# F Entry to RDF

Mapping the F Entry Italian content standard for cataloguing photographs to RDF version 1.0

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# Document Scope

The mapping of the F Entry (i.e. Scheda F), the Italian content standard for cataloguing photographs, to RDF is based upon a subset of cataloguing elements described in the version 3.00 of the aforementioned standard<sup>1</sup>, released by the *Istituto Centrale per il Catalogo e la Documentazione (ICCD)*. Although the F Entry may be mainly considered a national cataloguing reference, also international stakeholders can benefit from this mapping document, which is a set of shareable descriptive elements for photographs.

The purpose of this mapping is indeed to ensure semantic interoperability among data providers want to publish their structured data about photographs in RDF as Linked Open Data. Therefore, this document provides a guidance to map metadata elements name to ontology terms as defined in well-known vocabularies, e.g., the CIDOC Conceptual Reference Model (CRM)², and by means of ontologies that have been appropriately developed for describing specific aspects of the F Entry standard. Hence, wherever needed, to avoid a lack of information, best suitable terms from other vocabularies have been adopted or created for the scope.

The result is a new ontology, the F Entry Ontology<sup>3</sup>, which itself imports several other ontologies and vocabularies, including: DCTerms (Dublin Core Metadata Terms)<sup>4</sup>, FOAF (Friend of a Friend Vocabulary)<sup>5</sup>, PROV (Provenance Ontology)<sup>6</sup>, HiCO (Historical Context Ontology)<sup>7</sup>, supplemented by terms from OA Entry Ontology<sup>8</sup>, from an OWL2 DL version of FRBR (Functional Requirements for Bibliographic Records)<sup>9</sup>, and from the following SPAR (Semantic Publishing and Referencing) Ontologies<sup>10</sup>: CiTO (Citation Typing Ontology)<sup>11</sup>, FaBiO (FRBR-aligned Bibliographic Ontology)<sup>12</sup>, and PRO (Publishing Roles Ontology)<sup>13</sup>.

The F Entry Ontology also provides new entities that were lacking elsewhere: two object properties defining a direct relation between F Entry and the described photograph and three classes for precisely defining their nature (see Table 1).

<sup>1</sup> http://www.iccd.beniculturali.it/index.php?it/473/standard-catalografici/Standard/10

<sup>2</sup> http://www.cidoc-crm.org/cidoc-crm/

<sup>3</sup> http://www.essepuntato.it/2014/03/fentry/

<sup>4</sup> http://purl.org/dc/terms/

<sup>5</sup> http://xmlns.com/foaf/spec/

<sup>6</sup> http://www.w3.org/TR/2012/WD-prov-o-20120724/

<sup>7</sup> http://purl.org/emmedi/hico

<sup>8</sup> http://purl.org/emmedi/oaentry

<sup>9</sup> http://www.sparontologies.net/ontologies/frbr

<sup>10</sup> http://www.sparontologies.net/ontologies/

<sup>11</sup> http://www.sparontologies.net/ontologies/cito

<sup>12</sup> http://www.sparontologies.net/ontologies/fabio

<sup>13</sup> http://www.sparontologies.net/ontologies/pro

# Notes for guidance

In the current release of the F Entry to RDF mapping document, only a representative subset of elements from the F Entry Standard has been actually mapped. The elements in such subset has been chosen by considering all the elements adopted by the *Federico Zeri Foundation* in its catalog of photographs<sup>14</sup>, which includes all mandatory elements (i.e. the inventory level of cataloguing) and other relevant ones.

The mapping is here presented in tabular form in Table 3. Elements are grouped into several sibling named subtables, partially reproducing original sections of the F Entry reference document. Each section is identified with the proper abbreviation provided by the original content standard and a translated title.

The first and the second column of each subtable contain the abbreviation, the full name and a brief description of the content of the F Entry element; both mandatory sections and mandatory elements are distinguished by "\*" aside the title of the section or aside the abbreviation of the element name. When an optional section is taken into account in the cataloguing process, contextual mandatory elements are characterized by "(\*)" aside the abbreviation.

The third column contains the related ontology entity (a class or an object/datatype property), a brief explanation and examples of usage (in Turtle syntax).

For the sake of brevity, annotation properties, i.e. labels (rdfs:label) or comments (rdfs:comment), or data properties recording text values of fields (e.g. dcterms:description) are omitted. Moreover, any kind of identifiers (e.g. regional codes, general catalog numbers, cataloguing levels, etc.) are characterized by means of individuals that have to be defined by each customer, as it does not exist a shared controlled vocabulary for identifying such types uniquely yet.

A complete example of an F Entry in RDF according to the mapped ontology terms is available online at https://figshare.com/s/f27467f3c01fb053d3d4.

Table 1. F Entry Ontology classes and object properties

F Entry Classes	F Entry Object Properties
fentry:FEntry	fentry:describes
fentry:Photograph	fentry:isDescribedBy
fentry:Shot	

Table 2. Namespaces declaration

Abbreviation	Ontology name	URI
cito	CiTO	http://purl.org/spar/cito/
crm	CIDOC-CRM	http://www.cidoc-crm.org/cidoc-crm/
dcterms	DC Terms	http://purl.org/dc/terms/
fabio	FaBiO	http://purl.org/spar/fabio/
fentry	F Entry Ontology	http://www.essepuntato.it/2014/03/fentry/
foaf	FOAF	http://xmlns.com/foaf/0.1/
frbr	FRBR	http://purl.org/vocab/frbr/core#
hico	HiCO	http://purl.org/emmedi/hico/
oaentry	OA Entry Ontology	http://purl.org/emmedi/oaentry/
owl	OWL	http://www.w3.org/2002/07/owl#
prism	PRISM	http://prismstandard.org/namespaces/basic/2.0
pro	Publishing Role Ontology	http://purl.org/spar/pro/
prov	PROV Ontology	http://www.w3.org/ns/prov#
rdf	RDF	http://www.w3.org/1999/02/22-rdf-syntax-ns#
rdfs	RDF Schema	http://www.w3.org/2000/01/rdf-schema#
skos	SKOS	http://www.w3.org/2004/02/skos/core#
ti	Time Interval	http://www.ontologydesignpatterns.org/cp/owl/timeinterval.owl#
tvc	Time-indexed Value in Context	http://www.essepuntato.it/2012/04/tvc/
xsd	XML Schema Definition	http://www.w3.org/2001/XMLSchema#

# Introduction

The *Italian Central Institute for Cataloguing and Documentation (ICCD)* realized a set of reference documents in order to provide cultural institutions descriptive elements, rules and controlled vocabularies for cataloguing their cultural heritage objects consistently.

In particular, the F Entry content standard allows the description of different relevant features related to a photograph, and highlights fundamental relations involved in its lifecycle, including information about: the object and its physical features, subject, chronology, authorship attributions, provenance (acquisitions and transfers of custody), restorations and preservation conditions, documentation.

To map F Entry to RDF two main entities are firstly required: the F Entry, i.e. the metadata document describing a cultural object, and the photograph, i.e. the subject of F Entry description. Here below an overview of other relevant topics related to the main two entities.

# F Entry

(fentry:FEntry)

the metadata entry containing information about a photograph

According to Functional Requirements for Bibliographic Records (FRBR), at least two of the four entities (work and expression) have been here considered, in order to describe the entry creation, its revisions, and relations to other entries.

# Photograph

(fentry:Photograph)

the photograph described in the F Entry

According to Functional Requirements for Bibliographic Records (FRBR), four FRBR entities (work, expression, manifestation and item) have been here considered in order to describe (among other information):

- photograph creation and shot;
- authorship attributions;
- subjects;
- relations to other phases of photograph development;
- documentation, wherein the photograph is reproduced or described;
- physical description;
- current owner;
- current location;
- previous owners or keepers.

CD – Code	Entry to RDF mapping	
TSK *	Type of entry	fentry:FEntry (Class)
	A term from a controlled vocabulary to provide information about the type of metadata entry.	The class fentry: FEntry, subclass of fabio: EntityMetadata, is the proper class for defining metadata documents following the F Entry content standard requirements. In FRBR terms it is a work, and in terms of CIDOC-CRM is an individual of the class crm: E31_Document.
		e.g. TSK: 'F', i.e. <i>fotografia</i> – Italian translation of photograph.
		Exemplar usage: :fentry-72486 a fentry:FEntry , crm:E31_Document .
		For similar, even if not equivalent, sort of entries, i.e. not conforming the Scheda F content standard, the crm:P2_has_type object property may be used to specialize the individual representin a metadata entry, associating a term from a controlled vocabulary as range.
		Exemplar usage: :fentry-72486   crm:P2_has_type :fentry . :fentry a crm:E55_Type .
		Any time an individual of the class fentry: FEntry is created, also an individual of the classes fentry: Photograph or fabio: WorkCollection and crm: E28_Conceptual_Object is defined, which represents the catalogued photograph (see OGT section for further explanation). Individuals representing the entry and the work are linked by using the object property fentry: describes.
		Exemplar usage: :photo-72486     a fentry:Photograph , crm:E28_Conceptual_Object. :fentry-72486     fentry:describes :photo-72486 .
LIR*	Cataloguing level	crm:E1_CRM_Entity (Class)
A term from a controlled vocabulary providing information about cataloguing accuracy.	An individual of the class crm:E1_CRM_Entity shall be used to define an attribute assigned to an individual representing the currer F Entry.  An individual of the class crm:E13_Attribute_Assignment shall be created and linked to an individual representing the cataloguing level (by using the object property crm:P141_assigned) and to the individual of the class fentry:FEntry.	
	Exemplar usage: :fentry-72486-catalog-level-assignment     a crm:E13_Attribute_Assignment;     crm:P141_assigned :inventory-level;     crm:P140_assigned_attribute_to :fentry-72486 . :inventory-level a crm:E1_CRM_Entity .	
		The object property crm: P2_has_type shall be used to characterize any cataloguing level under an umbrella type.

		Exemplar usage: :inventory-level a crm:E1_CRM_Entity; crm:P2_has_type:cataloguing-level-id. :cataloguing-level-id a crm:E55:Type.	
NCT – Uniqu	NCT – Unique codes *		
NCTR *	Regional code	crm:E42_Identifier (Class)	
	A code identifying the region where the competent institution resides: this identifier shall be combined with other codes in order to define a unique identifier	An individual of the class crm:E42_Identifier shall be related to the individual representing the current F Entry by means of an intermediate relation to an individual of the class crm:E13_Attribute_Assignment.	
	for the current entry and the catalogued work.	Exemplar usage: :fentry-72486-nctr-assignment a crm:E13_Attribute_Assignment; crm:P141_assigned :nctr-08; crm:P140_assigned_attribute_to :fentry-72486 .	
		The identifier shall be further specialized with the object property crm: P2_has_type, associating an individual defined in a crm: E55_Type hierarchy.	
		Exemplar usage: :nctr-08 a crm:E42_Identifier ; crm:P2_has_type :regional-code .	
NCTN *	Catalog number	crm:E42_Identifier (Class)	
p. ir w	provided by the competent institution, that can be combined with other codes to further define a	An individual of the class crm:E42_Identifier shall be related to the individual representing the current F Entry by means of an intermediate relation to an individual of the class crm:E13_Attribute_Assignment.	
	unique identifier for the current entry.	Exemplar usage: :fentry-72486-nctn-assignment a crm:E13_Attribute_Assignment; crm:P141_assigned :nctn-13; crm:P140_assigned_attribute_to :fentry-72486 .	
		The identifier shall be further specialized with the object property crm:P2_has_type, associating an individual defined in a crm:E55_Type hierarchy.	
		Exemplarusage: :nctn-13 a crm:E42_Identifier ; crm:P2_has_type :catalog-number .	
ESC *	Cataloguing institution	crm:E42_Identifier (Class)	
	A code identifying the cataloguing institution of the photograph, provided by the competent institution, i.e. ICCD.	This individual of the class crm:E42_Identifier is related to the individual representing the cataloguing institution, belonging to the class crm:E40_Lega1_Body, by means of a relation to an intermediate individual of the class crm:E13_Attribute_Assignment.	
		Exemplar usage:  :zeri-foundation a crm:E40_Legal_Body .  :zeri-foundation-id-assignment     a crm:E13_Attribute_Assignment ;     crm:P141_assigned :esc-code ;     crm:P140_assigned_attribute_to :zeri-foundation .  :esc-code a crm:E42_Identifier .	

Moreover, to specify the role held by the cataloguing institution, an individual belonging to the class pro:RoleInTime of the PRO Ontology shall be used.

The PRO Ontology, part of SPAR Ontologies, is developed for describing time-indexed situations in which an agent holds a role with respect to a specific context.

The role held by the cataloguing institution with respect to the photograph, may be represented as an individual of the class pro:RoleInTime, which enables to express:

- the agent who holds a role in a time-indexed situation, i.e. the institution, by using the object property pro:isHeldBy;
- the role held by the cataloguing institution, i.e. the individual oaentry:cataloguing-institution belonging to the class oaentry: CataloguingRole provided by the OA Entry Ontology, by using the object property pro:withRole;
- the photograph as the context of the role, by using the object property pro:relatesTo;
- the time interval in which the role is held (if applicable), by using the object property tvc:atTime.

### Exemplar usage:

```
:zeri-foundation-cataloguing-photo-72486
  a pro:RoleInTime ;
  pro:relatesTo :photo-72486-positive-item ;
  pro:isHeldBy :zeri-foundation ;
  pro:withRole oaentry:cataloguing-institution .
oaentry:cataloguing-institution
  a oaentry:CataloguingRole .
```

#### FCP \* Competent institution

crm:E42\_Identifier (Class)

A code identifying the competent institution, the provider of unique codes for cataloguing.

This individual belongs to the class crm: E42\_Identifier and is related to the individual representing the competent institution, belonging to the class crm: E40\_Legal\_Body, by means of a relation to an intermediate individual of the class crm:E13\_Attribute\_Assignment.

#### Exemplar usage:

```
:ibc-er a crm:E40_Legal_Body .
:ibc-er-id-assignment
  a crm:E13_Attribute_Assignment;
  crm:P141_assigned :ibc-code ;
  crm:P140_assigned_attribute_to
     :ibc-er .
:ibc-code a crm:E42_Identifier .
```

To specify the role held by the competent institution, an individual belonging to the class pro:RoleInTime of the PRO Ontology shall be used, which enables to express:

- the agent who holds a role in a time-indexed situation, i.e. the institution, by using the object property pro:isHeldBy;
- the role held by the competent institution, i.e. the individual oaentry:competent-institution belonging to the class oaentry: CataloguingRole provided by the OA Entry Ontology, by using the object property pro:withRole;
- the photograph as the context of the role, by using the object property pro:relatesTo;

the time interval in which the role is held (if applicable),
 by using the object property tvc:atTime.

#### Exemplar usage:

```
:ibc-er-competent-photo-72486
  a pro:RoleInTime;
  pro:relatesTo :photo-72486-positive-item;
  pro:isHeldBy :ibc-er;
  pro:withRole oaentry:competent-institution .
oaentry:competent-institution
  a oaentry:CataloguingRole .
```

# RV - Relations to other entries

# RVE - Complex structure

# RVEL(\*)

Hierarchical level of the entry

A value identifying a hierarchical relation between F Entries: e.g. a descendant entry describes a part of a photograph described in the parent entry.

[frbr:complement (object property)
or frbr:complementOf (object property)]

When this field is filled, a hierarchical relation between individuals representing F Entries (fentry:FEntry) is established by means of frbr:complement or frbr:complementOf object properties.

e.g. RVEL: '1', i.e. the current entry is a descendant entry.

### Exemplar usage:

```
:fentry-72486 a fentry:FEntry ;
  frbr:complementOf :fentry-72485 ;
  fentry:describes :photo-72486 .
:fentry-72485 a fentry:FEntry ;
  frbr:complement :fentry-72486 ;
  fentry:describes :album-12015 .
```

The established hierarchical relation between entries shall be generally inherited by the works therein described.

Then, an explicit relation between works shall be represented through the use of crm:P106i\_forms\_part\_of object property, relating individuals of the class fentry:Photograph and fabio:WorkCollection.

#### Exemplar usage:

```
:photo-72486 a fentry:Photograph ;
    crm:P106i_forms_part_of :album-12015 .
:album-12015 a fabio:WorkCollection .
```

# RVER (\*)

Parent entry unique code

The code identifying the parent entry related .

crm:E42\_Identifier (Class)

This individual belongs to the class crm: E42\_Identifier and is related to the individual representing the parent entry, belonging to the class fentry: FEntry, by means of a relation to an intermediate individual of the class crm: E13\_Attribute\_Assignment.

#### Exemplar usage:

```
:fentry-72485 a fentry:FEntry ;
  fentry:describes :album-12015 ;
  crm:P140i_was_assigned_by
        :fentry-72485-id-assignment .
:fentry-72485-id-assignment
        a crm:E13_Attribute_Assignment ;
        crm:P141_assigned :id-72485 ;
        crm:P140_assigned_attribute_to :fentry-72485 .
:id-72485 a crm:E42_Identifier .
```

# OG - Object description \*

OGT - Object \*

OGTD *	Definition	crm:E22_Man-Made_Object (Class)
	A term from an open vocabulary identifying the functional features of a described photograph.	Terms provided in this field represent in CIDOC-CRM terms individuals of the class crm:E22_Man-Made_Object, and in FRBR terms as specific manifestations of a photograph, i.e. individuals of the class frbr:Manifestation. By using the object property fabio:hasManifestation the individual defined in terms of a FRBR work can be related to the individual of the proper class representing a manifestation.  FaBiO Ontology provides three classes (and other subclasses) for defining a manifestation:  - fabio:AnalogManifestation  - fabio:DigitalManifestation  - fabio:ManifestationCollection.  e.g. OGTD: 'positive', entails the individual belongs to fabio:AnalogManifestation.  Exemplar usage: :photo-72486 a fentry:Photograph;    fabio:hasManifestation :photo-72486-positive . :photo-72486-positive a crm:E22_Man-Made_Object , fabio:AnalogManifestation .  The individual here represented should also be related to the entry describing the photograph by means of the object property fentry:describes.  Exemplar usage: :fentry-72486 a fentry:FEntry;    fentry:describes
OGTB *	Bibliographic level	:photo-72486 , :photo-72486-positive . fentry:Photograph (Class)
	A code identifying the bibliographic level of the catalogued object.	fabio:WorkCollection (Class)  Terms provided in this field refers in CIDOC-CRM terms to individuals of the class crm:E28_Conceptual_Object, and in FRBR terms to individuals of the classes fentry:Photograph, subclass of frbr:Work, or fabio:WorkCollection.  The controlled vocabulary for this field includes following terms: - 'm', monographic work, i.e. fentry:Photograph; - 's', series, i.e. fabio:WorkCollection, further defined at the FRBR Expression level as fabio:Series 'c', complex work, i.e. fabio:WorkCollection.  To still preserve information provided in this field, the object property crm:P2_has_type can be used to associate the work to an individual of the class crm:E55_Type representing the proper value.  Exemplar usage: :album-12015 a fabio:WorkCollection; crm:P2_has_type :complex .  or
OGTS	Formal Type	crm:E55_Type (Class)

A term from an open vocabulary The object property crm: P2\_has\_type can be used to associate the describing the formal type of the complex work to an individual of the class crm: E55\_Type complex object. representing the proper value, e.g. an album, a carpet or merging of photos. Exemplar usage: :album-12015 a fabio:WorkCollection; crm:P2\_has\_type :album . QNT - Quantity \* QNTN \* Number of parts crm:P57\_has\_number\_of\_parts (data property) The number of parts composing The number of parts composing the object regards physical features the described photograph or of the object. Therefore, an individual defined in terms of a FRBR complex object. Item, belonging to the classes fabio: AnalogItem (or fabio:ItemCollection) and crm:E22\_Man-Made\_Object (also inferred as crm: E84\_Information\_Carrier) is created. The data property crm:P57\_has\_number\_of\_parts can be used to specify the value here provided. Exemplar usage: :album-12015-item a fabio:ItemCollection , crm:E22\_Man-Made\_Object ; crm:P57\_has\_number\_of\_parts "3" . or :photo-72486-positive-item a fabio:AnalogItem , crm:E22\_Man-Made\_Object ; crm:P57\_has\_number\_of\_parts "1" . SG - Subject description \* SGT - Subject \* SGTI\* Subject fabio:hasSubjectTerm (object property) A series of terms, combined Instead of object properties like frbr: subject or according to a controlled syntax, crm:P129\_is\_about, which are preferred for defining relations for defining the iconographic among conceptual entities, the object property content of the photo. fabio:hasSubjectTerm is used for linking a work to a term from a controlled vocabulary or thesaurus, e.g. a SKOS concept. Exemplar usage: :photo-72486 fabio:hasSubjectTerm :jesus-baptism . SGL - Title \* SGLT (\*) Proper title crm:P102\_has\_title (object property) The title of the photograph as The object property crm:P102\_has\_title relates an individual reported on the photograph itself. representing a photograph to a proper title. The value associated as range of this object property shall be further specialized into an individual of the class crm: E55\_Type, by using the object property crm:P2\_has\_type. Exemplar usage: :photo-72486 crm:P102\_has\_title :jesus-baptism-verrocchio . :jesus-baptism-verrocchio a crm:E35\_Title ;

crm:P2\_has\_type :proper-title .

SGLL	Parallel title	crm:P102_has_title (object property)
	The parallel title of the photograph (in other language than the cataloguing one) as reported on the photograph itself.	The object property crm:P102_has_title relates an individual representing a photograph to a parallel title. The value associated as range of this object property shall be further specialized into an individual of the class crm:E55_Type, by using the object property crm:P2_has_type.
		Exemplar usage:  :photo-72486  crm:P102_has_title  :florence-jesus-baptism-verrocchio .  :florence-jesus-baptism-verrocchio a crm:E35_Title ;  crm:P2_has_type :parallel-title .
SGLA (*)	Attributed title	crm:P102_has_title (object property)
	A title of the photograph attributed by the cataloguer.	The object property crm:P102_has_title relates an individual representing a photograph to an attributed title. The value associated as range of this object property shall be further specialized into an individual of the class crm:E55_Type, by using the object property crm:P2_has_type.
		Exemplar usage:  :photo-72486  crm:P102_has_title  :florence-uffizi-jesus-baptism-verrocchio  :florence-uffizi-jesus-baptism-verrocchio  a crm:E35_Title ;  crm:P2_has_type :attributed-title .
SGLS *	Source of title	cito:cites (object property)
	The source providing the specified title, and/or the responsible entity who gives the title.	When providing explanation for the adopted title, the cataloguer records a questionable information. By means of a relation to an individual of the class hico:InterpretationAct from the HiCo Ontology, the title (crm:E35_Title) can be characterized with a type, with adopted criteria and consulted sources.  An individual of the class hico:InterpretationAct should be created to define:  - a generic type of interpretation underlying described data, i.e. an attribution of a title, by using the object property hico:hasInterpretationType;  - who adopted this attribution as the preferred one, i.e. the cataloguing institution (e.g. *Zeri Foundation*), by using the object property hico:hasInterpretationType;  - the responsibility of the cataloguer and its motivations (if provided), by using the object property hico:hasInterpretationCriterion;  - the responsibility of the RDF creator (foaf:Agent), who further interprets cataloguer's choices when creating data, by using the object property prov:wasAssociatedWith;  - the relation between the individual representing the interpretation process (hico:InterpretationAct) and the individual representing the source content in which the interpretation is stated in natural language, i.e. the F Entry content (fabio:Expression), by using the object property hico:isExtractedFrom.
		Exemplar usage:

According to the accuracy of information provided in this field, further descriptions may be enabled. For example, if the value of SGLS is 'author's choice, printed on the picture', it contains a citation of the photographer and of the photograph itself as a source of the attribution.

CiTO Ontology defines a wide range of object properties, all subproperties of the property cito:cites, to better suit the relation between citing and cited entities.

The proper relation between the current interpretation and the cited person can be represented by using the property cito:agreesWith, and the relation to the photograph, described in terms of FRBR Item, can be represented by using the property cito:citesAsEvidence.

```
Exemplar usage:
```

```
:photo-72486-title-attribution
  cito:agreesWith :brogi ;
  cito:citesAsEvidence :photo-72486-item .
```

# LC - Geographical and administrative location \*

### PVC - Current location \*

# **PVCS**

Country

crm:P89\_falls\_within (object property)

The name of the country of the current location of the photograph.

If one or more of the following elements in this section – the region (PVCR), the district (PVCP), the town (PVCC), the village (PVCL), the building (LDCN) and the precise location (LDCS) – are described, a chain of nested places shall be represented by means of the object property crm:P89\_falls\_within, until the last nested place is recognized as the former location of the photograph. Each nested place, i.e. individuals of the class crm:E53\_Place, may be characterized by a type, using the object property crm:P2\_has\_type .

When all fields of this section are filled (included LDCN and LDCS fields) can be expressed in Turtle syntax as follows. The country is the broader element of the chain of properties.

```
:photo-72486-positive-item
   a crm:E22_Man-Made_Object;
   crm:P55_has_current_location :large-formats-room .
:large-formats-room a crm:E53_Place ;
   crm:P89_falls_within :ex-convent-santa-cristina .
:ex-convent-santa-cristina a crm:E53_Place ;
   crm:P89_falls_within :bologna .
:bologna a crm:E53_Place ;
   crm:P89_falls_within :bologna-district .
:bologna-district a crm:E53_Place ;
   crm:P89_falls_within :emilia-romagna .
:emilia-romagna a crm:E53_Place ;
```

		crm:P89_falls_within :italy .
		:italy a crm:E53_Place ;
		crm:P2_has_type :country . :country a crm:E55_Type .
PVCR *	Region	crm:P89_falls_within (object property)
	1.08.011	common the control of the control
	The name of the region of the current location of the photograph.	If two or more of the following elements in this section — the district (PVCP), the town (PVCC), the village (PVCL), the building (LDCN) and the precise location (LDCS) — are described, a chain of nested places shall be represented by means of the object property crm:P89_falls_within, until the last nested place filled.  Each nested place, i.e. individuals of the class crm:E53_Place, may be characterized with a type, using the object property crm:P2_has_type.
		Exemplar usage:
		<pre>:emilia-romagna a crm:E53_Place ;     crm:P2_has_type :region ;     crm:P89_falls_within :italy . :region a crm:E55_Type .</pre>
PVCP *	District	crm:P89_falls_within (object property)
	The name of the district of the current location of the photograph.	If one or more of the following elements in this section — the town (PVCC), the village (PVCL), the building (LDCN) and the precise location (LDCS) — are described, a chain of nested places shall be represented by means of the object property crm:P89_falls_within, until the last nested place filled. Each nested place, i.e. individuals of the class crm:E53_Place, may be characterized with a type, using the object property crm:P2_has_type.
		<pre>Exemplar usage: :bologna-district a crm:E53_Place ;   crm:P2_has_type :district ;   crm:P89_falls_within :emilia-romagna ;   crm:P89_falls_within :italy . :district a crm:E55_Type .</pre>
PVCC *	Town	crm:P89_falls_within (object property)
	The name of the town or municipality of the current location of the photograph.	The chain of nested places shall be represented by means of the object property crm:P89_falls_within, until the last nested place filled.  Each nested place, i.e. individuals of the class crm:E53_Place, may be characterized with a type, using the object property crm:P2_has_type.
		Exemplar usage: :bologna a crm:E53_Place; crm:P2_has_type :town; crm:P89_falls_within :bologna-district . crm:P89_falls_within :emilia-romagna . crm:P89_falls_within :italy . :town a crm:E55_Type .
LDC - Precise location *		
LDCN *	Repository	crm:E53_Place (Class)
	The value of this field refers both to the current keeper of the object and the building wherein the keeper resides.	In this field a cataloguer provides a collation of geographical and administrative information about the current location of the photograph, i.e. the building, may be here associated to the related residing corporate body.

		For example "Ex Convent of Santa Cristina" is the Federico Zeri Foundation location, represented by means of an individual of the class crm:E53_Place .  The individual representing the institution shall be related to the place in which resides by using the object property crm:P74_has_current_or_former_residence, and to the concrete object (crm:E22_Man-Made_Object, fabio:AnalogItem) by using the object property crm:P50i_is_current_keeper_of.  The individual representing the place is further related through the property crm:P89_falls_within to the previous places specified in this section.  Exemplar usage:  :ex-convent-santa-cristina a crm:E53_Place; crm:P89_falls_within :bologna . :zeri-foundation a crm:E40_Legal_Body; crm:P74_has_current_or_former_residence :ex-convent-santa-cristina; crm:P50i_is_current_keeper_of :photo-72486-positive-item .  If the field LDCS is not specified, the current individual representing the place becomes the current place of conservation of the photograph; thus the object property crm:P55_has_current_location is used for directly relating the individual representing the item of the work of art and an individual representing a country (crm:E53_Place).  Exemplar usage: :photo-72486-positive-item
LDCU *	Address  The address or contact point of the current keeper of the work.	crm:P76_has_contact_point (object property)  An address can be associated to both an individual of the class crm:E39_Actor, i.e. the current keeper of the item, and to an individual of the class crm:E53_Place, i.e. the current location of the item, using the property crm:P76_has_contact_point.  Exemplar usage:  :zeri-foundation a crm:E40_Legal_Body;     crm:P76_has_contact_point :g-morandi-quare . :ex-convent-santa-cristina a crm:E53_Place;     crm:P76_has_contact_point :g-morandi-quare .
LDCS	Precise location  The precise location, inside the building where the current keeper resides, where the work is conserved.	<pre>:g-morandi-quare a crm:E45_Address . crm:P55_has_current_location (object property)  When this field is filled it becomes the last nested place of the chain of object properties crm:P89_falls_within and the item is linked to it with the object property crm:P55_has_current_location.  Exemplar usage: :photo-72486-positive-item     a crm:E22_Man-Made_Object ;     crm:P55_has_current_location :large-formats-room . :large-formats-room a crm:E53_Place .</pre>
LDCM *	Collection	crm:P106i_forms_part_of (object property)

	The name of the collection which includes the photograph.	The photograph, defined in terms of FRBR work, is linked to the collection comprising it by means of the object property
		crm:P106i_forms_part_of, with associated an individual of the class fabio:WorkCollection.
		Exemplar usage: :photo-72486 a fentry:Photograph ; crm:P106i_forms_part_of :zeri-photo-archive .
UB - Colloca	l ation	:zeri-photo-archive a fabio:WorkCollection .
UBFP*	Archive	arm: D106i forms part of (abject property)
OBER	Archive	crm:P106i_forms_part_of (object property)
	The name of the archive containing the photograph.	The hierarchy of the photo archive may be represented as a chain of nested objects, defined in terms of FRBR works.  The broader work, i.e. an individual of the class fabio:WorkCollection, represents the fond (the archive) which comprises a hierarchy of single works, i.e. individuals of both the classes crm:E90_Symbolic_Object and fabio:Work, related each other by using the object property crm:P106i_forms_part_of.  Each work may be associated to a title if provided, by using the object property crm:P102_has_title.  The full hierarchical organization of an archive, achieved when also UBFS, UBFT and UBFU fields of this section are filled, can be represented as follows.
		Exemplar usage:  :photo-72486 a fentry:Photograph;  crm:P106i_forms_part_of:folder-leonardo.  :folder-leonardo  a fabio:Work , crm:E90_Symbolic_Object;  crm:P106i_forms_part_of:subseries-leonardo.  :subseries-leonardo  a fabio:Work , crm:E90_Symbolic_Object;  crm:P106i_forms_part_of:series-leonardo.  :series-leonardo  a fabio:Work , crm:E90_Symbolic_Object;  crm:P106i_forms_part_of:zeri-photo-archive.  :zeri-photo-archive a fabio:WorkCollection.
UBFS	Series	crm:P106i_forms_part_of (object property)
	The name of the archival series containing the photograph.	The series is an individual of both the classes crm:E90_Symbolic_Object and fabio:Work, related to the broader work, i.e. an individual of the class fabio:WorkCollection, representing the fond (the archive) by using the object property crm:P106i_forms_part_of.  If the archive is no further hierarchically structured, the photograph is directly linked to the series by using the object property crm:P106i_forms_part_of.
		Exemplar usage:  :series-leonardo  a fabio:Work , crm:E90_Symbolic_Object ;  crm:P106i_forms_part_of :zeri-photo-archive .
UBFT	Subseries	crm:P106i_forms_part_of (object property)
	The name of the archival subseries containing the photograph.	The subseries is an individual of both the classes crm:E90_Symbolic_Object and fabio:Work, related to the broader work, i.e. the series, by using the object property crm:P106i_forms_part_of.

		If the archive is no further hierarchically structured, the photograph is directly linked to the subseries by using the object property crm:P106i_forms_part_of.
		Exemplar usage: :subseries-leonardo a fabio:Work , crm:E90_Symbolic_Object ; crm:P106i_forms_part_of :series-leonardo .
UBFQ	Notes	crm:P3_has_note (data property)
	A description about the archive.	This field provides heterogeneous information about the archive. If a clear relation cannot be recognized, the information may be preserved by using the object property crm:P3_has_note.
		Exemplar usage: :zeri-photo-archive a fabio:WorkCollection; crm:P2_has_note "Federico Zeri's photo archive".
UBFU	Unit of description title	crm:P106i_forms_part_of (object property) and
	The title of the archival unit containing the catalogued	crm:P102_has_title (object property)
	photograph.	The archival unit containing the catalogued photo is an individual of both the classes crm:E90_Symbolic_Object and fabio:Work, related to the broader work, i.e. the subseries or the series or the archive itself, by using the object property crm:P106i_forms_part_of.
		The photograph is related, at the same way, to the archival unit by using the property crm:P106i_forms_part_of.  The value of this field is the title of the unit of description, which may be expressed by using the object property crm:P102_has_title.
		Exemplar usage: :folder-leonardo     a fabio:Work , crm:E90_Symbolic_Object ;     crm:P106i_forms_part_of :subseries-leonardo ;     crm:P102_has_title :leonardo-da-vinci-1 . :photo-72486 a fentry:Photograph ;     crm:P106i_forms_part_of :folder-leonardo .
UBFC *	Collocation	crm:E42_Identifier (Class)
	An identifier of the collocation of the photograph.	The value of this field records the signature of the concrete unit of description, i.e. an individual defined in terms of FRBR Item belonging to the class fabio:AnalogItem.  The relation between the object and the signature may be expressed by using the object property crm:P55_has_current_location to associate the unit of description to a location further described by means of crm:P48_has_preferred_identifier.
		Exemplar usage: :folder-leonardo   fabio:hasPortrayal :folder-leonardo-item . :folder-leonardo-item a fabio:AnalogItem ;   crm:P55_has_current_location   :folder-leonardo-item-collocation . :folder-leonardo-item-collocation a crm:E53_Place ;   crm:P48_has_preferred_identifier :PI_0360-1-11 .
INV – Inver	ntory	

# INVN (\*)

### Inventory number

crm:E42\_Identifier (Class)

The inventory number of the photograph.

The inventory number is an identifier, i.e. an individual of the class crm: E42\_Identifier, associated to the concrete object described in the F Entry, i.e. an individual belonging to the class fabio: AnalogItem or fabio: ItemCollection, by means of an

fabio:AnalogItem or fabio:ItemCollection, by means of an intermediate individual of the class

crm:E13\_Attribute\_Assignment.

# Exemplar usage:

```
:photo-72486-positive-item a fabio:AnalogItem ;
    crm:P140i_was_attributed_by
        :photo-72486-invn-assignment .
:photo-72486-invn-assignment
    a crm:E13_Attribute_Assignment ;
    crm:P141_assigned :inv-72486 ;
    crm:P140_assigned_attribute_to
        :photo-72486-positive-item .
:inv-72486 a crm:E42_Identifier ;
    crm:P2_has_type :inventory-number .
```

# LA - Other geographical and administrative locations

## TCL(\*)

Type of localization

A term explaining the relation between the photograph and the described localization (previous or next collocation, deposit) crm:E9\_Move

or

crm:E10\_Transfer\_of\_Custody (Class)

The nature of the relation between a location and the physical object may vary according to the term from a controlled vocabulary here provided.

Values here permitted and related possible ontological entities are:

- deposit, crm:E9\_Move
- next collocation, crm:E9\_Move or crm:E10\_Transfer\_of\_Custody
- provenance, crm:E9\_Move or crm:E10\_Transfer\_of\_Custody

### Chains of properties: transfers or movings

Being this section is repeatable, several transfers or movings can be described in a time-line. To represent them properly, intermediate entities should be used, e.g. crm: E9\_Move or

crm:E10\_Transfer\_of\_Custody, and chains of relations between these entities can be defined. An example of a chain of transfers of custody can be represented as follows.

```
:zeri-foundation a crm:E40_Legal_body ;
 crm:P50i_is_current_keeper_of
      :photo-72486-positive-item
 crm:P29i_received_custody_through
      :photo-72486-item-provenance-1 .
:photo-72486-item-provenance-1
  a crm:E10_Transfer_of_Custody ;
  crm:P28_custody_surrendered_by
     :villa-i-tatti ;
  crm:P29_custody_received_by :zeri-foundation ;
  crm:P30_transferred_custody_of
      :photo-72486-positive-item ;
  crm:P4_has_time_span :1989
:villa-i-tatti a crm:E39_Actor ;
  crm:P74_has_current_or_former_residence
    :villa-i-tatti-building
  crm:P29i_received_custody_through
     :photo-72486-item-provenance-2 .
:photo-72486-item-provenance-2
  a crm:E10_Transfer_of_Custody;
```

```
crm:P28_custody_surrendered_by :museum ;
crm:P29_custody_received_by :villa-i-tatti ;
crm:P30_transferred_custody_of
    :photo-72486-positive-item ;
crm:P4_has_time_span :1954 .
```

#### Transfers or movings

Transfers of custody require two individuals representing keepers (crm:E39\_Actor); movings regard a change of location from one place to another one (crm:E53\_Place).

The best representation should be chosen according to the nature of the terms provided in the PRCD field, if filled, and LDCN (previous section).

If a name of a corporate body is recognized in both the PRCD field and in the LDCN field (*Geographical and Administrative location* section) we can express a relation between the work and a previous keeper by means of the intermediate individual of the class crm:E10\_Transfer\_of\_Custody. The current keeper is linked by using the property crm:P29\_custody\_received\_by and the previous keeper is linked by using the property crm:P28\_custody\_surrendered\_by.

### Exemplar usage:

```
:photo-72486-item-provenance-1
  a crm:E10_Transfer_of_Custody;
  crm:P28_custody_surrendered_by
      :villa-i-tatti;
  crm:P29_custody_received_by :zeri-foundation;
  crm:P30_transferred_custody_of :photo-72486-item;
  crm:P4_has_time_span :1989 .
:villa-i-tatti a crm:E39_Actor .
```

When the value of TCL is 'deposit', or both the fields PRCD and LDCN are not filled, or either they provide a name of a place without a related recognizable corporate body, then the change of location of the object is represented by means of an individual of the class crm:E9\_Move. The current place is linked through the property crm:P26\_moved\_to and the previous location is linked through the property crm:P27\_moved\_from.

#### Exemplar usage:

```
:photo-72486-item-move-1 a crm:E9_Move ;
   crm:P25_moved :oa-47172-item ;
   crm:P26_moved_to :ex-convent-santa-cristina ;
   crm:P27_moved_from :villa-i-tatti-building ;
   crm:P4_has_time_span :1989 .
:villa-i-tatti-building a crm:E53_Place .
```

# PRV - Geographical and administrative location (\*)

# **PRVS**

### Country

The name of the country where the photograph was previously conserved and/or where a previous keeper resides.

crm:P89\_falls\_within (object property) or

crm:P53\_has\_former\_or\_current\_location
(object property)

If three or more of the following elements — the region (PRVR), the district (PRVP), the town (PRVC), the village (PRVL) and the building (PRCD) — are described, a list of nested places (crm:E53\_Place) can be represented by means of a chain of object properties crm:P89\_falls\_within, until the last nested place is recognized as the former location of the work.

When all fields of this section are filled (included PRCD field) can be expressed in Turtle syntax as follows. The country is the broader element of the chain of properties. Exemplar usage: :villa-i-tatti-building a crm:E53\_Place ; crm:P89\_falls\_within :fiesole . :fiesole a crm:E53\_Place ; crm:P89\_falls\_within :settignano . :settignano a crm:E53\_Place ; crm:P89\_falls\_within :florence-district . :florence-district a crm:E53\_Place; crm:P89\_falls\_within :tuscany . :tuscany a crm:E53\_Place; crm:P89\_falls\_within :italy . :italy a crm:E53\_Place; crm:P2\_has\_type :country . If none of the next places possible in this section is specified, the current individual becomes the former place of conservation of the work. Thus the individual representing the move (crm: E9\_Move) is linked to the individual representing the town (crm:E53\_Place) by using the appropriate object property. Exemplar usage: :photo-72486-item-move-1 a crm:E9\_Move ; crm:P25\_moved :photo-72486-item ; crm:P26\_moved\_to :ex-convent-santa-cristina ; crm:P27\_moved\_from :italy . **PRVR** Region crm:P89\_falls\_within (object property) or The name of the region where the crm:P53\_has\_former\_or\_current\_location photograph was previously (object property) conserved and/or where a previous keeper resides. If two or more of the following elements – the district (PRVP), the town (PRVC), the village (PRVL) and the building (PRCD) – are described, a list of nested places (crm: E53\_Place) can be represented by means of a chain of object properties crm: P89\_falls\_within, until the last nested place is recognized as the former location of the work. Exemplar usage: :tuscany a crm:E53\_Place ; crm:P89 falls within :italv crm:P2\_has\_type :region . If none of the next places possible in this section is specified, the current individual becomes the former place of conservation of the work. Thus the individual representing the move (crm: E9\_Move) is linked to the individual representing the town (crm: E53\_Place) by using the appropriate object property. Exemplar usage: :photo-72486-item-move-1 a crm:E9\_Move ; crm:P25\_moved :photo-72486-item ; crm:P26\_moved\_to :ex-convent-santa-cristina ; crm:P27\_moved\_from :tuscany . **PRVP** District crm:P89\_falls\_within (object property) The name of the district where the crm:P53\_has\_former\_or\_current\_location

photograph was previously (object property) conserved and/or where a previous keeper resides. If two or more of the following elements – the town (PRVC), the village (PRVL) and the building (PRCD) - are described, a list of nested places (crm: E53\_Place) can be represented by means of a chain of object properties crm:P89\_falls\_within, until the last nested place is recognized as the former location of the work. Exemplar usage: :florence-district a crm:E53\_Place ; crm:P89\_falls\_within :tuscany ; crm:P89\_falls\_within :italy ; crm:P2\_has\_type :district . If none of the next places possible in this section is specified, the current individual becomes the former place of conservation of the work. Thus the individual representing the move (crm: E9\_Move) is linked to the individual representing the town (crm: E53\_Place) by using the appropriate object property. Exemplar usage: :photo-72486-item-move-1 a crm:E9\_Move ; crm:P25\_moved :photo-72486-item ; crm:P26\_moved\_to :ex-convent-santa-cristina ; crm:P27\_moved\_from :florence-district . PRVC Town crm:P89\_falls\_within (object property) The name of the town or crm:P53\_has\_former\_or\_current\_location municipality where the photograph (object property) was previously conserved and/or where a previous keeper resides. If two or more of the following elements - the village (PRVL) and the building (PRCD) - are described, a list of nested places (crm: E53\_Place) can be represented by means of a chain of object properties crm:P89\_falls\_within, until the last nested place is recognized as the former location of the work. Exemplar usage: :settignano a crm:E53\_Place ; crm:P89\_falls\_within :florence-district ; crm:P89\_falls\_within :tuscany ; crm:P89\_falls\_within :italy ; crm:P2\_has\_type :town . If none of the next places possible in this section is specified, the current individual becomes the former place of conservation of the work. Thus the individual representing the move (crm: E9\_Move) is linked to the individual representing the town (crm: E53\_Place) by using the appropriate object property. Exemplar usage: :photo-72486-item-move-1 a crm:E9\_Move ; crm:P25\_moved :photo-72486-item ; crm:P26\_moved\_to :ex-convent-santa-cristina ; crm:P27\_moved\_from :settignano **PRVL** Village crm:P89\_falls\_within (object property) The name of the village where the crm:P53\_has\_former\_or\_current\_location photograph was previously (object property) conserved and/or where a previous keeper resides.

If the building is also described (provided in the field PRCD), a list of nested places (crm: E53\_Place) can be represented by means of a chain of object properties crm: P89\_falls\_within, until the last nested place is recognized as the former location of the work.

### Exemplar usage:

```
:fiesole a crm:E53_Place ;
  crm:P89_falls_within :settignano ;
  crm:P89_falls_within :florence-district ;
  crm:P89_falls_within :tuscany ;
  crm:P89_falls_within :italy ;
  crm:P2_has_type :village .
```

If none of the next places possible in this section is specified, the current individual becomes the former place of conservation of the work. Thus the individual representing the move (crm:E9\_Move) is linked to the individual representing the town (crm:E53\_Place) by using the appropriate object property.

## Exemplar usage:

```
:photo-72486-item-move-1 a crm:E9_Move ;
   crm:P25_moved :photo-72486-item ;
   crm:P26_moved_to :ex-convent-santa-cristina ;
   crm:P27_moved_from :fiesole .
```

# PRC - Precise location

### **PRCD**

Repository

The value of this field refers both to the previous keeper of the photograph and the building wherein the keeper resides. crm:E53\_Place (Class)

or

[crm:E53\_Place (Class) and crm:E39\_Actor (Class)]

The physical container, i.e. the building, may be here described also as the individual representing the corporate body preserving the object. When this ambiguity is clearly recognized, e.g. "Villa I Tatti" stands for both the institution and its building, both the individuals should be represented, i.e. an individual of the class crm: E39\_Actor and an individual of the class crm: E53\_Place . The individual representing the institution is related to place where it resides by means of the object property

 ${\tt crm:P74\_has\_current\_or\_former\_residence}.$ 

#### Exemplar usage:

```
:villa-i-tatti-building a crm:E53_Place .
:villa-i-tatti a crm:E39_Actor ;
    crm:P74_has_current_or_former_residence
    :villa-i-tatti-building .
```

Representing the container of the object as an actor (further specified as a legal body, crm:E40\_Legal\_Body), enables the representation of a transfer of custody

(crm:E10\_Transfer\_of\_Custody) instead of a moving (crm:E9\_Move).

Therefore the individual representing a transfer of custody is linked to the former keeper through the property crm:P28\_custody\_surrendered\_by, and to the individual representing the current keeper (provided in LDCN) through the property crm:P29\_custody\_received\_by.

```
:photo-72486-item-provenance-1
   a crm:E10_Transfer_of_Custody ;
   crm:P28_custody_surrendered_by :villa-i-tatti ;
```

crm:P29\_custody\_received\_by :zeri-foundation ; crm:P30\_transferred\_custody\_of :photo-72486-item ; :villa-i-tatti a crm:E39\_Actor . If the value of TCL is 'deposit', or a corporate body can not be recognized in PRCD, a relation between places can be expressed by using an individual of the class crm: E9\_Move and the proper object properties. Exemplar usage: :photo-72486-item-move-1 a crm:E9\_Move ; crm:P25\_moved :photo-72486-item ; crm:P26\_moved\_to :ex-convent-santa-cristina ; crm:P27\_moved\_from :villa-i-tatti-building . **PRCM** Collection fabio:WorkCollection (Class) and The name of the collection crm:E78\_Collection (Class) previously comprising the photograph. The collection previously containing the described object, can be defined as both the classes fabio: WorkCollection and crm: E78\_Collection, representing, respectively, the collection as a conceptual entity and the concrete aggregation of objects, related by means of the object property fabio: hasPortrayal. Exemplar usage:  $: be {\tt renson-photo-archive} \ a \ {\tt fabio:WorkCollection} \ ;$ fabio:hasPortraval :berenson-photo-archive-collection . :berenson-photo-archive-collection a crm:E78\_Collection : crm:P109\_has\_current\_or\_former\_curator :villa-i-tatti . To represent the deaccession of the concrete object from a collection, an individual of the class crm: E80\_Part\_Removal should be created. The relation between the collection and this activity can be expressed by using the object property crm:P12i\_was\_present\_at; the relation to the concrete object can be expressed by using the object property crm:P113\_removed, and the relation to the actor removing the object from the collection, i.e. the previous keeper, can be expressed by means of the property crm:P14\_carried\_out\_by. Exemplar usage: :berenson-photo-archive-collection crm:P12i\_was\_present\_at :photo-72486-item-berenson-removal . :photo-72486-item-berenson-removal a crm:E80\_Part\_Removal; crm:P113\_removed :photo-72486-item ; crm:P14\_carried\_out\_by :villa-i-tatti PRDI Date in ti:hasIntervalStartDate (data property) According to CIDOC-CRM references, when the beginning and The date the photograph was taken the end of custody of a work has to be described, the use of an into custody by the previous individual of the class crm: E10\_Transfer\_of\_Custody for keeper. recording the start and the end of the custody is suggested. A characterization of this individual can be expressed by using the object property crm:P2\_has\_type. To formalize the interval of dates of custody, the value of PRDI and PRDU should be combined in an individual of the class crm: E52\_Time-Span and then related to the individual

representing the custody by using the object property crm:P4\_has\_time\_span. The date of the beginning of custody is represented by means of the data property ti:hasIntervalStartDate associated to a value conforming to the XML Schema datatype xsd:dateTime. Exemplar usage: :villa-i-tatti a crm:E39\_Actor; crm:P29i\_received\_custody\_through :villa-i-tatti-photo-72486-item-custody . :villa-i-tatti-photo-72486-item-custody a crm:E10\_Transfer\_of\_Custody; crm:P2\_has\_type :custody ; crm:P30\_transferred\_custody\_of :photo-72486-item ; crm:P4\_has\_time\_span :1954-1989 . :1954-1989 a crm:E52\_Time-Span ; ti:hasIntervalStartDate "1954-01-01T00:00:00"^^xsd:dateTime . **PRDU** Date out ti:hasIntervalEndDate (data property) According to CIDOC-CRM references, when the beginning and The date the photograph was the end of custody of a work has to be described, the use of an transferred from the previous individual of the class crm: E10\_Transfer\_of\_Custody for keeper to another one. recording the start and the end of the custody is suggested. A characterization of this individual can be expressed by using the object property crm:P2\_has\_type. To formalize the interval of dates of custody, the value of PRDI and PRDU should be combined in an individual of the class crm: E52\_Time-Span and then related to the individual representing the custody by using the object property crm:P4\_has\_time\_span. The date of the end of custody is represented by means of the data property ti:hasIntervalEndDate associated to a value conforming to the XML Schema datatype xsd:dateTime. Exemplar usage: :villa-i-tatti a crm:E39\_Actor; crm:P29i\_received\_custody\_through :villa-i-tatti-photo-72486-item-custody . :villa-i-tatti-photo-72486-item-custody a crm:E10\_Transfer\_of\_Custody; crm:P2\_has\_type :custody ; crm:P30\_transferred\_custody\_of :photo-72486-item ; crm:P4\_has\_time\_span :1954-1989 . :1954-1989 a crm:E52\_Time-Span ; ti:hasIntervalStartDate "1954-01-01T00:00:00"^^xsd:dateTime . ti:hasIntervalEndDate "1989-01-01T00:00:00"^^xsd:dateTime .

### LRC - Place and date of the shot

The shot is considered, in FRBR terms, as the realization of the photograph conceptualization, i.e. an expression of a work. In the photography domain, creating the conceptual object entails also its expression is created, thus, a creation (E65 Creation) has as result both a work and an expression.

While a single photograph has only an expression, two different entities are needed to further specify roles held by agents with respect to one of them, e.g. the main photographer conceiving the work, and another photographer simply participating to the shot realization.

LRCS	Country	crm:P89_falls_within (object property)
	The name of the country where the shot was taken.	or crm:P7_took_place_at (object property)

When this section is filled, an individual of the class crm: E65\_Creation is required in order to define the event in which the photograph is created and then relating it to the place. If other fields of this section are filled, a chain of nested object properties (crm:P89\_falls\_within) should be used to express the relation between broader and narrower places. Here an example of the complete section filled is provided. The value provided in this field is the broader place related to the creation. Exemplar usage: :photo-72486-creation a crm:E65\_Creation ; crm:P7\_took\_place\_at :florence . :florence a crm:E53\_Place ; crm:P89\_falls\_within :florence-district . :florence-district a crm:E53\_Place ; crm:P89\_falls\_within :tuscany . :tuscany a crm:E53\_Place crm:P89\_falls\_within :italy . :italy a crm:E53\_Place; crm:P2\_has\_type :country . If none of the following fields of this section is filled, the current place become the place where the creation took place, and therefore linked to the event by means of the object property crm:P7\_took\_place. Exemplar usage: :photo-72486-creation a crm:E65\_Creation ; crm:P7\_took\_place\_at :italy . Moreover, the country were the shot was taken refers both to the place where the creation took place and to the event in which the creation is contextualized. Thus, if the field LRO is filled, the location should also refer to the broader event including the creation. **LRCR** crm:P89\_falls\_within (object property) Region The name of the region where the crm:P7\_took\_place\_at (object property) shot was taken. If other fields of this section are filled, a chain of nested object properties (crm: P89\_falls\_within) should be used to express the relation between broader and narrower places. Otherwise, if none of the following fields of this section is filled, the current place become the place where the creation took place, and therefore linked to the event by means of the object property crm:P7\_took\_place. Exemplar usage: :photo-72486-creation a crm:E65\_Creation ; crm:P7\_took\_place\_at :tuscany . :tuscany a crm:E53\_Place ; crm:P89\_falls\_within :italy ; crm:P2\_has\_type :region . I RCP District crm:P89\_falls\_within (object property) The name of the district where the crm:P7\_took\_place\_at (object property) shot was taken. If other fields of this section are filled, a chain of nested object properties (crm:P89\_falls\_within) should be used to express the relation between broader and narrower places. Otherwise, if none of

		the following fields of this section is filled, the current place become the place where the creation took place, and therefore linked to the event by means of the object property crm:P7_took_place.  Exemplar usage: :photo-72486-creation a crm:E65_Creation ;     crm:P7_took_place_at :florence-district . :florence-district a crm:E53_Place ;     crm:P89_falls_within :tuscany ;     crm:P89_falls_within :italy ;     crm:P2_has_type :region .
LRCC	Town  The name of the town where the shot was taken.	crm:P89_falls_within (object property)  or  crm:P7_took_place_at (object property)  If other fields of this section are filled, a chain of nested object properties (crm:P89_falls_within) should be used to express the relation between broader and narrower places. Otherwise, if none of the following fields of this section is filled, the current place become the place where the creation took place, and therefore linked to the event by means of the object property crm:P7_took_place.  Exemplar usage: :photo-72486-creation a crm:E65_Creation;     crm:P7_took_place_at :florence . :florence a crm:E53_Place;     crm:P89_falls_within :florence-district;     crm:P89_falls_within :tuscany;     crm:P89_falls_within :italy;     crm:P2_has_type :region .
LRCF	Village  The name of the village where the shot was taken.	crm:P89_falls_within (object property)  or  crm:P7_took_place_at (object property)  If this field is filled, the value here provided represents the current place where the creation took place, and therefore linked to the event by means of the object property crm:P7_took_place.  Exemplar usage: :photo-72486-creation a crm:E65_Creation ;     crm:P7_took_place_at :lungarno . :lungarno a crm:E53_Place ;     crm:P89_falls_within :florence ;     crm:P89_falls_within :florence-district ;     crm:P89_falls_within :tuscany ;     crm:P89_falls_within :italy ;     crm:P2_has_type :region .
LRA	Foreign place name  The name of the foreign place where the shot was taken.	crm:P89_falls_within (object property)  or  crm:P7_took_place_at (object property)  If this field is filled, similarly to LRCF, the value here provided represents the current place where the creation took place, and therefore linked to the event by means of the object property crm:P7_took_place.  To preserve the information provided in this field, the object property crm:P2_has_type can be used to characterize the individual as a foreign place.

		Exemplar usage: :photo-72486-creation a crm:E65_Creation; crm:P7_took_place_at :paris . :paris a crm:E53_Place; crm:P2_has_type :foreign-place .
LRO	Occasion	crm:P10_falls_within (object property)
	The value describes the context or the occasion in which the shot was taken.	When this section is filled, the individual of the class crm:E65_Creation is related to an individual representing a broader event (crm:E5_Event) by means of the object property crm:P10_falls_within.
		Exemplar usage: :photo-72486-creation a crm:E65_Creation; crm:P10_falls_within :exhibition-of-paintings. :exhibition-of-paintings a crm:E5_Event.
		The above described chain of nested places should refer both to the creation event and the broader event in which the creation falls.
		Exemplar usage: :exhibition-of-paintings a crm:E5_Event; crm:P7_took_place_at :florence. :florence a crm:E53_Place; crm:P89_falls_within :florence-district. :florence-district a crm:E53_Place; crm:P89_falls_within :tuscany. :tuscany a crm:E53_Place; crm:P89_falls_within :italy. :italy a crm:E53_Place; crm:P2_has_type :country.
LRD	Date	crm:P4_has_time_span (object property)
	The date in which the shot was taken.	The time interval here provided refers to the creation event. It is defined as an individual of the class crm:E52_Time-Span, related to the creation by means of the property crm:P4_has_time_span.  Exemplar usage: :photo-72486-creation a crm:E65_Creation; crm:P4_has_time_span:1926-1932. :1926-1932 a crm:E52_Time-Span.  Although not required in this section, individuals representing beginning/end of existence should be further described by means of HiCo Ontology properties and classes, e.g. to state: the degree of
DT - Dating		approximation of the dates, information about motivations and criteria adopted, citations and sources used. (see DTM, in <i>Dating</i> section, for explanation)

# DT - Dating \*

While the described object of the F Entry is a positive, the dating provided in this section refers to the photograph print, i.e. the production of the photograph (E12 Production), otherwise it refers to the shot, i.e. its creation (E65 Creation). Here, for the sake of brevity, only the description of the production is considered (refer to previous section *Place and date of the shot* for the representation of a photograph creation).

DTZ – General dating *		
DTZG *	Century	crm:P4_has_time_span (object property)
	A value identifying the century in which the shot was taken or the photograph was realized.	or crm:P86_falls_within (object property)

When this section is filled, an individual of the class crm: E12\_Production is required in order to define the event in which the photograph is printed and manifested as a positive photograph. The object property crm:P2\_has\_type can be used to specify the described activity. If the value in this field is the only one provided for the period of production of the photograph, the relation can be directly expressed by using the object property crm: P4\_has\_time\_span. Exemplar usage: :photo-72486-positive-print a crm:E12\_Production ; crm:P108\_has\_produced :photo-72486-positive-item ; crm:P2\_has\_type :photograph-print ; crm:P4\_has\_time\_span :xx-century . :xx-century a crm:E52\_Time-Span . Otherwise, a chain of object properties crm: P86\_falls\_within should relate all the nested time spans. An example of a complete section filled can be represented in Turtle syntax as follows. Exemplar usage: :photo-72486-positive-print a crm:E12\_Production ; crm:P4\_has\_time\_span :1926post-1940ca . :1926post-1940ca a crm:E52\_Time-Span ; crm:P86\_falls\_within :first-half-xx-century . :first-half-xx-century a crm:E52\_Time-Span ; crm:P86\_falls\_within :xx-century . :xx-century a crm:E52\_Time-Span DT7S Part of century crm:P4\_has\_time\_span (object property) A value identifying the part of crm:P86\_falls\_within (object property) century in which the photograph was realized. he value provided in this field characterizes the time span provided in the previous field DTZG. Therefore another individual representing the part of the century is created (crm: E52\_Time-Span), and related to the broader one by means of the property crm:P86\_falls\_within. Exemplar usage: :first-half-xx-century a crm:E52\_Time-Span ; crm:P86\_falls\_within :xx-century . DTS - Precise dating \* DTSI \* ti:hasIntervalStartDate (data property) From A value identifying the starting The value of this field should be combined with the value of the field year in a range of years in which DTSF to define a new individual expressing the narrower range of the current photograph was years (crm: E52\_Time-Span) in which the photograph may have created. been printed. Furthermore, as time spans are modelled in the CIDOC-CRM as 'approximations' of time spans, if provided, also DTSV and DTSL values may be considered as parts of the individual (in order to create consistent entities further characterized). This time span is related to broader ones provided in previous fields by using the property crm:P86\_falls\_within. Exemplar usage: :1926post-1940ca a crm:E52\_Time-Span ; crm:P86\_falls\_within :first-half-xx-century . This individual can be characterized with the data property

		ti:hasIntervalStartDate and an associated value conforming to the XML Schema datatype xsd:dateTime.
		Exemplar usage: :1926post-1940ca a crm:E52_Time-Span ; ti:hasIntervalStartDate "1926-01-01T00:00:00"^^xsd:dateTime .
DTSV	Degree of approximation  A term describing the degree of	crm:P79_beginning_is_qualified_by (data property)
	approximation of the proposed starting year.	The individual described in DTSI may be further characterized with the data property crm: P79_beginning_is_qualified_by to specify if the starting year in the range of years is precise or not.
		Exemplar usage: :1926post-1940ca a crm:E52_Time-Span ; ti:hasIntervalStartDate     "1926-01-01T00:00:00"^^xsd:dateTime ; crm:P79_beginning_is_qualified_by "post" .
DTSF *	То	ti:hasIntervalEndDate (data property)
	A value identifying the ending year in a range of years in which the current photograph was created.	The individual described in DTSI may be further characterized with the data property ti:hasIntervalEndDate and an associated value conforming to the XML Schema datatype xsd:dateTime.
		Exemplar usage: :1926post-1940ca a crm:E52_Time-Span ; ti:hasIntervalStartDate     "1926-01-01T00:00:00"^^xsd:dateTime . crm:P79_beginning_is_qualified_by "post" ; ti:hasIntervalEndDate     "1940-01-01T00:00:00"^^xsd:dateTime .
DTSL	Degree of approximation	crm:P80_end_is_qualified_by (data property)
	A term describing the degree of approximation of the proposed ending year.	The individual described in DTSI, in this section, may be further characterized with the data property crm: P80_end_is_qualified_by to specify if the ending year in the range of years is precise or not.
		Exemplar usage: :1926post-1940ca a crm:E52_Time-Span ; ti:hasIntervalStartDate     "1926-01-01T00:00:00"^^xsd:dateTime ; ti:hasIntervalEndDate     "1940-01-01T00:00:00"^^xsd:dateTime ; crm:P79_beginning_is_qualified_by "post" ; crm:P80_end_is_qualified_by "ca" .
DTM - Datir	ng motivation *	
DTMM	Motivation	hico:InterpretationCriterion (Class)
	The value of this field describes how the proposed dating have been chosen, by explaining the adopted criterion.	Values of this field should be reconciled into a controlled vocabulary, in order to define a ranking of adopted criteria and facilitate integration of data among different stakeholders, who may adopt a different dating and provide different motivations.
		The use of HiCo Ontology is here suggested for describing all necessary issues related to an interpretative process and ensure data reuse. Any time a questionable information is noticed, an individual of the class hico:InterpretationAct should be created to define:

- the type of interpretation underlying described data, i.e. a dating attribution, by using the object property hico:hasInterpretationType;
- who adopted this dating as the preferred one, i.e. the cataloguing institution (e.g. *Zeri Foundation*), by using the object property hico:hasInterpretationType;
- the responsibility of the cataloguer, by using the object property hico:hasInterpretationCriterion;
- motivation(s) provided in this field, by using the object property hico:hasInterpretationCriterion;
- the responsibility of the RDF creator, who further interprets cataloguer choices when creating data, by using the object property prov:wasAssociatedWith;
- the relation between the individual representing the interpretation process (hico:InterpretationAct) and the source content, i.e. the F Entry content, in which the interpretation is stated in natural language (fabio:Expression), by using the object property hico:isExtractedFrom.

### Exemplar usage:

```
:photo-72486-positive-print
  prov:wasGeneratedBy
     :photo-72486-positive-date-attribution .
:photo-72486-positive-date-attribution
  a hico:InterpretationAct;
  hico:hasInterpretationType
     oaentry:date-attribution;
  hico:hasInterpretationType
     :zeri-preferred-dating
   hico:hasInterpretationCriterion
     :cataloguer-choice
  hico:hasInterpretationCriterion :formal-analysis ;
  prov:wasAssociatedWith :crr-mm ;
  hico:isExtracted-from
     :fentry-72486-expression-2016-04-01 .
oaentry:date-attribution a hico:InterpretationType .
:zeri-preferred-dating a hico:InterpretationType .
:cataloguer-choice a hico:InterpretationCriterion .
:formal-analysis a hico:InterpretationCriterion .
:fentry-72486-expression-2016-04-01
  a fabio:Expression .
```

### **DTMS**

### Source of attribution

## cito:cites (object property)

The value of the field identifies a source used to support the attribution.

According to the accuracy of information provided in this field, further descriptions may be enabled. For example, if DTMS contains a citation of a bibliographic or archival source to support the attribution, the use of CiTO Ontology object properties is encouraged. Indeed, CiTO provides several object properties to relate citing and cited entities.

Another particular example of the use of CiTO properties may be when in DTMM 'formal analysis' is stated as motivation, which means the cataloguer cites the photograph itself for supporting the chosen dating. Thus the object property cito:citesAsEvidence can be used to relate the interpretation to the concrete object representing the photograph, belonging to both the classes crm:E22\_Man-Made\_Object and fabio:AnalogItem.

```
:photo-72486-positive-date-attribution
  cito:citesAsEvidence :photo-72486-positive-item
:photo-72486-positive-item
```

		a fabio:AnalogItem , crm:E22_Man-Made_Object .
ADT - Differ	ent dating	
ADTA	Different dating	crm:P4_has_time_span (object property)
	A value identifying the century, and/or a range of years, in which the current photo may also have been realized.	When this field is filled, an individual representing another possible production of the photograph, belonging to the class crm: E12_Production, should be created to avoid inconsistencies and to enable a deeper description of the event.
		Exemplar usage:  :photo-72486-positive-print-2 a crm:E12_Production;  crm:P108_has_produced :photo-72486-positive-item;  crm:P2_has_type :photograph-print;  crm:P4_has_time_span :1935-1945 .  :1935-1945 a crm:E52_Time-Span .
ADTM	Motivation	hico:InterpretationCriterion (Class)
	The value of this field describes how the proposed dating can be motivated, by explaining the adopted criterion.	The questionable information, i.e. a different interpretation of the event of the photograph production, should be described by means an individual of the class hico:InterpretationAct from the HiCo Ontology, which allows to specify:  — the type of interpretation underlying described data, i.e. a dating attribution by using the object property.
		dating attribution, by using the object property hico:hasInterpretationType;
		<ul> <li>who discarded this dating, i.e. the cataloguing institution (e.g. Zeri Foundation), by using the object property hico:hasInterpretationType;</li> </ul>
		<ul> <li>the responsibility of the cataloguer, by using the object property hico:hasInterpretationCriterion;</li> </ul>
		<ul> <li>motivation(s) provided in this field, by using the object property hico:hasInterpretationCriterion;</li> </ul>
		<ul> <li>the responsibility of the RDF creator, who further interprets cataloguer choices when creating data, by using the object property prov:wasAssociatedWith;</li> <li>the relation between the individual representing the interpretation process (hico:InterpretationAct) and the source content, i.e. the F Entry content, in which the interpretation is stated in natural language (fabio:Expression), by using the object property hico:isExtractedFrom.</li> </ul>
		Exemplar usage:  :photo-72486-positive-print-2    prov:wasGeneratedBy    :photo-72486-positive-print-2-date-attribution .  :photo-72486-positive-print-2-date-attribution    a hico:InterpretationAct ;    hico:hasInterpretationType         oaentry:date-attribution ;    hico:hasInterpretationType         :zeri-discarded-dating ;    hico:hasInterpretationCriterion :bibliography ;    prov:wasAssociatedWith :crr-mm ;    hico:isExtractedFrom         :fentry-72486-expression-2016-04-01 .
	ship attribution *	
AUF - Autho	or*	
AUFN	Photographer	crm:E21_Person (Class)

	The name of the photographer recognized as main responsible entity for the photograph creation.	The main photographer is involved in the creation of the photograph (crm:E65_Creation), is defined as a person, i.e. an individual of the class crm:E21_Person.  The name of the person is represented by means of the object property crm:P131_is_identified_by. The individual representing the person is related to the creation by means of the object property crm:P14_carried_out_by.  The creation of a photograph involves both a creation of a conceptual object (fentry:Photograph) and its realization (fentry:Shot), related by means of crm:P94_has_created.  Exemplar usage:  :photo-72486-creation a crm:E65_Creation;     crm:P94_has_created :photo-72486,         :photo-72486-expression;     crm:P14_carried_out_by :brogi.  :brogi a crm:E21_Person;     crm:P131_is_identified_by :brogi-name . :brogi-name a crm:E82_Actor_Appellation.
AUFB	Photography studio or	crm:E74_Group (Class)
	The name of the studio recognized as main responsible entity for the photograph creation.	When the main photographer involved in the creation of the photograph (crm:E65_Creation) is defined as a group, i.e. an individual of the class crm:E74_Group, it can be related to the creation by means of the object property crm:P14_carried_out_by. The name of the photography studio or agency is represented by means of the object property crm:P131_is_identified_by.
		Exemplar usage:  :photo-72486-creation a crm:E65_Creation;  crm:P14_carried_out_by :brogi-studio.  :brogi-studio a crm:E74_Group;  crm:P131_is_identified_by :brogi-studio-name.  :brogi-studio-name a crm:E82_Actor_Appellation.
AUFI	Name and/or address	crm:P76_has_contact_point (object property)
	The transcription of name, the address or the contact point of the person/corporate body responsible for the creation of the photo as it appears on the phototype.	The address of the photographer or the studio can be expressed by using the object property crm:P76_has_contact_point.  Exemplar usage: :brogi-studio a crm:E74_Group;
	appears on the phototype.	crm:P76_has_contact_point :brogi-address .
AUFA	A range of dates in which the photographer lived or a value describing the period of activity of a studio or agency.	crm:E63 Beginning of Existence (Class)  and crm:E64 End of Existence (Class)  Whenever possible, both the individuals representing the beginning of existence (crm:E63_Beginning_of_Existence) – or the birth, i.e. an individual of the class crm:E67_Birth, for a person – and the end of existence (crm:E64_End_of_Existence) - or the death of a photographer, i.e. an individual of the class crm:E69_Death –
		should be created. The object properties crm:P92i_was_brought_into_existence_by and crm:P93i_was_taken_out_of_existence_by link the photographer or the studio to the proper event. Dates are linked to related events by the proper object property

crm:P4\_has\_time\_span. Exemplar usage: :brogi-studio a crm:E74\_Group ; crm:P92i\_was\_brought\_into\_existence\_by :brogi-start ; crm:P93i\_was\_taken\_out\_of\_existence\_by :brogi-end . :brogi-start a crm:E63\_Beginning\_of\_Existence; crm:P4\_has\_time\_span :1860 :brogi-death a crm:E64\_End\_of\_Existence ; crm:P4\_has\_time\_span :1950 . :1860 a crm:E52\_Time-Span . :1950 a crm:E52\_Time-Span . Although not required in this section, individuals representing beginning/end of existence should be further described by means of HiCo Ontology properties and classes, e.g. to state: the degree of approximation of the dates, information about motivations and criteria adopted, citations and sources used. (see DTM, in Dating section, for explanation) **AUFR** Role pro:Role (Class) A term from an open vocabulary To specify the role held by an photographer or a studio, an describing the role the individual belonging to the class pro:RoleInTime of the PRO Ontology shall be used, which enables to express: photographer or the related group had during the creation of the the agent who holds a role in a time-indexed situation, i.e. photograph. the photographer or the studio, by using the object property pro:isHeldBy; the role held by the photographer or the studio, i.e. an individual belonging to the class pro: Role, by using the object property pro:withRole; the photograph as the context of the role, by using the object property pro:relatesTo; the time interval in which the role is held (provided in LRC section), by using the object property tvc:atTime. Exemplar usage: :brogi-photographer-photo-72486-1926-1932 a pro:RoleInTime ; pro:relatesTo :photo-72486 ; pro:isHeldBy :brogi-studio ; pro:withRole :photographer-inventor ; tvc:atTime :1926-1932 . :photographer a pro:Role . Depending on the role here provided, the range of the object property pro:relatesTo may change, i.e. the role may refer to the photograph defined in terms of a FRBR Work or Expression or both. E.g. AUFR: 'main photographer' refers both to the Work (fentry: Photograph) and the Expression (fentry: Shot). **AUFM** Motivation hico:InterpretationCriterion (Class) The value of this field describes Possible values of this field should be reconciled in a controlled how the proposed authorship vocabulary of adoptable criteria, in order to define a ranking of attribution have been reached, by attributions. This will enable data reuse by other stakeholders, who explaining a motivation or may want to compare them. describing a method of research. The use of HiCo Ontology is here suggested for describing all necessary issues related to an interpretative process: an individual of the class hico: InterpretationAct should be created to define:

		Exemplar usage: :leonardo     crm:P107i_is_current_or_former_member_of     :scuola-toscana . :scuola-toscana a crm:E39_Actor .
AUTB	Cultural context  A description in natural language of the cultural context in which the artist worked.	crm:P107i_is_current_or_former_member_of (object property)  The relation between the photographer and a cultural context is expressed by using the object property crm:P107i_is_current_or_former_member_of which associates the photographer and an individual belonging to the class crm:E39_Actor.
		Exemplar usage: :oa-47172-creation a crm:E65_Creation    crm:P14_carried_out_by :leonardo . :leonardo a crm:E21_Person ;    crm:P131_is_identified_by :leonardo-name . :leonardo-name a crm:E82_Actor_Appellation .
		:oa-47172 a crm:E28_Conceptual_Object , fabio:ArtisticWork . :fentry-72486 fentry:describes :oa-47172 .  The main artist, creator or involved in the creation of the work of art, is generally identified as a person, then can be expressed as an individual of the class crm:E21_Person. The relation between the artist and the work of art is defined by means of an individual of the class crm:E65_Creation and the object property crm:P14_carried_out_by.
7.0111	The name of the artist recognized as main responsible entity for the work of art depicted in the photograph.	When this field is filled, the photograph depicts a work of art (crm: E28_Conceptual_Object and fabio: ArtisticWork), which is directly related to the current F Entry by using the object property fentry: describes.  Exemplar usage:
AUT – Other	authors	crm:E21_Person (Class)
		crm:P107i_is_current_or_former_member_of :tuscany-artworks-photographers . :tuscany-artworks-photographers a crm:E39_Actor .
		Exemplar usage: :brogi
		crm:P107i_is_current_or_former_member_of which associates the photographer and an individual belonging to the class crm:E39_Actor.

		person is represented by means of the object property
		crm:P131_is_identified_by.
		Exemplar usage:  :brogi a crm:E21_Person;  crm:P131_is_identified_by:brogi-name.  :brogi-name a crm:E82_Actor_Appellation.
PDFB (*)	Responsible corporate body  The name of a corporate body involved in the production or publication of the photograph.	crm:E74_Group (Class)  The corporate body is involved in the production or publishing of the photograph (crm:E12_Production), is defined as an individual of the class crm:E74_group, related to the activity by means of the proper role held in the activity (pro:RoleInTime). The name of the corporate body is represented by means of the object property crm:P131_is_identified_by.  Exemplar usage:
		:brogi-studio a crm:E74_Group ; crm:P131_is_identified_by :brogi-studio-name . :brogi-studio-name a crm:E82_Actor_Appellation .
PDFI	Name and/or address	crm:P76_has_contact_point (object property)
	The transcription of name, the address or the contact point of the person/corporate body involved in the production or publication of the photo as it appears on the phototype.	The address of the photographer or the studio can be expressed by using the object property crm:P76_has_contact_point.  The transcribed name of the person or corporate body is represented by means of the object property crm:P131_is_identified_by and may be characterized by using the object property crm:P2_has_type.
		Exemplar usage:  :brogi-studio a crm:E74_Group;  crm:P76_has_contact_point :brogi-address;  crm:P131_is_identified_by :brogi-agency-name .  :brogi-agency-name a crm:E82_Actor_Appellation;  crm:P2_has_type :alternate-name .
PDFR	Role	pro:Role (Class)
	A term describing the role a person/corporate body had during the publication or production of the photograph.	To specify the role held by an agent in the production or publishing, an individual belonging to the class pro:RoleInTime of the PRO Ontology shall be used, which enables to express:  - the agent who holds a role in a time-indexed situation, by using the object property pro:isHeldBy;  - the role held by the agent, i.e. an individual belonging to the class pro:Role, by using the object property pro:withRole;  - the photograph as the context of the role, by using the
		object property pro:relatesTo;  - the time interval in which the role is held (provided in PDFD field), by using the object property tvo:atTime.
		The role held by an agent affects the range of the object property pro:relatesTo, which may vary, according to FRBR definition of the object considered. For example, a customer is related to the conception of the photograph, therefore it is related to the FRBR Work level of description of the photograph (fentry:Photograph); the publisher is instead related to a specific (FRBR) manifestation of the catalogued photograph (fabio:AnalogManifestation).

PDFL	Place The place of publication or production of the photograph.	<pre>:brogi-studio a crm:E74_Group ;    pro:holdsRoleInTime        :brogi-publisher-photo-72486-1940 . :brogi-publisher-photo-72486-1940    a pro:RoleInTime ;    pro:relatesTo :photo-72486-positive ;    pro:isHeldBy :brogi-studio ;    pro:withRole :publisher ;    tvc:atTime :1926-1932 . :publisher a pro:Role . :photo-72486-positive a fabio:AnalogManifestation .  dcterms:coverage (Object property)  The role held by an agent can be further described by using the object property dcterms:coverage for specifying the place of this situation (pro:RoleInTime).</pre>
		Exemplar usage: :brogi-publisher-photo-72486-1940 dcterms:coverage :florence .
PDFD	The date of publication or production of the photograph.	tvc:atTime (object property)  To specify the date in which an agent held a specific role in the production or publishing, an individual belonging to the class pro:RoleInTime of the PRO Ontology shall be used, which enables to express:  — the agent who holds a role in a time-indexed situation, by using the object property pro:isHeldBy;  — the role held by the agent, i.e. an individual belonging to the class pro:Role, by using the object property pro:withRole;  — the photograph as the context of the role, by using the object property pro:relatesTo;  — the time interval in which the role is held (provided in PDFD field), by using the object property tvc:atTime.  Exemplar usage:  :brogi-studio a crm:E74_Group; pro:holdsRoleInTime :brogi-publisher-photo-72486-1940 a pro:RoleInTime; pro:relatesTo:photo-72486-1940 a pro:RoleInTime; pro:relatesTo:photo-72486-positive; pro:isHeldBy:brogi-studio; pro:withRole:publisher; tvc:atTime:1926-1932. :1926-1932 a ti:TimeInterval, crm:E52_Time-Span.
PDFM (*)	Motivation  The value of this field describes how the proposed responsibility has been reached, by explaining a motivation or describing a method of research.	Possible values of this field should be reconciled in a controlled vocabulary of adoptable criteria, in order to define a ranking of attributions. This will enable data reuse by other stakeholders, who may want to compare them.  The use of HiCo Ontology is here suggested for describing all necessary issues related to an interpretative process: an individual of the class hico:InterpretationAct should be created to define:  — the type of interpretation underlying described data, i.e. a role attribution, by using the object property

		hico:hasInterpretationType;  - who adopted this attribution as the preferred one, i.e. the cataloguing institution (e.g. Zeri Foundation), by using the object property hico:hasInterpretationType;  - the responsibility of the cataloguer, by using the object property hico:hasInterpretationCriterion;  - motivation(s) provided in this field, by using the object property hico:hasInterpretationCriterion;  - the responsibility of the RDF creator (foaf:Agent), who further interprets cataloguer choices when creating data, by using the object property prov:wasAssociatedWith;  - the relation between the individual representing the interpretation process (hico:InterpretationAct) and the source content, i.e. the OA Entry content, in which the interpretation is stated in natural language (fabio:Expression), by using the object property hico:isExtractedFrom.  Exemplar usage: :brogi-publisher-photo-72486-1940 a pro:RoleInTime;
		prov:wasGeneratedBy :brogi-publisher-photo-72486-attribution .  :brogi-publisher-photo-72486-attribution a hico:InterpretationAct; hico:hasInterpretationType :role-attribution; hico:hasInterpretationType :zeri-preferred-attribution; hico:hasInterpretationCriterion :cataloguer-choice; hico:hasInterpretationCriterion:inscription; prov:wasAssociatedWith:crr-mm; hico:isExtractedFrom :fentry-72486-expression-2016-04-01. :inscription a hico:InterpretationCriterion.
PDFK	Source of attribution  The citation of a source supporting the thesis.	Cito:cites (object property)  According to the accuracy of information provided in this field, further descriptions may be enabled. For example, it may contain a
		citation of the photograph itself as a source of the attribution.  CiTO Ontology defines a wide range of object properties, all subproperties of the property cito:cites, to better suit the relation between citing and cited entities.  The proper relation between the current interpretation and the relation to the photograph, described in terms of FRBR Item, can be represented by using the property cito:citesAsEvidence.
		Exemplar usage: :brogi-publisher-photo-72486-attribution cito:citesAsEvidence :photo-72486-positive-item .
EDI – Editio	n	
EDIT	Edition title	crm:P102_has_title (object property)
	The title of a specific edition of the considered photograph.	The image of the photograph (fentry:Shot) is reproduced in another work, defined in FRBR terms as a Work (fabio:Work, crm:E28_Conceptual_Object) as Expression (fabio:Series) and as a specific Manifestation, i.e. the edition of the work (fabio:AnalogManifestation, crm:E22_Man-Made_Object).

Moreover, the reproduced photograph is considered as another manifestation of the current photograph (a different one from the catalogued positive), that can be linked to the published work reproducing it by using frbr:part0f.

The individual representing a specific manifestation of the published work is linked to its title by using the object property crm:P102\_has\_title.

### Exemplar usage:

```
:photo-72486 a fentry:Photograph ;
   frbr:realization:photo-72486-expression.
:photo-72486-expression a fentry:Shot;
  frbr:realizationOf :photo-72486 ;
  frbr:partOf :leonardo-works-expression ;
  frbr:embodiment :photo-72486-positive ;
  frbr:embodiment :photo-72486-edni-brogi .
:photo-72486-edni-brogi
  a fabio: Analog Manifestation ,
  crm:E22_Man-Made_Object ;
  frbr:partOf :edni-brogi-leonardo-works .
:leonardo-works a fabio:Work ;
  frbr:realization :leonardo-works-expression ;
  frbr:part:photo-72486-expression.
:leonardo-works-expression a fabio:Series ;
    frbr:embodiment :edni-brogi-leonardo-works .
:edni-brogi-leonardo-works
  a fabio: Analog Manifestation;
  crm:P102_has_title :leonardo-works-title .
```

### SFI - Series

### **SFIT**

Series title

crm:P102\_has\_title (object property)

The title of the series in which the photograph is published.

The photograph (fentry:Photograph) is part of a work (frbr:partOf), defined in FRBR terms as a Work (fabio:WorkCollection, crm:E28\_Conceptual\_Object), further characterized by using the object property crm:P2\_has\_type associated to a term specifying its nature (see OGTB in *Object description* section for explanation).

Moreover, also the reproduced image of the photograph (fentry:Shot) is linked to the new work content (fentry:Series) by means of the object property frbr:partOf. The individual representing the series is linked to its title by using the object property crm:P102\_has\_title.

### Exemplar usage:

```
:photo-72486 a fentry:Photograph ;
  frbr:realization :photo-72486-expression ;
  frbr:partOf :uffizi-works .
:photo-72486-expression a fentry:Shot ;
  frbr:partOf :uffizi-works-expression .
:uffizi-works a fabio:WorkCollection ;
  crm:P2_has_type :series ;
  crm:P102_has_title :uffizi-works-title ;
  frbr:realization :uffizi-works-expression .
:uffizi-works-expression a fabio:Series ;
  frbr:part :photo-72486-expression .
```

### RO - Relations to other works

### ROF - Relation to final / initial work (\*)

ROFF Status of the work crm:E22\_Man-Made\_Object (Class)

	A term defining a relation between the current object and a related one.	The value of this field generally refers to a specific manifestation of the photograph in a phase of its lifecycle (i.e. an individual belonging to the classes crm: E22_Man-Made_Object and fabio:AnalogManifestation).  E.g. ROFF: 'negative'
		Exemplar usage: :photo-72486-negative-item a crm:E22_Man-Made_Object , fabio:AnalogManifestation .
ROFC	Place of conservation	crm:E53_Place (Class)
	Multiple values identifying country, region, district, town, village and the repository wherein the related work of art is conserved.	Or [crm:E53_Place (Class) and crm:E39_Actor (Class)]  This field contains all the information regarding both the current location of the related concrete object and the institution which conserves it.  Relations may be expressed by using same classes, object properties and chains of object properties described in Geographical and Administrative location section.  Exemplar usage: :photo-72486-negative-item a fabio:AnalogItem ,         a crm:E22_Man-Made_Object ;         crm:P50_has_current_keeper :zeri-foundation . :zeri-foundation a crm:E39_Actor ;         crm:P74_has_current_or_former_residence
		:ex-convent-santa-cristina . :ex-convent-santa-cristina a crm:E53_Place .
ROFI	Inventory number	crm:E42_Identifier (Class)
	The inventory number of the original / final work.	The inventory number is associated to an individual representing an exemplar of the photograph (fabio:Item) defined as result of a particular manifestation (fabio:Manifestation).  Classes defining the concrete object in analysis may be further characterized. For example, if the subject of this section is a negative of the photograph, an individual of the classes fabio:AnalogItem and crm:E22_Man-Made_Object may be represented; it is linked to its inventory number by means of an intermediate individual of the class crm:E13_Attribute_Assignment.  Exemplar usage:  :photo-72486 a fentry:Photograph; fabio:hasPortrayal:photo-72486-negative-item a fabio:AnalogItem, crm:E22_Man-Made_Object; crm:P140i_was_attributed_by :photo-72486-negative-invn-assignment a crm:E13_Attribute_Assignment; crm:P141_assigned:inv-23470; crm:P140_assigned_attribute_to
MT Tachai	cal information *	:photo-72486-negative-item .
MTX *		orm: D56 hoors footure (phicot property)
IVIIA ^	Colour	crm:P56_bears_feature (object property)
I		

	photograph is coloured or black and white.	photograph is represented both as an individual of class crm:E22_Man-Made_Object and the class fabio:AnalogManifestation, for describing features of its support. The object property crm:P56_bears_feature can be used to describe colours.  Exemplar usage: :photo-72486 a fentry:Photograph ; fabio:hasManifestation :photo-72486-positive . :photo-72486-positive crm:P56_bears_feature :black-and-white .
MTC *	Medium or materials	crm:E57_Material (Class)
	A value describing the primary support of the photograph and/or the materials employed in its production.	An individual representing the manifestation of the photograph is represented both as an individual of class crm:E22_Man-Made_Object and the class fabio:AnalogManifestation, for describing its support.  The object property crm:P45_consists_of should be associated to a value (belonging to the class crm:E57_Material) aligned to an established controlled vocabulary.
		Exemplar usage:  :photo-72486-positive     a crm:E22_Man-Made_Object ,         fabio:AnalogManifestation ;     crm:P45_consists_of :gelatin-silver .  :gelatin-silver a crm:E57_Material ;     skos:relatedMatch
MIS - Meas	ures *	
MISO *	Type of measures	crm:E22_Man-Made_Object (Class)
	The element whose measures are provided.	The value of this field generally identifies a specific manifestation of the photograph (i.e. an individual belonging to the classes crm:E22_Man-Made_Object and fabio:AnalogManifestation).  E.g. MISO: 'primary support' means the exemplar of a positive is described.  If a specific manifestation of an individual cannot be identified, e.g. when describing the max size of photographs contained in an album, to preserve this information an individual of the class crm:E16_Measurement should be created and associated to the data property crm:P2_has_type with an individual representing the value of this field associated.  Exemplar usage: :album-12015-measurement a crm:E16_Measurement; crm:39_measured:album-72486-manifestation;
MISU *	Unit of measurement	crm:P2_has_type :max-size . crm:E58_Measurement_Unit (Class)
	The unit of measurements adopted by a cataloguer.	An individual representing the manifestation of the photograph (or the complex object) is represented both as an individual of class crm:E22_Man-Made_Object and the class fabio:AnalogManifestation, for describing its dimensions. The object property crm:P91_has_unit should be associated to any individual representing a measurement of the object (crm:E54_Dimension) provided in this section, so as to specify the adopted standard unit for each measurement.

		Exemplar usage:  :photo-72486-positive  crm:P43_has_dimension :height-194mm .  :height-1m a crm:E54_Dimension ;  crm:P91_has_unit :mm .  :mm a crm:E58_Measurement_Unit .
MISA (*)	Height	crm:E54_Dimension (Class)
	The photograph height value, measured by a cataloguer.	For any measurement an individual belonging to the class crm:E54_Dimension should be created and characterized by using:  - crm:P2_has_type to define the type of measurement;  - crm:P90_has_value to associate a string value for the measurement;  - crm:P91_has_unit to associate the adopted unit of measurement.  The object property crm:P43_has_dimension links the object and the measured dimension.
		Exemplar usage: :photo-72486-positive     crm:P43_has_dimension :height-194mm . :height-194mm a crm:E54_Dimension ;     crm:P2_has_type :height ;     crm:P90_has_value "194" ;     crm:P91_has_unit :mm .
MISL(*)	Width	crm:E54_Dimension (Class)
	The photograph width value, measured by a cataloguer.	For any measurement an individual belonging to the class crm:E54_Dimension should be created and characterized by using:  - crm:P2_has_type to define the type of measurement;  - crm:P90_has_value to associate a string value for the measurement;  - crm:P91_has_unit to associate the adopted unit of measurement.
		The object property crm:P43_has_dimension links the object and the measured dimension.  Exemplar usage: :photo-72486-positive    crm:P43_has_dimension :width-250mm . :width-250mm a crm:E54_Dimension ;    crm:P2_has_type :width ;    crm:P90_has_value "250" ;    crm:P91_has_unit :mm .
MISS (*)	Thickness	crm:E54_Dimension (Class)
	The photograph thickness value, measured by a cataloguer.	For any measurement an individual belonging to the class crm:E54_Dimension should be created and characterized by using:  - crm:P2_has_type to define the type of measurement;  - crm:P90_has_value to associate a string value for the measurement;  - crm:P91_has_unit to associate the adopted unit of measurement.
		The object property crm:P43_has_dimension links the object and the measured dimension.

### Exemplar usage: :photo-72486-positive crm:P43\_has\_dimension :thickness-0-05mm . :thickness-0-05mm a crm:E54 Dimension : crm:P2\_has\_type :thickness ; crm:P90\_has\_value "0.05"; crm:P91\_has\_unit :mm . MISD (\*) Diameter crm:E54\_Dimension (Class) The photograph diameter value, For any measurement an individual belonging to the class measured by a cataloguer. crm: E54\_Dimension should be created and characterized by using: crm:P2\_has\_type to define the type of measurement; crm:P90\_has\_value to associate a string value for the measurement; crm:P91\_has\_unit to associate the adopted unit of measurement. The object property crm: P43\_has\_dimension links the object and the measured dimension. Exemplar usage: :photo-72486-positive crm:P43\_has\_dimension :diameter-300mm . :diameter-300mm a crm:E54\_Dimension; crm:P2\_has\_type :diameter ; crm:P90\_has\_value "300"; crm:P91\_has\_unit :mm .

### CO - Conservation \*

### STC - Condition \*

### STCC \*

# Condition of conservation

A term provided by the cataloguer for describing the status of conservation of the photograph (e.g. good, discrete, bad).

### crm:E3\_Condition\_State (Class)

When this section is filled, an individual representing the physical object, i.e. an individual belonging to the classes E22\_Man-Made\_Object and fabio:AnalogItem, should be created to associate it an individual representing the assessment of its conditions, i.e. an individual of the class crm:E14\_Condition\_Assessment, by means of the object property crm:P34i\_was\_assessed\_by.

### Exemplar usage:

```
:photo-72486-positive-item
  a crm:E22_Man-Made_Object , fabio:AnalogItem ;
  crm:P34i_was_assessed_by
     :photo-72486-positive-item-condition .
```

This individual should be associated with an individual representing the condition state, i.e. an individual of the class crm:E3\_Condition\_State, which have to be characterized by means of the object property crm:P2\_has\_type. The value associated to this object property should be a term of a closed controlled vocabulary.

### Exemplar usage:

```
:photo-72486-positive-item-condition
   a crm:E14_Condition_Assessment ;
   crm:P35_has_identified
      :photo-72486-positive-item-condition-state .
:photo-72486-positive-item-condition-state
   a crm:E3_Condition_State ;
   crm:P2_has_type :discrete .
```

STCS *	Notes	crm:P3_has_note (data property)
	A description in natural language of any relevant conservative feature noticed during the assessment.	A discursive explanation of the item conditions may be provided by means of the value associated to the data property crm: P3_has_note.
		Exemplar usage: :photo-72486-positive-item-condition-state a crm:E3_Condition_State; crm:P2_has_type :discrete; crm:P3_has_note "silver mirror" .
TU - Legal s	tatus and boundaries *	
CDG - Legal	l status *	
CDGG *	Ownership	crm:E8_Acquisition (Class)
	A term defining a general type of ownership or jurisdiction.	The current owner of the photograph is related to the physical object (i.e. an individual of the classes crm:E22_Man-Made_Object and fabio:AnalogItem) by means of an intermediate individual of the class crm:E8_Acquisition.
		To specify the type of ownership, the object property crm:P2_has_type can be used with an associated value from a controlled vocabulary.
		Exemplar usage:  :university-of-bologna a crm:E40_Legal_Body;  crm:P22i_acquired_title_through  :photo-72486-acquisition.  :photo-72486-acquisition a crm:E8_Acquisition;  crm:P24_transferred_title_of  :photo-72486-positive-item;  crm:P2_has_type:public-ownership.
CDGS *	Owner	crm:E39_Actor (Class)
	The name or title of the current owner of the photograph.	The current owner of the photograph may be described as an individual of the class crm: E39_Actor or its subclasses, e.g. crm: E40_Legal_Body, and may be directly related to the individual representing the physical object by using the object property crm: P52i_is_current_owner_of (or, as in the example below, the inverse crm: P52_has_current_owner).  Exemplar usage: :photo-72486-positive-item
		crm:P52_has_current_owner :university-of-bologna . :university-of-bologna a crm:E40_Legal_Body .
CPR – Copyi	right	
CPRN	Copyright owner	pro:RoleInTime (Class)
	The name of the current copyright owner of the photograph.	To specify the role held by an agent holding rights on a resource, an individual belonging to the class pro:RoleInTime of the PRO Ontology shall be used, which enables to express:  - the agent who holds a role in a time-indexed situation, by using the object property pro:isHeldBy;  - the role held by the agent, i.e. the individual pro:copyright-owner belonging to the class pro:Role, by using the object property pro:withRole;  - the photograph (defined in FRBR terms as a Work) as the

context of the role, by using the object property pro:relatesTo; the time interval in which the role is held (whose end date is provided in CPRD field), by using the object property tvc:atTime. Exemplar usage: :brogi pro:holdsRoleInTime :brogi-copyright-owner-photo-72486-2010 . :brogi-copyright-owner-photo-72486-2010 a pro:RoleInTime ; pro:relatesTo :photo-72486 ; pro:isHeldBy :brogi ; pro:withRole pro:copyright-owner ; tvc:atTime :until-2010 . **CPRD** Copyright expiration date ti:hasIntervalEndDate (data property) The date of copyright expiration. To specify the copyright expiration date, the individual representing the time interval in which the copyright owner holds that role (see CPRN in this section), the data property ti:hasIntervalEndDate may be used to characterize the end of such time interval: Exemplar usage: :brogi-copyright-owner-photo-72486-2010 a pro:RoleInTime; pro:relatesTo :photo-72486 ; pro:isHeldBy :brogi ; pro:withRole pro:copyright-owner ; tvc:atTime :until-2010 . :until-2010 ti:hasIntervalEndDate "2010-01-01T00:00:00"^^xsd:dateTime .

### DO - Sources and related documentation \*

### FTA - Photographic documentation \*

FTAX \*

## Genre of image A term specifying if the considered photograph/image is an attachment or not.

cito:citesAsEvidence (object property)

or

fentry:describes (object property)

A term of a controlled vocabulary is here provided:

- 'existent photograph';
- 'attached photograph'.

If an existent photograph is described as a source the object property cito:citesAsEvidence is suggested to describe a relation between the F Entry and the cited photograph.

The individual representing the photograph is expressed in FRBR terms both as a FRBR Item (fabio:Item).

```
Exemplar usage:
```

```
e.g. FTAX: 'existing photograph'
:fentry-72486 a fentry:FEntry ;
   fentry:describes :photo-72486 ;
   cito:citesAsEvidence:photo-72486-digital-item.
:photo-72486-digital-item a fabio:DigitalItem .
```

If a photograph is an attached source, the object property fentry:describes is suggested for describing all the entities that are strictly related to the current F Entry.

		Exemplar usage: e.g. FTAX: 'attached photograph' :fentry-72486 a fentry:FEntry; fentry:describes :photo-72486, :photo-72486-digital-item. :photo-72486 a fentry:Photograph. :photo-72486-digital-item a fabio:DigitalItem.
FTAP *	Object Type	crm:E22_Man-Made_Object (Class)
	A description of features characterizing the photograph (e.g. slide, back and white positive) that documents the catalogued photograph.	Terms contained in this field generally refer to physical features of a photograph (existent or attached, see FTAX in this section), so as to characterize the documentation consulted for compiling the entry.  An individual representing a particular FRBR manifestation of the photograph should be created (crm:E22_Man-Made_Object , fabio:AnalogManifestation) for defining its type. e.g. FTAP: 'digital image'  Exemplar usage: :photo-72486    fabio:hasManifestation         :photo-72486-digital-manifestation         :photo-72486-digital-manifestation         a crm:E22_Man-Made_Object , fabio:DigitalManifestation .  If the photograph is attached to the entry, the relation between the F Entry and the individuals defined as FRBR Work, FRBR Manifestation and FRBR Item representing the photograph can be expressed by using the object property fentry:describes.  Exemplar usage: :fentry-72486 a fentry:FEntry; fentry:describes
		:photo-72486 , :photo-72486-digital-manifestation, :photo-72486-digital-item .
FTAN *	Identifier	crm:E42_Identifier (Class)
	Generally, the inventory number provided for the negative of the photograph thata documents the catalogued photo or is attached to the entry.	The photograph exemplar here considered, defined in terms of a FRBR Item, is identified by an inventory number or another unique code. For example, the digital image (fabio:DigitalItem), can be related to an intermediate individual (crm:E13_Attribute_Assignment) and then to the unique code defined in terms of crm:E42_Identifier.  The individual representing the identifier can be further characterized by means of the property crm:P2_has_type which associates a type to the identifier.  Exemplar usage: :photo-72486-digital-item a fabio:DigitalItem; crm:P140i_was_attributed_by :photo-72486-digital-item-invn-assignment a crm:E13_Attribute_Assignment; crm:P141_assigned :id-78392; crm:P140_assigned_attribute_to :photo-72486-digital-item. :id-78392 a crm:E42_Identifier;
FTAT	Notes	crm:P2_has_type :local-id . crm:P3_has_note (data property)

A description in natural language	The individual representing the expression of the photograph,
of details regarding the shot or the	belonging to classes crm: E73_Information_Object and
content of the photograph.	fentry: Shot, can be described by means of the data property
	crm:P3_has_note, used to annotate the individual representing
	the photograph expression.
	e.g. FTAT: 'work before restoration'
	Exemplar usage:
	:photo-72486-expression
	<pre>a crm:E73_Information_Object , fentry:Shot ; crm:P3 has note "particular"</pre>

# FNT - Sources and documents

Sources and documents are here described by means of classes and properties from DCTerms and SPAR Ontologies, to accomplish the best suitable description. The aim is to provide a simpler representation of entities that are not in scope in the photograph description.

the photograph description.		
FNTA	Author	pro:RoleInTime (Class)
	The document author's name.	Archival documents should be considered as individuals of the class fabio:Work used as sources of information about the photograph described in the F Entry. A proper relation between the individual representing the F Entry (fentry:FEntry) and the cited source can be expressed by using the object property cito:citesForInformation.
		Exemplar usage: :fentry-72486 a fentry:FEntry; cito:citesForInformation :document-f2336.
		To specify the role held by an author, an individual belonging to the class pro:RoleInTime of the PRO Ontology shall be used, which enables to express:
		<ul> <li>the agent who holds a role, by using the object property pro:isHeldBy;</li> <li>the role held by the author, i.e. one the individual</li> </ul>
		pro:author, by using the object property pro:withRole;  the document as the context of the role, by using the object property pro:relatesToDocument;
		<ul> <li>the time interval in which the role is held (if applicable),</li> <li>by using the object property tve:atTime.</li> </ul>
		Exemplar usage:  :federico-zeri    pro:holdsRoleInTime :federico-zeri-author-f2336 .  :federico-zeri-author-f2336 a pro:RoleInTime ;    pro:isHeldBy :federico-zeri ;    pro:withRole pro:author ;    pro:relatesToDocument :document-f2336 .
FNTD	Date	dcterms:date (data property)
	The year in which the document was created or publisher.	fabio:hasPublicationYear (data property)
		The individual representing an archival document can be associated to a value conforming to the XML Schema datatype xsd:gYear, by using the data property dcterms:date.
		Exemplar usage: :document-f2336

		dcterms:date "1968"^^xsd:gYear .
		If the considered document is a published text, the use of the data property fabio:hasPublicationYear is suggested.
		Exemplar usage: :document-f2336 fabio:hasPublicationYear "1968"^^xsd:gYear .
FNTS	Collocation	dcterms:identifier (data property)
	A code identifying the collocation of the document in the archive or institution.	A relation between a document and its physical collocation may be defined by using the data property frbr:partOf associated to the individual representing the document container, whose identifier is specified by using the data property dcterms:identifier. The collocation is an identifier of the concrete object position, than the individual is defined in terms of a FRBR Item (fabio:AnalogItem).
		Exemplar usage:  :document-f2336 fabio:hasPortrayal :document-f2336-item .  :document-f2336-item a fabio:AnalogItem ; frbr:partOf :folder-0471_1_11-24 .  :folder-0471_1_11-24 dcterms:identifier "pi_0471_1_11-24" .
FNTI	Unique code	dcterms:identifier (data property)
	A unique code provided for the document.	A relation between a document and its unique code may be defined by using the data property dcterms:identifier.
		Exemplar usage: :document-f2336-item dcterms:identifier "f2336" .

### BIB – Bibliography

To describe of bibliographic entities, here classes and properties from DCTerms and the SPAR ontologies are mainly suggested, in order to facilitate data integration among different data providers using above mentioned models instead of CIDOC-CRM model. For completeness of mapping aims, only classes of CIDOC-CRM model are here reported. The aim is to provide the simpler representation of entities that are not in scope in the work of art description.

BIBX (*)	Bibliographic work type	prism:keywords (data property)
	A term describing the type of the adopted bibliography.	A general description of the adopted bibliography may be expressed by using the data property prism: keywords with an associated value from an open or controlled vocabulary. e.g. BIBX: 'scientific bibliography'.
		Exemplar usage: :work-143-45-62343-15-3 a fabio:Work; prism:keywords "scientific bibliography".
		Bibliographic entities are related to the current F Entry by means of the CiTO object property cito:obtainsSupportFrom.
		Exemplar usage:
		:fentry-72486 a fentry:FEntry ; cito:obtainsSupportFrom :work-143-45-62343-15-3 .
BIBA (*)	Author	pro:RoleInTime (Class)
	The document author's name.	To specify the role held by an author, an individual belonging to the

		<ul> <li>class pro:RoleInTime of the PRO Ontology shall be used, which enables to express:         <ul> <li>the agent who holds a role, by using the object property pro:isHeldBy;</li> <li>the role held by the author, i.e. one the individual pro:author, by using the object property pro:withRole;</li> <li>the document as the context of the role, by using the object property pro:relatesToDocument;</li> <li>the time interval in which the role is held (if applicable), by using the object property tvo:atTime.</li> </ul> </li> </ul>
		Exemplar usage:  :federico-zeri    pro:holdsRoleInTime    :federico-zeri-author-work-143 .  :federico-zeri-author-work-143 a pro:RoleInTime;    pro:isHeldBy :federico-zeri;    pro:withRole pro:author;    pro:relatesToDocument :work-143-45-62343-15-3 .
BIBD (*)	Publication year The year of publication.	fabio:hasPublicationYear (data property)  Information about the date of publication may be expressed by using the data property fabio:hasPublicationYear associated to a value which conforms to the XML Schema datatype xsd:gYear or another type provided for dates.  Exemplar usage: :work-143-45-62343-15-3 fabio:hasPublicationYear "1980"^^xsd:gYear .
BIBN	Pages A range of pages of the document, in which the photograph is mentioned or described.	prism:pageRange (data property)  A representation of the considered concrete object, defined in terms of FRBR Item (fabio:AnalogItem) should be created in order to define its extent by using the data property prism:pageRange.  Exemplar usage: :work-143-45-62343-15-3     fabio:hasPortrayal :item-143-45-62343-15-3 . :item-143-45-62343-15-3 a fabio:AnalogItem ;     prism:pageRange "37-146" .

#### MST - Exhibitions

This section refers directly to the photograph described in the F Entry, therefore a CIDOC-CRM compliant representation is here provided.

MSTT (*)	Title of exhibition	crm:E41_Appellation (Class)
	An attributed title of an exhibition where the photograph was showed.	When this subsection is filled, an individual representing an event, belonging to the class crm:E5_Event, should be created and characterized by means of the object property crm:P2_has_type. The work, i.e. the exemplar of the photograph represented as an individual of the class crm:E22_Man-Made_Object, is related to the event by using the object property crm:P12i_was_present_at.
		Exemplar usage: :photo-72486-positive-item
		<pre>crm:P12i_was_present_at :exhibition-london-1987 . :exhibition-london-1987 a crm:E5_Event ; crm:P2_has_type :exhibition .</pre>

To characterize the event with a tide, the object property om PP_Ls_identified_by can be used to specify the appellation. The data property ofterms: title associates the value of this field to the individual representing the event.  Exemplar usage:  invibilition-london-1987 a crm:E5_Event; crm:P2_has_type:exhibition.  crm:P1_is_identified_by:exhibition-title. crm:P2_has_type:exhibition.  mrsP1_is_identified_by:exhibition-title. crm:P2_has_type:exhibition.  crm:P1_is_identified_by:exhibition-title. crm:P2_has_type:exhibition.  mrsP1_is_identified_by:exhibition-title. crm:P2_has_type:exhibition.  crm:P2_has_type:exhibition and be related to the one representing the place where it took place by using the object property.  The individual representing the exhibition can be related to the one representing the place where it took place by using the object property crm:P7_took_place_at: london.  Exemplar usage: individual representing the exhibition can be related to the one representing the care.  Exemplar usage: individual persenting the exhibition can be related to the one representing the year or the range of years during which the exhibition took place, by using the object property.  The individual representing the exhibition can be related to the one representing the year or the range of years during which the exhibition took place, by using the object property.  The individual persenting the object property.  Exemplar usage: individual belonging to the dass crm:E85_creation should be created or present the event in which the caraloguer creates the crury. By using the object property orm:P4_has_time_span :2012-11-04.  Exemplar usage: individual belonging to the dass crm:E85_creation in crm:P4_has_time_span :2012-11-04.  Exemplar usage: individual of the class crm:E85_creation in crm:P4_has_time_span :2012-11-04.  Exemplar usage: individual of the class crm:E85_creation in individual belonging to the class pro:RaleInTime of the object property crm:P141_performed.  Moreover, an individual belonging to the class pro			
### Indicated by the cataloguer responsible for creating the current party.  ### CMPD    Cataloguing **    CMPD   Cataloguer   Cataloguer responsible for creating the current party.			<pre>crm:P1_is_identified_by can be used to specify the appellation. The data property dcterms:title associates the value</pre>
The name of the place of the exhibition.  The individual representing the exhibition can be related to the one representing the place where it took place by using the object property orm:P7_took_place_at.  Exemplar usage:			:exhibition-london-1987 a crm:E5_Event; crm:P2_has_type :exhibition . crm:P1_is_identified_by :exhibition-title . :exhibition-title a crm:E41_Appellation;
exhibition.    representing the place where it rook place by using the object property crm:P7_took_place_at.	MSTL (*)	Place of exhibition	crm:P7_took_place_at (object property)
Sexhibition-london-1987   crm:P7_took_place_at :london   crm:P4_has_time_span (object property)			representing the place where it took place by using the object
The year or the range of years of the exhibition.  The individual representing the exhibition can be related to the one representing the year or the range of years during which the exhibition took place, by using the object property orm: P4_has_time_span.  Exemplar usage: :exhibition-london-1987			:exhibition-london-1987 crm:P7_took_place_at :london .
the exhibition.  the exhibition representing the year or the range of years during which the exhibition took place, by using the object property crm:P4_has_time_span.  Exemplar usage: :exhibition-london-1987 crm:P4_has_time_span :1987 . :1987 a crm:E52_Time-Span .  CM - Cataloguing information *  CMPD Cataloguing date  The year or the day when the current entry was created.  To specify the cataloguing date with respect to the compiled F Entry, an individual belonging to the class crm:E65_Creation should be created to represent the event in which the cataloguer creates the entry. By using the object property crm:P4_has_time_span the day in which the entry is created may be specified.  Exemplar usage: :fentry-72486-creation a crm:E65_Creation; crm:P4_has_time_span :2012-11-04 .  CMPN Cataloguer The name of the cataloguer responsible for creating the current F Entry.  To specify the cataloguer with respect to the compiled F Entry, an individual of the class crm:E21_Person should be created and related to the event representing the F Entry creation by means of the object property crm:P14i_performed.	MSTD (*)	Date of exhibition	crm:P4_has_time_span (object property)
:exhibition-london-1987   crm:P4_has_time_span :1987   .:1987   a crm:E52_Time-Span .		,	representing the year or the range of years during which the exhibition took place, by using the object property
CMPD Cataloguing date  The year or the day when the current entry was created.  To specify the cataloguing date with respect to the compiled F Entry, an individual belonging to the class crm:E65_Creation should be created to represent the event in which the cataloguer creates the entry. By using the object property crm:P4_has_time_span the day in which the entry is created may be specified.  Exemplar usage: :fentry-72486-creation a crm:E65_Creation; crm:P4_has_time_span :2012-11-04.  CMPN Cataloguer The name of the cataloguer responsible for creating the current F Entry.  To specify the cataloguer with respect to the compiled F Entry, an individual of the class crm:E21_Person should be created and related to the event representing the F Entry creation by means of the object property crm:P14_performed.			:exhibition-london-1987 crm:P4_has_time_span :1987 .
CMPD  Cataloguing date  The year or the day when the current entry was created.  To specify the cataloguing date with respect to the compiled F Entry, an individual belonging to the class crm:E65_Creation should be created to represent the event in which the cataloguer creates the entry. By using the object property crm:P4_has_time_span the day in which the entry is created may be specified.  Exemplar usage:  :fentry-72486-creation a crm:E65_Creation; crm:P4_has_time_span :2012-11-04.  CMPN  Cataloguer  The name of the cataloguer responsible for creating the current F Entry.  To specify the cataloguer with respect to the compiled F Entry, an individual of the class crm:E21_Person should be created and related to the event representing the F Entry creation by means of the object property crm:P14i_performed.		<u> </u>	
The year or the day when the current entry was created.  To specify the cataloguing date with respect to the compiled F Entry, an individual belonging to the class crm: E65_Creation should be created to represent the event in which the cataloguer creates the entry. By using the object property crm: P4_has_time_span the day in which the entry is created may be specified.  Exemplar usage: :fentry-72486-creation a crm:E65_Creation; crm:P4_has_time_span :2012-11-04.  CMPN  Cataloguer  The name of the cataloguer responsible for creating the current F Entry.  To specify the cataloguer with respect to the compiled F Entry, an individual of the class crm:E21_Person should be created and related to the event representing the F Entry creation by means of the object property crm:P14i_performed.			
CMPN  Cataloguer  The name of the cataloguer responsible for creating the current F Entry.  CMPN  Cataloguer  The name of the cataloguer responsible for creating the current F Entry.  Composible for creating the current for the cataloguer responsible for creating the current for the cataloguer with respect to the compiled for the cataloguer with respect to the compiled for the cataloguer responsible for the cataloguer with respect to the compiled for the cataloguer with respect to the compiled for the cataloguer responsible for the cataloguer with respect to the compiled for the cataloguer with respect to the cataloguer with re	CMPD	Cataloguing date	crm:P4_has_time_span (object property)
:fentry-72486-creation a crm:E65_Creation; crm:P4_has_time_span :2012-11-04 .  CMPN  Cataloguer  The name of the cataloguer responsible for creating the current F Entry.  To specify the cataloguer with respect to the compiled F Entry, an individual of the class crm:E21_Person should be created and related to the event representing the F Entry creation by means of the object property crm:P14i_performed.			Entry, an individual belonging to the class crm: E65_Creation should be created to represent the event in which the cataloguer creates the entry. By using the object property crm: P4_has_time_span the day in which the entry is created may
The name of the cataloguer responsible for creating the current F Entry.  To specify the cataloguer with respect to the compiled F Entry, an individual of the class crm: E21_Person should be created and related to the event representing the F Entry creation by means of the object property crm: P14i_performed.			:fentry-72486-creation a crm:E65_Creation ;
F Entry.  To specify the cataloguer with respect to the compiled F Entry, an individual of the class crm: E21_Person should be created and related to the event representing the F Entry creation by means of the object property crm: P14i_performed.	CMPN	The name of the cataloguer	and
Moreover, an individual belonging to the class pro:RoleInTime of		_ =	individual of the class crm: E21_Person should be created and related to the event representing the F Entry creation by means of
			Moreover, an individual belonging to the class pro:RoleInTime of

the PRO Ontology shall be used, which enables to express: the agent who holds a role, i.e. the cataloguer, by using the object property pro:isHeldBy; the role held by the cataloguer, i.e. the individual provided by OA Entry Ontology oaentry: cataloguer belonging to the class oaentry: CataloguingRole, and related to the individual belonging to pro:RoleInTime by using the object property pro:withRole; the F Entry as the context of the role, by using the object property pro:relatesTo. Exemplar usage: :md a crm:E21\_Person ; crm:P14i\_performed :fentry-72486-creation ; pro:holdsRoleInTime :md-cataloguer-fentry-72486 . :fentry-72486-creation a crm:E65\_Creation ; crm:P4\_has\_time\_span :2012-11-04 ; crm:P14\_carried\_out\_by :md . :md-cataloguer-fentry-72486 a pro:RoleInTime ; pro:relatesTo :fentry-72486 ; pro:isHeldBy :md ; pro:withRole oaentry:cataloguer . oaentry:cataloguer a oaentry:CataloguingRole . **FUR** Supervisor pro:RoleInTime (Class) The name of the supervisor The supervisor, generally a person, is represented as an individual of responsible for the cataloguing. the class crm: E21\_Person. To specify the role of the supervisor with respect to the F Entry, an individual belonging to the class pro:RoleInTime of the PRO Ontology shall be used, which enables to express: the agent who holds a role in a time-indexed situation, i.e. the supervisor, by using the object property pro:isHeldBy; the role held by the supervisor, i.e. the individual provided by OA Entry Ontology oaentry:cataloguingsupervisor belonging to the class oaentry: CataloguingRole, by using the object property pro:withRole; the F Entry as the context of the role, by using the object property pro:relatesTo. Exemplar usage: :fm a crm:E21\_Person ;  $\verb|pro:holdsRoleInTime| : fm-supervisor-fentry-72486 .$ :fm-supervisor-fentry-72486 a pro:RoleInTime; pro:relatesTo :fentry-72486 ; pro:isHeldBy :fm ; pro:withRole oaentry:cataloguing-supervisor . oaentry:cataloguing-supervisor a oaentry:CataloguingRole . AGG - Updating or revision AGGD (\*) Updating date tvc:atTime (object property) The date of a revision of F Entry Any time this section (AGG) is filled, a new version of the F Entry contents. is created, defined in terms of a FRBR Expression of the work (fabio: Expression), and related to the previous version by means

of the property frbr:revison. Exemplar usage: :fentry-72486-expression-2016-04-01 a fabio:Expression ; frbr:realizationOf :fentry-72486 ; frbr:revisonOf :fentry-72486-expression-2016-02-27 . An individual representing the role held by a cataloguer updating the current F Entry may be represented as an instance of the class pro:RoleInTime, which enables to express: the person holding a role in a time-indexed situation, i.e. the cataloguer, by using the object property pro:isHeldBy; the role held by the cataloguer, i.e. the individual provided by OA Entry Ontology oaentry: cataloguer belonging to the class oaentry: CataloguingRole, by using the object property pro:withRole; the content of the F Entry as the context of a role, by using the object property pro:relatesTo; the time interval in which the role is held, by using the object property tvc:atTime. Exemplar usage: :fentry-72486-expression-2016-02-27 a fabio:Expression; frbr:revison :fentry-72486-expression-2016-04-01; pro:isRelatedToRoleInTime :fentry-72486-expression-2016-02-27-update . :fentry-72486-expression-2016-02-27-update a pro:RoleInTime; pro:isHeldBy :revisor ; pro:withRole oaentry:cataloguer ; pro:relatesTo :fentry-72486-expression-2016-02-27; tvc:atTime :since-2016-02-27 . AGGN (\*) Cataloguer pro:RoleInTime (Class) Any time this section (AGG) is filled, a new version of the F Entry The name of the revisor of F Entry contents. is created, defined in terms of a FRBR Expression of the work (fabio: Expression), and related to the previous version by means of the property frbr:revison. Exemplar usage: :fentry-72486-expression-2016-04-01 a fabio:Expression : frbr:realizationOf :fentry-72486 ; frbr:revisonOf :fentry-72486-expression-2016-02-27 . An individual representing the role held by a cataloguer updating

the current F Entry may be represented as an instance of the class

pro:RoleInTime, which enables to express: the person holding a role in a time-indexed situation, i.e. the cataloguer, by using the object property pro:isHeldBy;

the role held by the cataloguer, i.e. the individual provided by OA Entry Ontology oaentry: cataloguer belonging to the class oaentry: CataloguingRole, by using the object property pro:withRole;

		<ul> <li>the content of the F Entry as the context of a role, by using the object property pro:relatesTo;</li> <li>the time interval in which the role is held, by using the object property tvc:atTime.</li> </ul>		
		Exemplar usage:  :fentry-72486-expression-2016-02-27  a fabio:Expression; frbr:revison     :fentry-72486-expression-2016-04-01; pro:isRelatedToRoleInTime     :fentry-72486-expression-2016-02-27-update  a pro:RoleInTime; pro:isHeldBy:revisor; pro:withRole oaentry:cataloguer; pro:relatesTo     :fentry-72486-expression-2016-02-27; tvc:atTime:since-2016-02-27.		
AN – Notes				
OSS	Note	crm:P3_has_note (data property)		
	Notes regarding issues not described elsewhere.	Further heterogeneous information regarding the work of art or other issues not covered by F Entry fields can be specified by using the data property crm: P3_has_note.  Exemplar usage:		
		:fentry-72486  crm:P3_has_note "description of the work on the verso of the photograph" .		