

Social and family relations and the CIDOC CRM – some thoughts

21/06 2006

Christian-Emil Ore

1 Introduction

In Paris meeting in March I was asked to have a look into how to model family and social relations in the CRM. In this short paper I discuss how the basic genealogical relations are modelled in the CRM today and also how one can express ceremonies like a wedding in the current version. Social and family relations are a rather wide and loosely defined subject. Pure emotional relations are not discussed here although they can be included in the schema. I assume we deal with relations that are observed and regulated in a wide sense in a society (large or small) There are many possible model schemata for such relations:

The most general but less satisfying is to introduce a relation creation event as a subclass of *E5 Event* and two typed properties: one between this new class and *E21 person* and one from *E21 person* to *E21 person*. The latter is a shortcut for the path via the new class. This is a completely generic solution and rely completely on the use of types. A more elaborated solution is to introduce set of specialized classes and properties for various family and social relations.

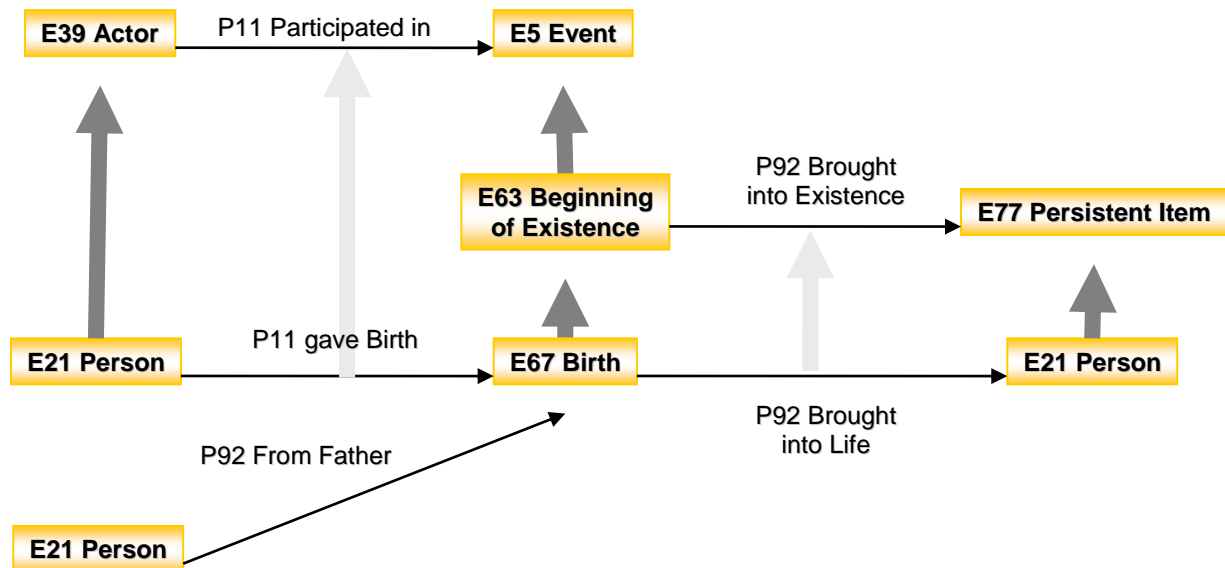
A more ontological solution is to describe the establishment of relations in more detail. A social or family relation is created or brought into existence at some point in time. A relation can be seen as a bond, right or obligation between two or more persons. This abstract entity can be seen as a conceptual object. The *E30 Right (This class comprises legal privileges concerning material and immaterial things or their derivatives which can be owned or possessed by legal bodies)* can be seen as a sub class or a sibling class of a new class comprising all (social/legal) obligations, bonds and rights. In this short paper I give a sketch of such a solution. This may not be the right solution, but fits well.

2 The current situation

The CRM was developed as a model for interchange of information between museum documentation systems. The development group focused on what is central information in museums. In most museum catalogues there is little information about persons and their relations. As a consequence the CRM is not very elaborated with respect to social/family relations.

2.1 Family relations based on birth and adoption

The CRM has only a pure biologically based family model with the class for biological birth *E67 Birth* as the central element. All family relations are expressed indirectly via instantiations of this class as shown in the figure below.



The scope note of the E67 Birth gives a clear description of the class and its use:

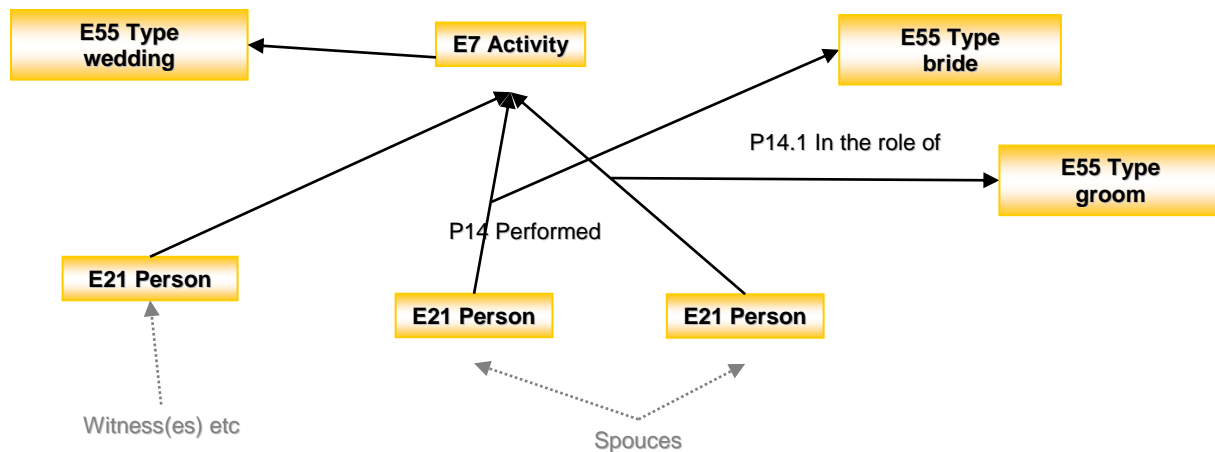
“This class comprises the birth of all human beings. E67 Birth is a biological event focusing on the context of people coming into life. (E63 Beginning of Existence comprises the coming into life of any living being).

Twins, triplets etc. are brought into life by the same E67 Birth event. The introduction of the E67 Birth event as a documentation element allows the description of a range of family relationships in a simple model. Suitable extensions may describe more details and the complexity of motherhood with the intervention of modern medicine. In this model, the biological father is not seen as a necessary participant in the E67 Birth event.”

This is a simple but elegant model which allows one to express a range of family relations: Mother, father, grandmother, siblings, cousins etc. In fact all *biologically* based family (person to person) relations can be modelled. The major drawback of the model is its binding to the biological birth. In the CRM it is not possible to express adoption.

2.2 Family/social relation based on weddings and similar events

The CRM has no specialized classes or properties for modelling family relations based on marriage or similar relations. A standard Western wedding can be model by the use of *E7 Activity* of type “wedding”. The woman and man will be actors and connected to the activity by *P14 carried out by (performed)* appropriately typed by *P14.1 in the role of* as shown in the diagram below.



A CRM diagram for a traditional Western wedding

The wedding diagram can be extended to all kind of wedding-like events. In an information system the formal relation between the spouses has to be deduced by checking whether the two has participated in a wedding event in the role of bride and groom. This model schema corresponds to the birth schema.

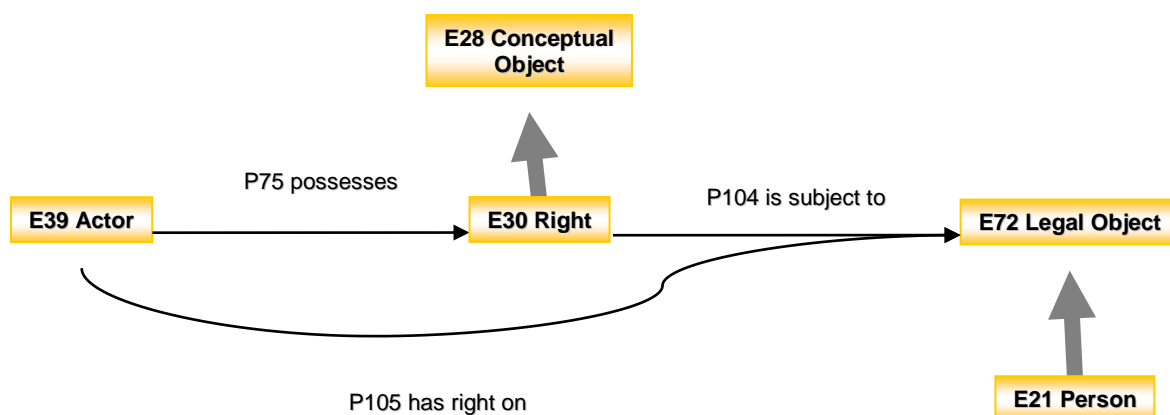
2.3 Summing up

The current version of the CRM has sufficient power to model biologically based family relations and marriages like relations. One may suggest that adoption can be modelled in the same way as marriage, that is, via an *E7 Activity* of type “adoption”. In my opinion this is to stretch the model too far. A child does not participate actively in the adoption event and it is in most cases not present at all.

3 An alternative model for social (family) relations

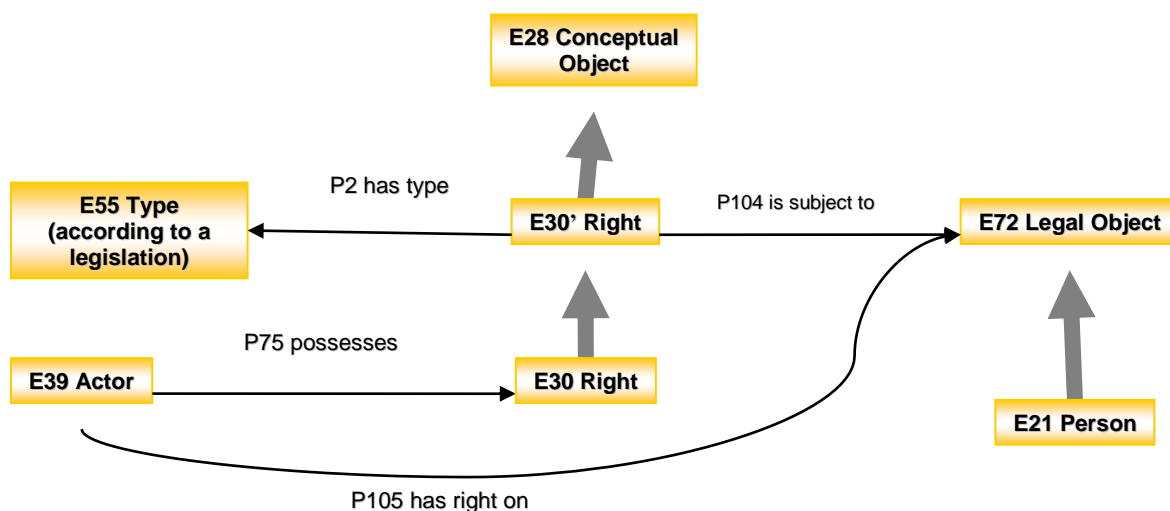
3.1 Rights

A Western wedding creates social and legal relations between persons and can be analysed as a set of separate events, e.g., the religious ceremony and the signing of the marriage contract. The first component can be modelled as an instance of *E7 Activity*. The second component, the signing of the contract, establishes or creates a legal bond. Thus, this component should be modelled by a sub class of the *E63 Beginning of Existence*. This event brings a legal bond into existence. This bond is clearly a conceptual object and should be modelled by a sub class of *E28 Conceptual Object*. The subclass *E30 Right* is a natural candidate but it is currently specialized to rights like copyrights or publication rights and similar rights that can be owned or hold by somebody..



The CRM diagram for Right

The class *E36 Right* and the properties *P75 possesses*, *P104 is subject to (applies to)* and *P105 right held by (has right on)* is not intended to describe matrimonial bonds or adoption rights. The rights created between parents and a child by an adoption are not owned or held by somebody. If we want to model adoption as the creation of a right, then we need a new class *E30' Right* (with a proper class number and a good name) as shown below.



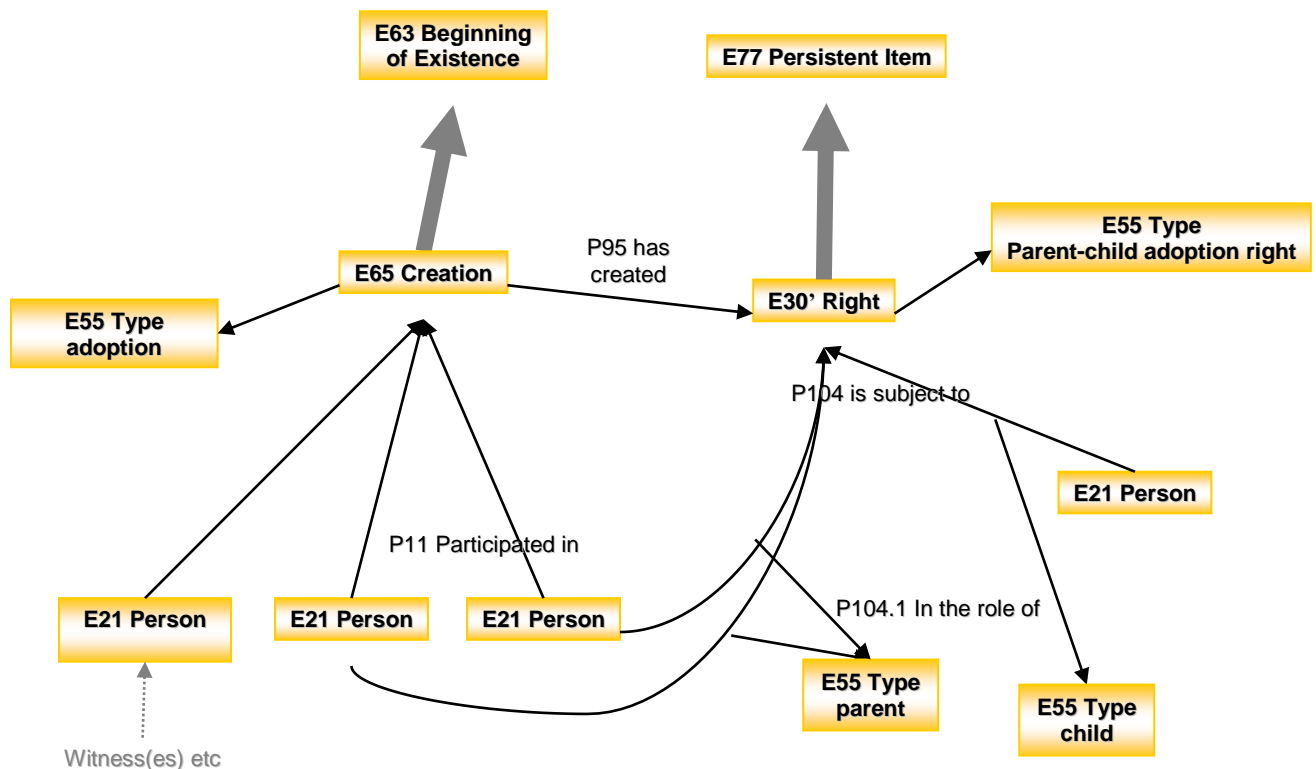
The suggested split of E30 Right into two classes

The type of a right can be used to indicate the law which legitimates the right. The law or the legislation should be modelled on the categorical level. In this model an instance of *E30' Right* corresponds to a n-ary predicate and an instance of *E72* has a specific role in the right according to the given legislation or tradition. Thus a property *P104.1 in the role of* should be introduced.

Not all creations of rights are events performed by somebody. A right can be created by a birth or when something accidentally happens. Thus, it cannot be a subclass of E7 Activity. The signing of a contract creates a right and should be modelled multiple instantiation of the class *E7 Activity* and the class *E63 Beginning of Existence* or a sub class of that class.

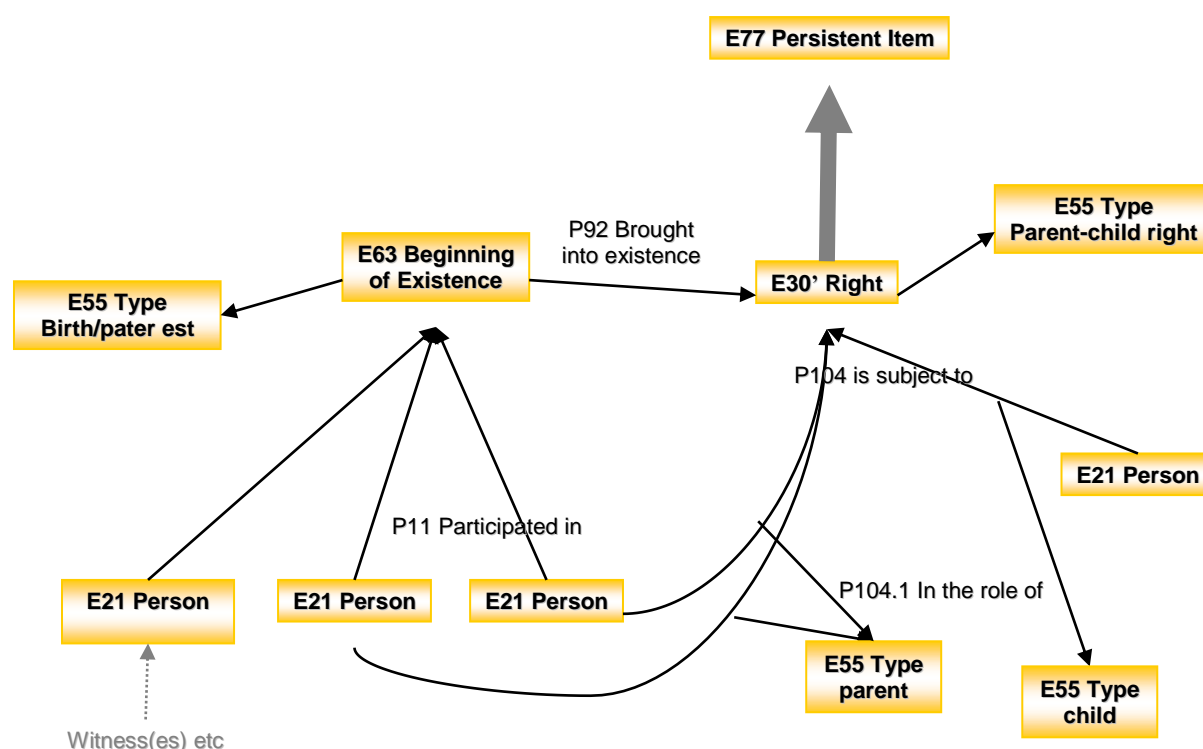
3.2 Relations based on adoption and birth

A adoption agreement or an explicit acceptance of a child as legitimate can be expressed in the diagram below. The *E65 Creation* model can be specialized by introducing sub classes corresponding to specialisations of the class *E30' Right*. I am not sure it is useful.



The diagram for adoption

In the case of the birth of a child where the parents are a married couple in e.g. Norway the parental rights are established/instantiated automatically (pater est rule). In this case, one can use a multiple instantiation of *E67 Birth* and *E63 Beginning of Existence*. The type of the instance of the E65 can be *Birth/Pater est*.

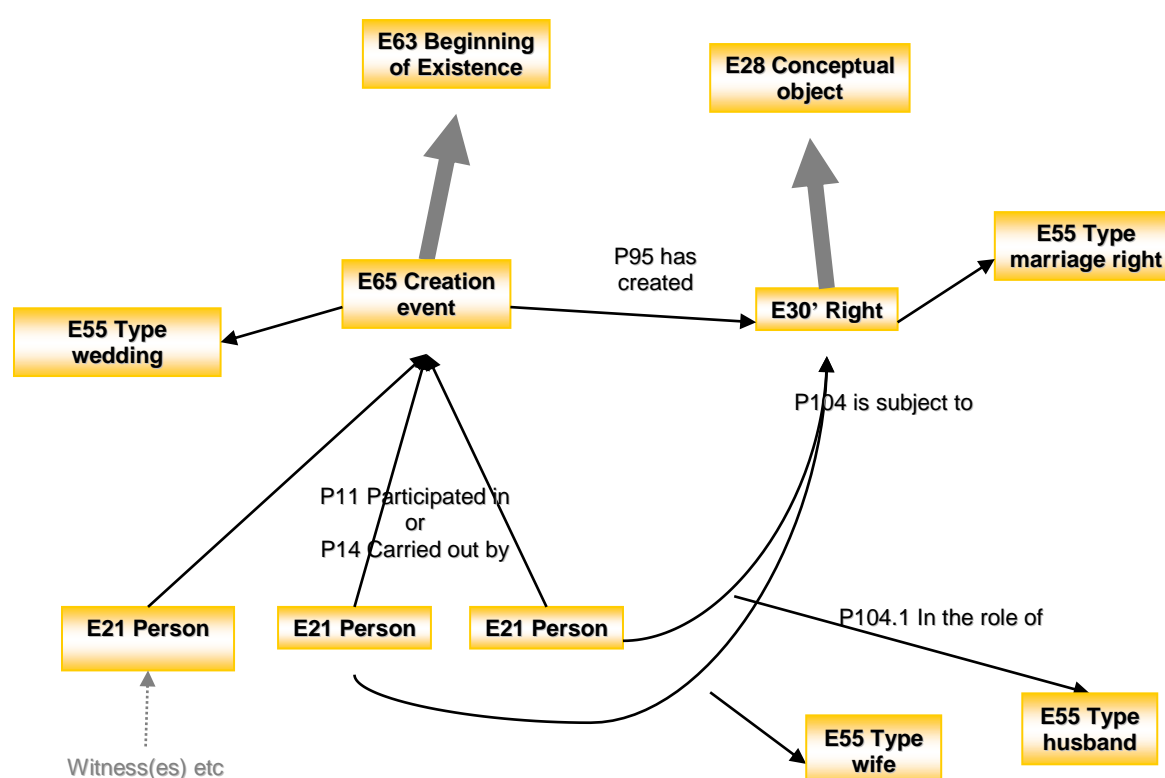


A diagram expressing a creation of a right without any explicit actors.

3.3 Marriage and corresponding relations

A marriage can be a combination of a speech and a signing of a contract resulting in the establishment of a formal relation between two or more persons. In most cultures a marriage is a bilateral relation, even in the case of polygamy. There are separate ‘contracts’ between for example a man and each of his wives. But the model below also opens multilateral relations.

A wedding/registration can be modelled as a adoption/acceptance of a child. From a certain point of view all these events can be seen as the signing of a contract (written or oral). The contract can be between the spouses, their families, the society, God and between parents and the society etc. They have all in common that they produce an agreement or right. Thus we may just extend the model with a *Right creation event* and type the instances. This is perhaps too general and weddings and adoptions can be introduced as subclasses of this class. In that case it can be right to introduce sub properties of *P104 is subject to* as well.



3.4 Relations between persons and families/clans

A marriage may establish relations between one of the spouses and the family or clan of the other. The marriage may also result in the establishment of a nucleolus family. In the latter case one can use multiple instantiation of the marriage event and a group formation event. In the former case the family/clan (a group) will be connected to the person via the right and the person may become a member of the group. Adoption or birth of the child may create corresponding relations between the child and the clans/families of the parents. For example when a child is adopted by a Saami couple, the child will automatically become a member of the Saami nation (census) and receive rights to common land and other resources in Finnmark, the northernmost county of Norway.

There is no class for ‘become a member of a group’ or ‘stop being a member of a group’ in CRM today.

4 A minimal extension of the CRM

4.1 New classes

E30' Right

Subclass of: [E28 Conceptual Object](#)

Scope This class comprises legal rights concerning material and immaterial things or
Note: their derivatives.

Examples:

E30 Right

Subclass of: [E30' Right](#)

Scope This class comprises legal privileges concerning material and immaterial things
Note: or their derivatives which can be owned or possessed by legal bodies

Examples: These include reproduction and property rights.
 * copyright held by ISO on ISO/CD 21127
 * ownership of the "Mona Lisa" by the Louvre

4.2 New properties or adjustments

P104 is subject to (applies to)

Domain: [E72 Legal Object](#)

Range: [E30' Right](#)

Quantification: many to many (0,n:0,n)

Scope This property links a particular E72 Legal Object to the instances of E30 Right to
Note: which it is subject.

Examples: * Beatles back catalogue (E72) is subject to reproduction right on Beatles back
 catalogue (E30)

P104.1 in the role of

Domain: P104

Range: [E55 Type](#)