

Data Example of the CIDOC Reference Model

- Epitaphios GE34604 -

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Introduction:

(by Martin Doerr)

We have created an example of how data appear under the CIDOC Reference Model to illustrate the way of semantic analysis. The data were assembled at the Museum Benaki from their holdings, put into a database implementation of the CIDOC Reference model at ICS-FORTH and from there exported to the form below. The actual form is arbitrary, the model describes only tags, connectivity and entities. I propose the reader to read the comments after a first glance at the data. Here our object:



Comments on the form:

(by Martin Doerr)

This is an example, how the “symmetric” CRM can be turned into a format from the perspective of an object.

This is not a proposal for a standard for a documentation format, but it illustrates the possible semantic analysis of an object description into a view neutral machine-interpretable form. If the respective inverse attribute names are used,

the information below can be turned into a description of a person (e.g. George of Kyriaze), of historical events, of places etc.

All "short cut" attributes are in italics. They can typically be expanded into respective actions leading to the described state. Some of the respective actions actually follow later in the text.

All inverse attribute names are omitted to demonstrate, how a schema is derived from the network of concepts.

All entity instances are in bold, commented with the entity name in parenthesis. Only after the attribute "has type", I have omitted "(entity Type)".

I have assigned a natural expression as identifier for all entity instances, in the manner of a semantic net, except for the time-span objects, where I used a "-" sign. Activities which do not read well as expression I put in "<>" brackets.

Only used attributes are displayed to demonstrate what means "optional".

I have expanded all information in indentation at first occurrence. Second occurrence of any entity instance is not expanded, but marked with (see also). Please note, that all further occurrences are references in the real model, NOT repetitions, as the textual form may suggest. Each such reference could appear as well at the referred, using the inverse name of the attribute! E.g. "<**Despoineta's professional period**> (entity Activity) ...carried out by **Despoineta** (see above)" would in complete expansion also appear as "**Despoineta** (entity Person)... carried out <**Despoineta's professional period**> (see below)", because the full model registers this attribute as "carried out by (carried out)".

Geographic information was controlled against TGN. I actually disagreed with TGN, that Istanbul is part of Asia through Turkey. Obviously TGN is trapped in a monohierarchical model. The CRM solves this problem with the "consists of" link, which allows to "compose" a region from several parts, which in turn fall under the usual hierarchies. I did not assign all TGN placenames, and used the English instead of the vernacular name as identifier.

The "Transfer" entity is a good example of multiple instantiation. An open question is, if we should create an entity which describes the "normal" case, where acquisition and transfer of custody cooccurs for the same persons.

I'd like to thank the Museum Benaki for these beautiful data.

Martin Doerr

Formal Description:

Epitaphios GE34604 (E19.Physical_Object)

P47F.is_identified_by

TA 959a (E42.Object_Identifier)

GE 34604 (E42.Object_Identifier)

P48F.has_preferred_identifier

GE 34604 (E42.Object_Identifier)

P2F.has_type

ecclesiastical embroidery

liturgical cloth

P52F.has_current_owner

Museum Benaki (E40.Legal_Body)

P2F.has_type

private museum

P76F.has_contact_point

<**Ifigenia Dionissiadu**> **ifi@benaki.gr** (E51.Contact_Point)

Koumbari Street 1, Athens (E45.Address)

P51F.has_former_or_current_owner

Georgios, son of Kyriazes (E21.Person)

P3F.has_note

'He was pilgrim of the Holy Land'

Metropolitan Church of the Greek Community of Ankara (E39.Actor)

P2F.has_type

ecclesiastical institution

Museum Benaki (E40.Legal_Body)

P50F.has_current_keeper

Museum Benaki (E40.Legal_Body)

P49F.has_former_or_current_keeper

Metropolitan Church of the Greek Community of Ankara (E39.Actor)

Museum Benaki (E40.Legal_Body)

P30B.custody_transferred_through

Transfer of Epitaphios GE34604 (E10.Transfer_of_Custody, E8.Acquisition)

P28F.custody_surrendered_by

Metropolitan Church of the Greek Community of Ankara (E39.Actor)

P23F.transferred_title_from

Metropolitan Church of the Greek Community of Ankara (E39.Actor)

P29F.custody_received_by

Museum Benaki (E40.Legal_Body)

P22F.transferred_title_to

Exchangable Fund of Refugees (E40.Legal_Body)

P2F.has_type

national foundation

P14F.carried_out_by

Exchangable Fund of Refugees (E40.Legal_Body)

P4F.has_time-span

- (E52.Time-Span)

P82F.at_some_time_within

1923 - 1928 (E61.Time_Primitive)

P7F.took_place_at

Greece (E53.Place)

P2F.has_type

nation

republic

P89F.falls_within

Europe (E53.Place)

P2F.has_type

continent

P55F.has_current_location

drawer 8 / case 27 / room 6 / floor -1 / new wing (E53.Place)

P2F.has_type

drawer

P89F.falls_within

Museum Benaki Main Building (E53.Place)

P2F.has_type

museum building

P87F.is_identified_by

Koumbari Street 1, Athens (E45.Address)

P89F.falls_within

Athens (E53.Place)

P2F.has_type

city

national capital

P89F.falls_within

Greece (E53.Place)

P54F.has_current_permanent_location

drawer 8 / case 27 / room 6 / floor -1 / new wing (E53.Place)

P53F.has_former_or_current_location

drawer 8 / case 27 / room 6 / floor -1 / new wing (E53.Place)

Ankara (E53.Place)

P2F.has_type

city

national capital

P89F.falls_within

Asia Minor (E53.Place)

P2F.has_type

region

P89F.falls_within

Asia (E53.Place)

P2F.has_type

continent

Turkey (E53.Place)

P2F.has_type

nation

republic

P88F.consists_of

Asia Minor (E53.Place)

Eastern Thrace (E53.Place)

P2F.has_type

region

P89F.falls_within

Europe (E53.Place)

P108B.was_produced_by

<Creation of Epitaphios GE34604> (E12.Production)

P2F.has_type

handwork

P3F.has_note

“information is derived from the inscription”

P4F.has_time-span

- (E52.Time-Span)

P82F.at_some_time_within

1682 - 1682 (E61.Time_Primitive)

P7F.took_place_at

Istanbul (E53.Place)

P87F.is_identified_by
 Κωνσταντινούπολις (E44.Place_Appellation)

P2F.has_type
 city

P89F.falls_within
 Turkey (E53.Place)
 Eastern Thrace (E53.Place)

P14F.carried_out_by
 Despoineta (E21.Person)

P2F.has_type
 needle woman

P32F.used_general_technique
 gold and silver embroidering (E55.Type)

P20F.had_specific_purpose
 Order by Georgios, son of Kyriazes (E7.Activity)

P2F.has_type
 commercial order

P14F.carried_out_by
 Georgios, son of Kyriazes (E21.Person)

P20F.had_specific_purpose
 Donation by Georgios, son of Kyriazes (E8.Acquisition)

P2F.has_type
 donation to ecclesiastical institution

P24F.transferred_title_of
 Epitaphios GE34604 (E19.Physical_Object)
 Cross GE34059

P2F.has_type
 processory cross

P52F.has_current_owner
 Museum Benaki (E40.Legal_Body)

P23F.transferred_title_from
 Georgios, son of Kyriazes (E21.Person)

P22F.transferred_title_to
 Metropolitan Church of the Greek Community of Ankara (E39.Actor)

P7F.took_place_at
 Ankara (E53.Place)

P10F.falls_within
 <**Despoineta's professional period**> (E7.Activity)

P2F.has_type
 needle work

P14F.carried_out_by
 Despoineta (E21.Person)

P4F.has_time-span
 - (E52.Time-Span)

P82F.at_some_time_within
 1682 - 1723 (E61.Time_Primitive)

P7F.took_place_at
 Istanbul (E53.Place)

P62F.depicts
 The Lament (E55.Type)

P65F.shows_visual_item
 Inscription of Epitaphios GE34604 (E34.Inscription)

P72F.has_language
 medieval Greek

P3F.has_note
 Inscription text:

Center: «ΔΙΑ ΧΕΙΡΟΣ ΑΧΡΕΙΑΣ ΔΕΣΠΟΙΝΕΤΑΣ, ΗΜ(ων) ΔΕΣΠΟΙΝΗΣ ΔΟΥΛΗΣ,
ΦΕΙΛΟΠΟΝΕΙΤΑΙ ΤΟ ΠΑΡΟΝ, ΕΝ ΚΩΝΣΤΑΝΤΙΝΟΥΠΟΛΕΙ»

On the lower side: «ΤΗΝ ΠΑΝΣΕΤΠΤΟΝ ΜΩΡΦΗΝ ΤΗΣ ΣΗΣ ΕΠΙΤΥΜΒΙΟΥ ΧΑΡΑΚΤΗΡΙΣΑΣ
Π[ΡΟΣΕ]ΘΗΚΕΝ ΤΗΔΕ Μ(ητρ)ΟΠΟΛΕΙ ΑΓΓ[ΥΡΑ]Σ ΤΗΣ ΠΡ[...]ΣΤ [...] ΚΥΡΙΑΖΗ ΔΕ ΓΟΝΟΣ
[ΠΡ]ΟΣΚΥΝΗΤΗΣ ΚΑΙ ΔΟΥΛΟΣ ΣΟΥ, ΘΕΙΕ Θ(εο)Υ ΛΟΓΕ ΓΕ[ΩΡ]Γ[ΙΟΣ]»

On the right: « ΕΝ ΕΤΕΙ Σ(ωτη)ΡΙΩ ΑΧΙΒ.: ΟΤΕ ΕΝ ΤΩ ΤΑΦΩ ΤΩ ΚΕΝΩ, ΥΠΕΡ ΤΟΥ ΠΑΝΤΟΣ
ΚΑΤΕΤΕΘΗΣ Ο ΠΟΙΗΤΗΣ | ΤΟΥ ΠΑΝΤΟΣ ΑΔΗΣ Ο ΠΑΓΓΕΛΑΣΤΟΣ ΕΙΔΟΝ ΣΕ ΕΦΡΙΞΕΝ ΟΙ
ΜΟΧΛΟΙ ΣΥΝΕΤΡΙΒΗΣΑΝ ΕΘΛΑΣΘΗΣΑΝ ΠΥΛΛΑΙ ΜΝΗΜΑΤΑ ΕΙΝΗΧΘΗΣΗΣΑΝ, Σ(ωτ)ΕΡ
ΑΝΕΒΟΑ ΣΟΙ ΔΟΞΑ, ΤΗ ΟΙΚΟΝΟΜΙΑ ΣΟΥ ΦΙΛ|ΑΝ(θρωπ)Ε.»

On the upper inner zone: Η ΖΩΗ ΕΝ ΤΑΦΩ ΚΑΤΕΤΕΘΗΣ Χ(ριστ)Ε, ΚΑΙ ΑΓΓΕΛΩΝ ΣΤΡΑΤΙΑΙ
ΕΞΕΠΛΗΤΤΩΝΤΟ, ΣΥΓΚΑΤΑΒΑΣΙΝ ΔΟΞΑΖΟΥΣΑΙ ΤΗΝ ΣΗΝ.

On the lower inner zone: + ΑΙ ΓΕΝΝΕΑΙ ΠΑΣΣΑΙ ΥΜΝΟΝ ΤΗ ΤΑΦΗ ΣΟΥ ΠΡ[ΟΣΦΕΡΟ]ΜΕΝ
ΧΡΙ[ΙΣΤΕ ΜΟΥ .Τ]ΡΙΑΣ ΘΕΕ ΜΟ[Υ ΠΑΤΗΡ ΥΙΟ]Σ ΚΑΙ ΠΝ(εσμ)Α ΕΛΕΗΣΟΝ ΤΟΝ ΚΟΣΜΟΝ.

On the left inner zone: Ο ΕΥΣΧΗΜΟΝ ΙΩΣΗΦ ΑΠΟ ΤΟΥ ΞΥΛΟΥ ΚΑΘΕΛΩΝ ΤΟ ΑΧΡΑΝΤΟΝ
ΣΟΥ ΣΩΜΑ ΣΙΝΔΟΝΙ ΚΑΘΑΡΑ ΕΙΛΙΣΑΣ. Εις την δεξιά: + ΑΞΙΟΝ ΕΣΤΙ ΜΕΓΑΛΛΥΝΕΙΝ ΣΕ
ΤΟΝ ΖΩΟΔΟΤΗΝ ΤΟΝ ΕΝ ΤΩ ΣΤ(ων)ΡΩ ΤΑΣ ΧΕΙΡΑΣ ΕΚΤΕΙΝΑΝΤΑ Κ(αι) ΣΥΝΤΡΙ

P101F.had_as_general_use

epitaphios function (E55.Type)

P103F.was_intended_for

epitaphios function (E55.Type)

P43F.has_dimension

length 1.50 m

width 1.12 m

P57F.has_number_of_parts

1 piece

P88F.consists_of

silver thread (E57.Material)

gold thread (E57.Material)

silk cloth (E57.Material)

ANNOTATION to the model of the Epitaphios GE34604 of the Benaki Museum

(by Ifigenia Dionissiadou)

Following the sequence of the description of the model:

Identification Information

EpitaphiosGE34604 is instance of Iconographic object, because its main characteristic is based on iconography and we need to be able -to have the attributes- to describe iconography.

EpitaphiosGE34604 has two *identifiers* - the old TA 959a and the current (*preferred identifier*) GE34604.

Its category (ObjectName *type*) is double: it belongs to the group of ecclesiastical embroideries, which in the thesaurus of Object types (all *types* of the model are supposed to be build in a thesaurus of terms) should be subclass of Embroideries, which should be subclass of Objects According To Their Technique.

It is also an liturgical cloth, which in the thesaurus of Object types should be subclass of Cloth etc. In this way the user may retrieve EpitaphiosGE34604 through a number of broader terms of different semantic nature.

Acquisition & Ownership Information

** The CIDOC model as developed until now does not have a link between the museum object and the Collection in which it falls within. This is an important collections management information to be added in the future. In this example, EpitaphiosGE34604 belongs to the Post-Byzantine collection of the Benaki Museum, but this is not described in the model.

EpitaphiosGE34604 *has current owner* the Benaki Museum. The model at this point analyzes this information about the Benaki Museum through the attributes *has type* and *has contact points* (in this case contact points are both an electronic address and a local Address)

The previous (*former*) owners were: first a person called Georgios the son of Kyriazes -information about him are given in the *note* - and, later on, an ecclesiastical institution called Metropolitan Church of The Greek Community of Ankara.

The transfer of physical custody of the object is described though the attributes *former/current keeper*.

At this point we might want to be more analytical and describe that this object was brought in Greece by the Greek refugees in 1923, during the expulsion of the Greeks from Asia Minor and was delivered to the Exchangeable Fund of Refugees as part of the property of the Greek Community of Ankara; in 1928 the Exchangeable Fund of Refugees deposited this object to the Benaki Museum. If we don't need to model the above information, we may input them as text in the *has note* attribute of the former/current keeper entity. In that case, we miss from the retrieval the mediation of the Exchangeable Fund of Refugees and the time-span of the transfer. If we want to model them, we may chose to analyze the following:

Epitaphios GE34604 changed custody (*custody-changed-by*) though the activity called **Transfer of Epitaphios GE34604**, instance of Transfer of Custody and instance of Acquisition in the CIDOC model (which means that this instance inherits attributes from both Transfer of Custody and Acquisition activities).

During that activity *physical custody was surrendered by* the Metropolitan Church of Ankara *and received by* the Benaki Museum. However, the *title* of Epitaphios GE34604 was *transferred from* the Metropolitan Church of Ankara *to* a national foundation called the Exchangeable Fund of Refugees. The procedure was *carried out by* the Exchangeable Fund during the *time-span* 1923-1928 and *took place* in Greece, nation and republic state which *falls within* the continent of Europe.

Location Information

The full description of the location is documented.

The Location *type* thesaurus categorizes the kinds of storage spaces we use. The current location is included in (*falls within*) the Benaki Museum New Building, which is a Museum Building *type*, identified by an Address.

Current permanent location and current location might be different in cases that the museum object has been transferred for conservation, exhibition, study etc.

Former location should be the building which used to be the headquarters of the ecclesiastical institution of the Metropolitan Church of the Greek Community of Ankara. In this case a link between an institution and its seat is useful to be established in the CIDOC model. However we may say that former location of Epitaphius GE34604 was Ankara, city of Asia Minor and current capital of Turkey, which is a nation and a republic state that *falls within* the region of Asia Minor (in Asia) and Eastern Thrace (in Europe).

In that point, we should comment on how the CIDOC model treats references to a place: starting from a certain address, we describe the total chain of inclusions (an address *falls within* a city, which *falls within* a region, which *falls within* a country, which *falls within* a continent etc.) This geographical analysis enables the user to retrieve places through the broader areas where they are situated. Each place is described once in the model, according to a certain authority, like TGN. After that, every reference of the database to the already described place (e.g. as place of creation or use of a museum object, place of birth or death of a person, place where an activity took place) is automatically linked with the whole chain of broader places, as well.

Historical Information

The creation (or better production) of EpitaphiusGE34604 is treated in the CIDOC model like an activity: it has *type*, *time-span* and it *took place* in the city of Istanbul, which is also identified as «Konstantinople».

Here I should mention that Istanbul used to be the capital of Ottoman Empire during that period. However, the *took place* attribute refers in the CIDOC model as a place-identifier, not as a historical reference. *Place* is a spatial definition for the CIDOC model, defined by an accepted authority or by several Place Appellations. In that sense, the occasion that a certain places might have been called by different name and might have been included in a different political unit during the past, is described in the CIDOC model through the entity Period: the Ottoman Empire period I had *place* the region of Eastern Thrace (among other places) and had *time-span* from 1342 to 1924.

The creation of EpitaphiusGE34604 was *carried out by* a person (could be a group alternatively), it was done by using a *general technique* (which again is a *type* in the Technique Thesaurus, unless we have reasons to describe its process in the model; in that case the specific technique becomes a defined activity, subclass of Production).

The creation of EpitaphiusGE34604 was done for a *specific purpose* : it was ordered by George the son of Kyriazes to donate it, together with a processory cross, to the Metropolitan Church of his homeland. This order is treated again like a separate activity, which has its own *type*, actor (*carried out by*) and *specific purpose* : the donation to the church, together with another object, the processory cross GE34059. Donation is again an activity by itself, which *transfers title of* two objects *from* an owner *to* another.

Why analyzing this incidence into three separate activities? Because creation, order and donation might have happened in different places and time-spans, by different people and we need to be able to describe them with precision. In our case, the EpitaphiusGE34604 was made in the city of Konstantinople, in 1682, by a well known needlewoman called Despoineta, whose life we want to further document in the system for future reference. The order was made of Georgios the son of Kyriazes, most probably before its creation. The donation happened in a different place, in Ankara, probably during a later time, which we now only assume that was 1682, but it might prove by a different source to have been a bit later. Additionally, we want to link the donation of EpitaphiusGE34604 with the another object from our collection, the Cross GE34059, which Georgios also offered to the church at that time. If we wouldn't have modeled all these information, we could alternatively input them in the text *note* of creation (as we did with the information about our using the inscription as a source), only in that case we wouldn't be able to retrieve the events of the object's order and donation (which is the reason that this object came from Ankara) or the name of Kyriazes as a donor.

The *falls within* link (read as : the creation of EpitaphiusGE34604 *falls within* Despoineta's professional period) provide us information about Despoineta's professional activity as a needle woman. Despoineta's embroidery is treated like an activity *carried out by* Despoineta during the *time-span* 1682-1723 and *took place* in Istanbul. In that way, if the user asks about Despoineta, he will have the information about her activity as a needlewoman and the reference in this particular work of hers as well.

Description Information

EpitaphiosGE34604 *depicts concept* of the Lament. Lament is regarded to be an iconographic *type*, which in the thesaurus of iconographic types should be further described (the typical byzantine scene of the dead Christ after His deposition from the cross. The Virgin, Joseph of Arimathia and St. John are presented mourning) and should be subclass of the Scenes of Circle of Passion, which is subclass of the Christian scenes, which is subclass of Religious Scenes etc. In this way the user may retrieve the iconographic subject of EpitaphiosGE34604 through a number of broader terms that are for once set in the hierarchy of the thesaurus and will refer to all the Lament depictions (or even texts written on this concept) to be found on museum objects of the database.

The EpitaphiosGE34604 also *shows visual item* an inscription. The CIDOC model regards as Inscription only the context (the text) of the inscription, not its physical presence, which could be described through the *bears feature* attribute that EpitaphiosGE34604 may have (create a separate entity, instance of Man-Made Feature). The reason that the CIDOC model separates the physical from the conceptual nature of an inscription is that the context (text) of an inscription might be found written in more than one physical objects (e.g. our Epitaphios' inscription includes a religious text that is typically found on many other objects of its kind). Furthermore, the text, as such, has attributes of conceptual nature, which don't correspond to physical objects: only a conceptual Linguistic Object, *has language* (further analyzed into script, type of letters etc.) or translation.

General and intended use are the same in our case: the object was made to fulfill its general use (in some cases this doesn't happen, like decorative knives). Epitaphios function is again a Function *type*, which could be further described in the thesaurus (the orthodox church celebrates Christ's Deposition in a certain ceremony which takes place in Good Friday and during which the Epitaphios is used as an icon and after that it is set on the Holy Altar to remain there until the day of Assumption)

Physical description Information

Being a physical object, EpitaphiosGE34604 has dimensions and parts and consists of certain materials, which are types of the Material Thesaurus