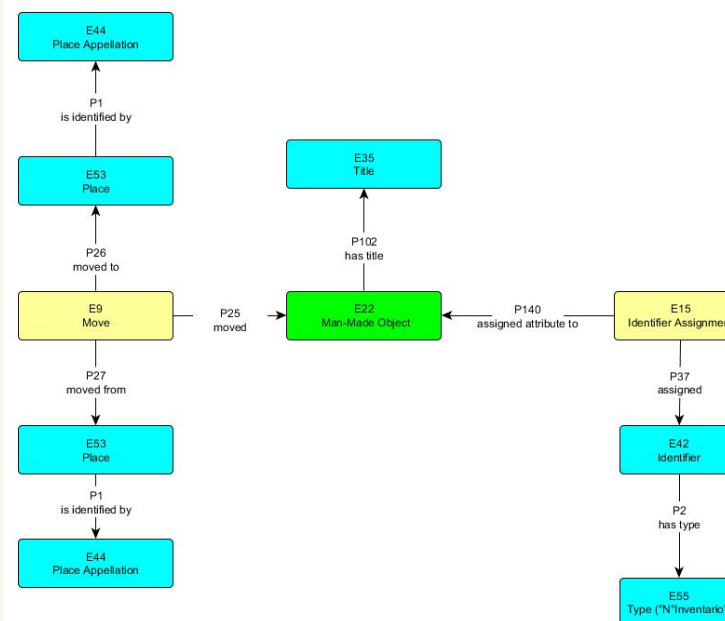
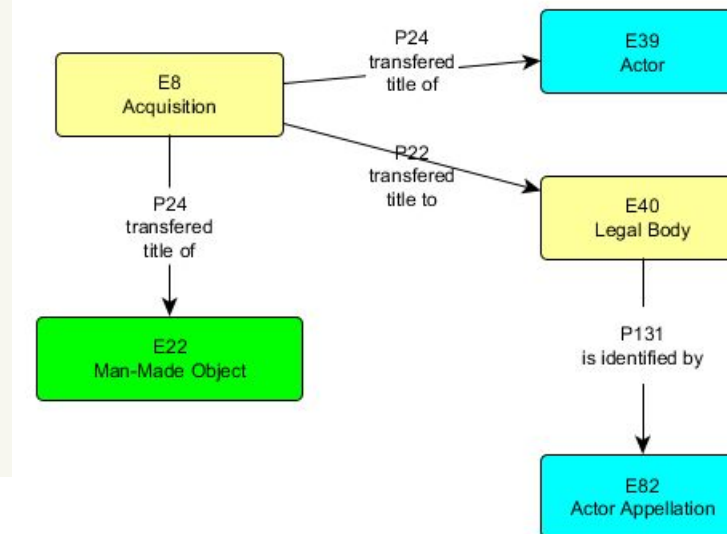
## Defining the data model

- Giving access to these various datasets via a unique point of entry => necessary to harmonize them by designing and implementing a **unique and complete data model**, well adapted to Cultural Heritage data describing textile-related artefacts and more precisely silk-related artefacts.
- Data model based on the CIDOC Conceptual Reference Model (CIDOC-CRM)

## Defining the data model

Field	Example	Main Class	Path	Comments
<u>Propiedad</u>	Ajuntament de Moncada	<u>E8_Acquisition</u>	E40_Legal Body P1 is identified by E82_Actor Appellation E8_Acquisition P24 transferred title of E22_Man Made Object E8_Acquisition P22 transferred title to E40_Legal Body E8_Acquisition P23 transferred title from E39_Actor	
N° Inventario	<u>T000053</u>	E15_Identifier Assignment	E15_Identifier Assignment P140 assigned attribute to E22_Man-Made Object E15_Identifier Assignment P37 assigned E42_Identifier E15_Identifier Assignment P14 carried out by E40_Legal Body (CHI) <u>E42_Identifier</u> P2 has type <u>E55_Type</u> (N° Inventario)	
Denominacion principal	Abundancia		E22_Man-Made Object P102 has title E35_Title	

Example of mapping in CIDOC CRM : a GARIN dataset (extract)



# Defining the data model

## Passanterie, 18th Century, Italian

**Passanterie, 18th century**  
Italian

Date: 18th century  
Culture: Italian  
Medium: Silk  
Dimensions: 2 x 18 1/2 inches (51 x 470 cm)  
Classification: Textiles-Trimings  
Credit Line: Rogers Fund, 1908  
Accession Number: 08-4-45

**Provenience**

Department: European Sculpture and Decorative Arts (42,342)

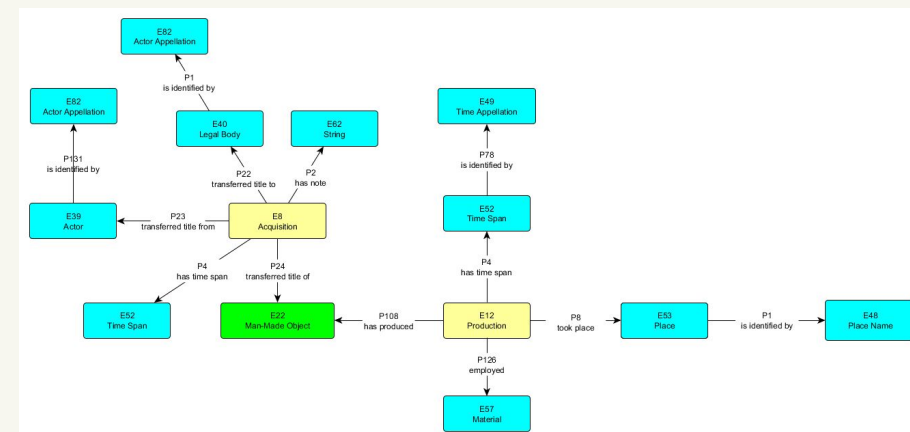
Object Type / Materials: Passanterie (1,043)  
Silk (33,547)  
Textiles (31,011)  
Trimming (2,806)

Geographic Location: Europe (180,110)  
Italy (30,071)

Date: Era  
A.D. 1800-1800 (77,084)

**Related Objects**

- Desk (Secretary)**  
Actual date on: 1750-26  
Accession Number: 26.124.1a,b  
Date: ca. 1750-26  
Medium: Fine-cord painted, gilded, and veneered beech wood decorated with colored champlevé prints; mirror glass; the inside of the fall front lined with silk, not original to the secretary.  
Accession: 26.124.1a, b  
On view in Gallery 507
- Bookcase (one of a pair)**  
Actual date attributed to the architect Niccolò Michetti (died ca. 1758)  
Date: ca. 1775  
Medium: Walnut and poplar; iron hinges and locks; metal wire; veneer with and inlay in marble; door handles (not original)



Field	Example	Main Class	Path
Title	Passanterie		E22_Man-Made Object P102 has title E35_Title
Description	'Empty'	<u>S4_Observation</u>	<u>S4_Observation</u> 08 observed <u>E22_Man-Made Object</u> <u>S4_Observation</u> P3 has note <u>E62_String</u> <u>S4_Observation</u> P2 has type <u>E55_Type</u> (Description)
Date	18th century	<u>E12_Production</u>	<u>E12_Production</u> P4 has time-span <u>E52_Time-Span</u> P78 is identified by <u>E49_Time Appellation</u>
Culture	Italian	<u>E12_Production</u>	<u>E12_Production</u> P7 took place at <u>E53_Place</u>
Medium	Silk	<u>E12_Production</u>	<u>E12_Production</u> P126 employed <u>E57_Material</u>
Dimensions	2 in. (5.1 cm)	<u>E16_Measurement</u>	<u>E16_Measurement</u> P39 measured <u>E22_Man-Made Object</u> <u>E16_Measurement</u> P40 observed dimension <u>E54_Dimension</u> <u>E54_Dimension</u> P91 has unit <u>E58_Measurement unit</u> <u>E54_Dimension</u> P90 has value <u>E60_Number</u> <u>E54_Dimension</u> P2 has type <u>E55_Type</u> (Width)

Example of mapping in CIDOC CRM : a MET museum dataset (extract)

## Refining the mapping

- Currently : refining the mapping
- Having a more accurate idea of the content of the **free-text fields** used by the institutions to describe silk-related artefacts, to be able to map the datasets accordingly in CIDOC-CRM.



## Refining the mapping (fields from which we will extract information)

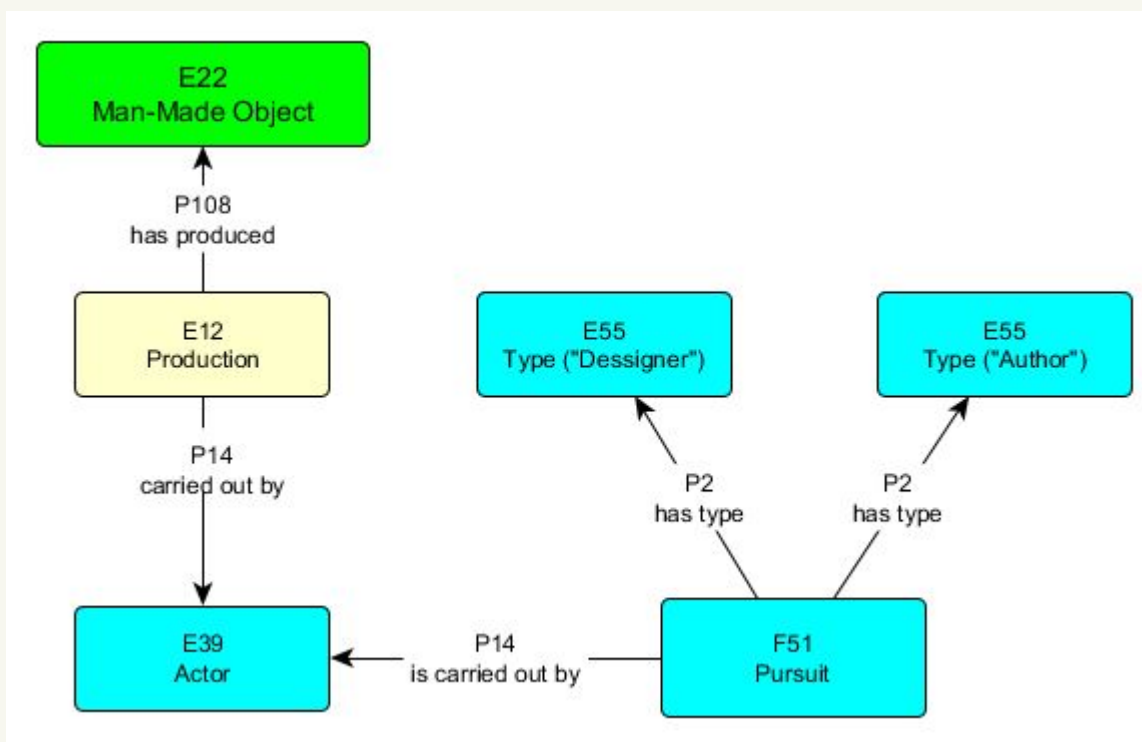
CHI	Properties with categorical values	Properties with textual content
GARIN	Denominacion principal, Objeto, Tecnica, Material , Tipologia, Condicion , Epoca	Descripción, Descripción técnica
JOCONDE	Domaine, Dénomination, Précision auteur/exécutant, Lieu de création/ exécution, Matériaux/ techniques	Genèse, Historique, Description, Sujet représenté, Précision sujet représenté, Statut juridique
IMATEX	CLASSIFICACIO GENERICA, CRONOLOGIA, DENOMINACIO, DESTI DUS, ESTAT DE CONSERVACIO, FONT INGRES, FORMA INGRES, RESTAURACIO, TECNICA, <b>DESSIGNER</b> , MANUFACTURER, TAILOR/COOUTURIER, <b>AUTHOR</b>	DECORACIÓ, MATERIES, DESCRIPTION, TECHNICAL DESCRIPTION
VAM	Date, Artist/Maker, Materials and Techniques, Categories, Materials, Techniques	Object Type, Materials & Making, Subjects depicted, Physical description, Object history note, Descriptive line, Labels and date
MAD	Domaine, Appellation, Création, Matières et Techniques	Acquisition/dépôt
MTMAD	Fabricant, Lieu et date	‘Short description’, Matériaux et techniques, Acquisition, Description
UNIPA datasets	Time chronology, Geography, Region Production, Artist, Technic, Education	Description, Stato di conservazione, Rapporto di disegno, Ordito, Trama, Costruzione, Descrizione del disegno, Notizie storico critiche
MET Museum	Title, Date, Culture, Medium, Classification, Credit Line, Provenance Object Type / Material, Geographic Location	Description, Related Objects
RISD	Maker, Culture, Year, Medium (1), Materials, Techniques, Process and Technique, Type	Medium (2), Credit, Related
MFA Boston	Teaser, Classifications	Description, Medium or Technique, Credit Line
CRES MCU	Clasificación Genérica, Contexto Cultural/Estilo	Objeto/Documento, Materia/Soporte, Técnica, Descripción, Clasificación Razonada

## Refining the mapping

- Analyzing these textual fields will allow us :
  - to refine the mapping in CIDOC CRM
  - to create new CIDOC CRM classes and entities more easily
- Example : fields “DESSIGNER” and “AUTHOR” in two records from the IMATEX database => ‘Empty’

## Refining the mapping

Field	Example	Path
DESSIGNER	'Empty'	E12_Production P14 carried out by E39_Actor F51_Pursuit P14 is carried out by E39_Actor F51_Pursuit P2 has type E55_Type (Dessigner)
AUTHOR	'Empty'	E12_Production P14 carried out by E39_Actor F51_Pursuit P14 is carried out by E39_Actor F51_Pursuit P2 has type E55_Type (Author)

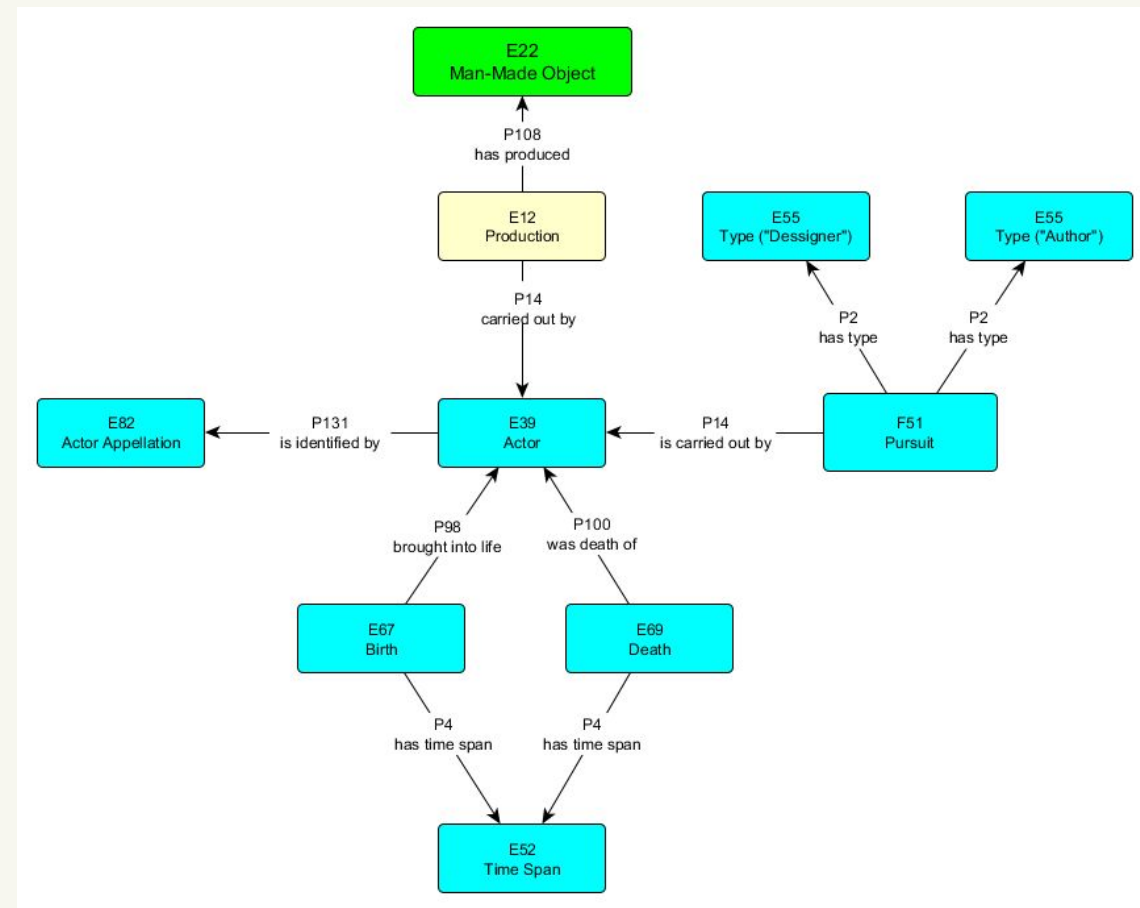


## Refining the mapping

AUTHOR	DESSIGNER
<ul style="list-style-type: none"> <li>- desconegut</li> <li>- Usall Pou, M.Gràcia</li> <li>- Fortuny Madrazo, Marià</li> <li>- Fortuny Madrazo, Marià</li> <li>- Strazza, T.</li> <li>- Escola d'Arts i Oficis (Barcelona)</li> <li>- Lluch, F.J.</li> <li>- Enguinados, Vicente</li> </ul>	<ul style="list-style-type: none"> <li>- Doyen, Gustave 1837-18..?</li> <li>- Kaeser, Fritz</li> <li>- Wunsch</li> <li>- Humbert, attributed</li> <li>- Clapés, Aleix</li> <li>- Morgan, Fred</li> <li>- Tarrant, P.</li> <li>- unknown [several times]</li> <li>- Fortuny y Madrazo, Mariano, 1871-1949</li> <li>- Firoux (Tiroux?)</li> <li>- Malpertuy, A.</li> <li>- Homar, Gaspar, 1870-1955</li> <li>- del Espiritu Santo, Fray Justo</li> <li>- Scott, Georges, 1873-1943</li> <li>- Scott, Georges, 1873-1943</li> <li>- Baumman, J.</li> <li>- Lotz, S.</li> <li>- Cots, Camil, 1848-1934</li> <li>- Estudi Ars Tèxtil - Gracia i Ferraté</li> <li>- Michel, Ch.</li> <li>- Scott, Georges, 1873-1943</li> <li>- Bizzozero, G.</li> <li>- Perez, A.</li> </ul>

## Refining the mapping

Field	Path
DESSIGNER	E12_Production P14 carried out by E39_Actor <b>E39_Actor P131_is identified by E82_Actor Appellation</b> <b>E67_Birth P98 brought into life E32_Actor</b> <b>E67_Birth P4 has time-span E52_Time-Span</b> <b>E69_Death P100 was death of E_32 Actor</b> <b>E69_Death P4 has time-span E52_Time-Span</b> F51_Pursuit P14 is carried out by E39_Actor F51_Pursuit P2 has type E55_Type (Dessigner)
AUTHOR	E12_Production P14 carried out by E39_Actor <b>E39_Actor P131_is identified by E82_Actor Appellation</b> F51_Pursuit P14 is carried out by E39_Actor F51_Pursuit P2 has type E55_Type (Author)



## Dealing with the production of silk textile artefacts with CIDOC CRM

- Some of the free-text fields, especially the complementary fields on the technical and material information, are still **in need of a more thorough reflection.**

La laize, qui a conservé un chef de pièce en satin (de 8) en partie inférieure, présente un fond de couleur ciel, en damas, dans lequel tous les fils produisent un satin (de 8), chaîne, avec un coup de fond, et un gros de Tours de deux fils avec deux coups de fond. Le décor lui-même est exécuté par un effet de chaque lat de broché à liage repris (en sergé de 3 lie 1, S, par un sixième des fils), reposant sur le satin du fond produit par les fils de chaîne et chaque coup de fond. Il dessine un élégant bouquet noué par un ruban rose, composé de roses, d'œillets et de branches de fraisier, en fleurs et en fruits. Un liseron est pris dans les tiges du bouquet, en dessous du ruban; [...]

Description - MTMAD catalog  
*Very rich description with technical  
and historical information*

S4\_Observation 08 observed E22\_Man-Made Object  
S4\_Observation P3 has note E62\_String  
S4\_Observation P2 has type E55\_Type (Description)

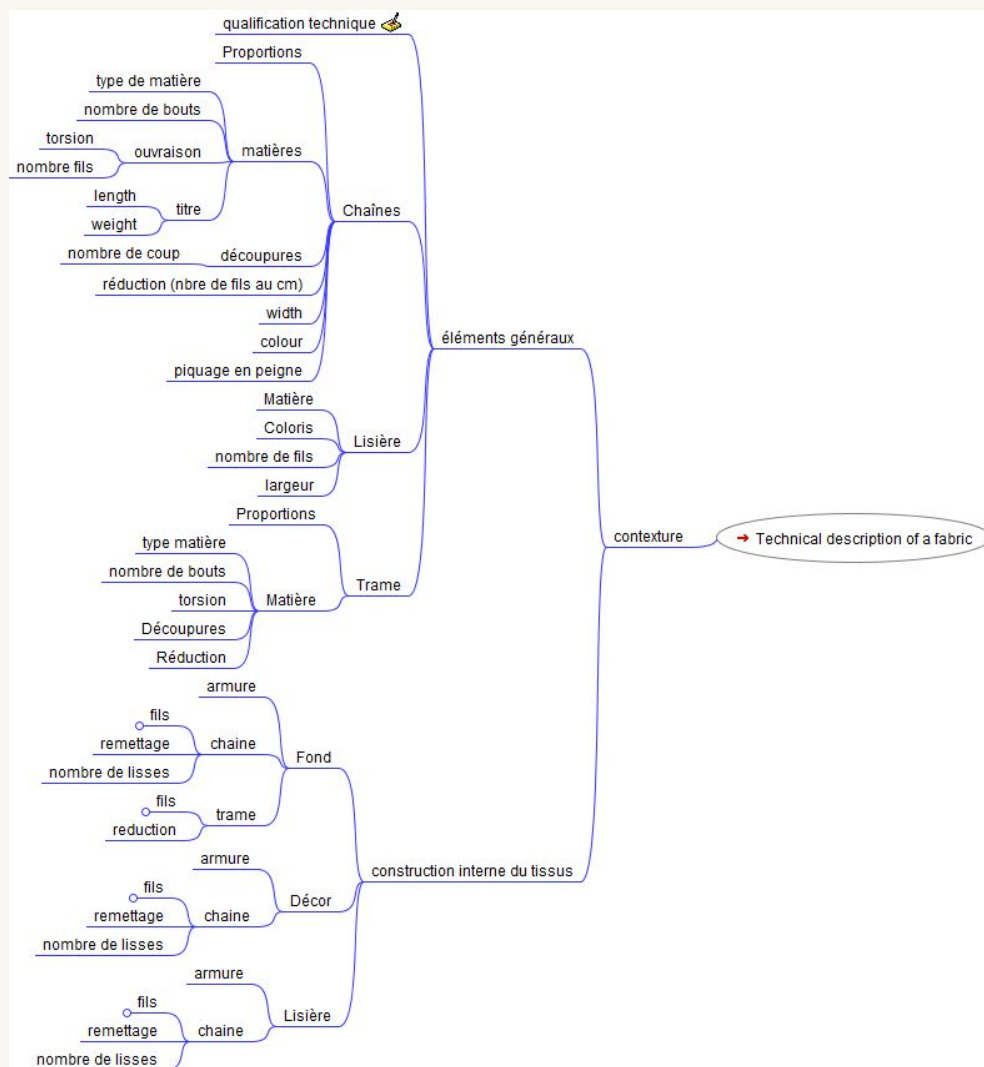
Mapping in CIDOC  
*Some information cannot be mapped  
in CIDOC CRM . The mapping is not  
so rich than the original information.*

Philippe de La Salle, [Laize à décor de bouquet noué](#),  
Musée des Tissus de Lyon

## Dealing with the production of silk textile artefacts with CIDOC CRM

- The more complex modeling of the semantics included in data about the creative and productive process of silk textiles requires **elaborating new classes and properties.**
- There is yet **no CRM extension for dealing with the production of textile artefacts**
- For example : something similar to FRBRoo, for the creation, production and expression process in literature and the performing arts

# Dealing with the production of silk textile artefacts with CIDOC CRM



Technical description of a silk fabric



## Dealing with the production of silk textile artefacts with CIDOC CRM

- At the **beginning of the process** :
  - Text content has to be analyzed and processed
  - Results have to be analyzed
- **A lot of questions!** Where to put these new classes in the hierarchy? Which new properties ? How to name these classes and properties?...etc.
  - Defining the process
  - Curating the process + curating and discussing new classes and properties

Thank you for your attention  
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