Ontologies for prosopography CIDOC-CRM

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Agenda

- **Prosopography**
- Event centric modelling
- Models for information integrations
- Modelling relations between actors
- Conclusions
- Thank You

Prosopography

Prosopography is the investigation of the common background characteristics of a group of actors in history by means of a collective study of their lives.

Lawrence Stone 1971

Prosopography

- Prosopography is not biography.
- Data sets about persons have for many years been used in multivariable statistical analysis.
  - The purpose is not to reconstruct the life of an individual, but to detect patterns in a group.
- A new trend is prosopography network analysis
  - networks of persons where the edges in the network are relations between the persons (i.e. what is found in modern social media).

Prosopography – areas for conceptual models (ontologies)

- Source
  - The physical source, inscriptions, manuscripts, books, census
- Provenience
  - The path from source to digital format, transcriptions, conversions of data sets
- Information in the source data
  - persons, background, relatives, income, profession, relations to other persons etc.

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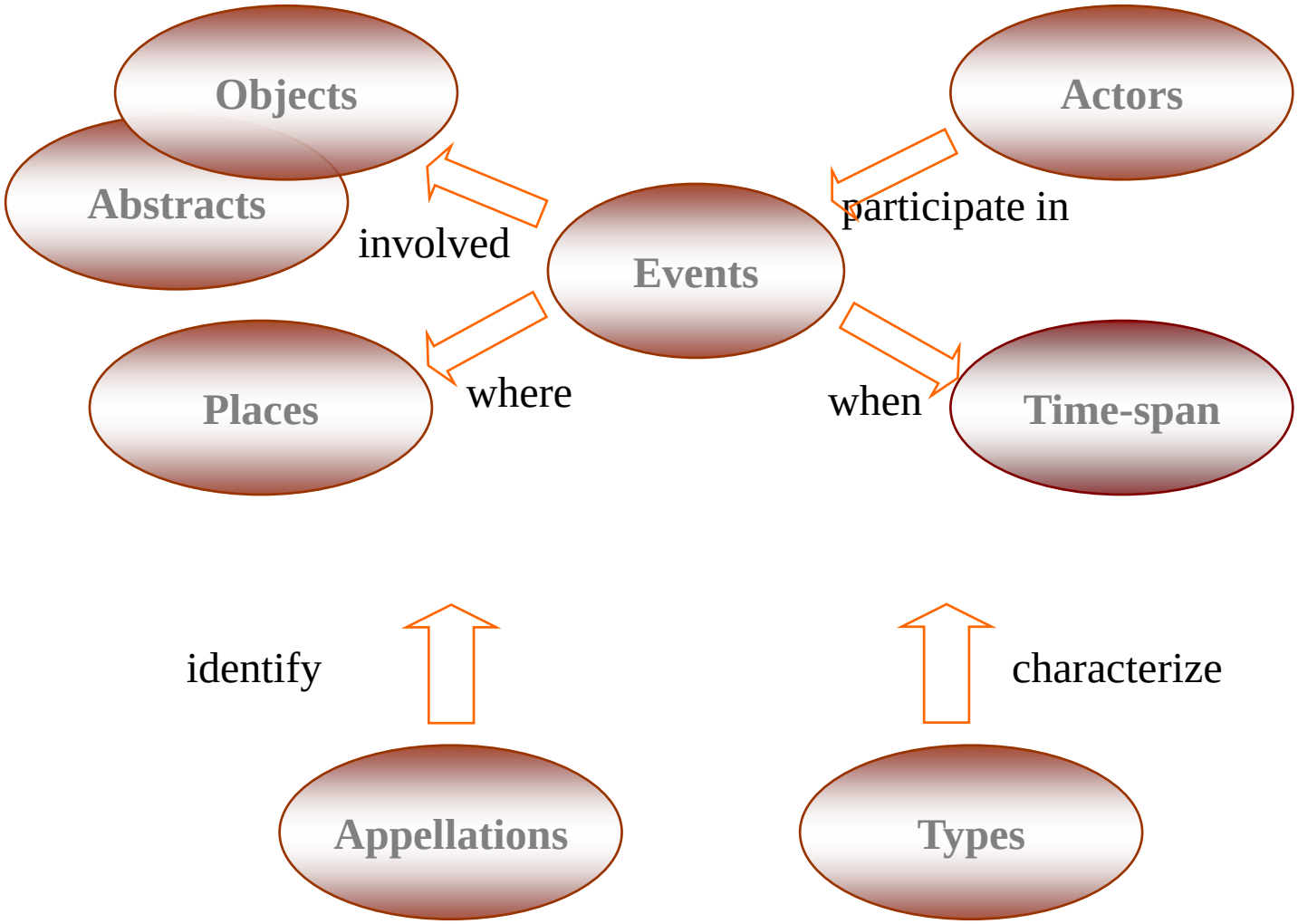
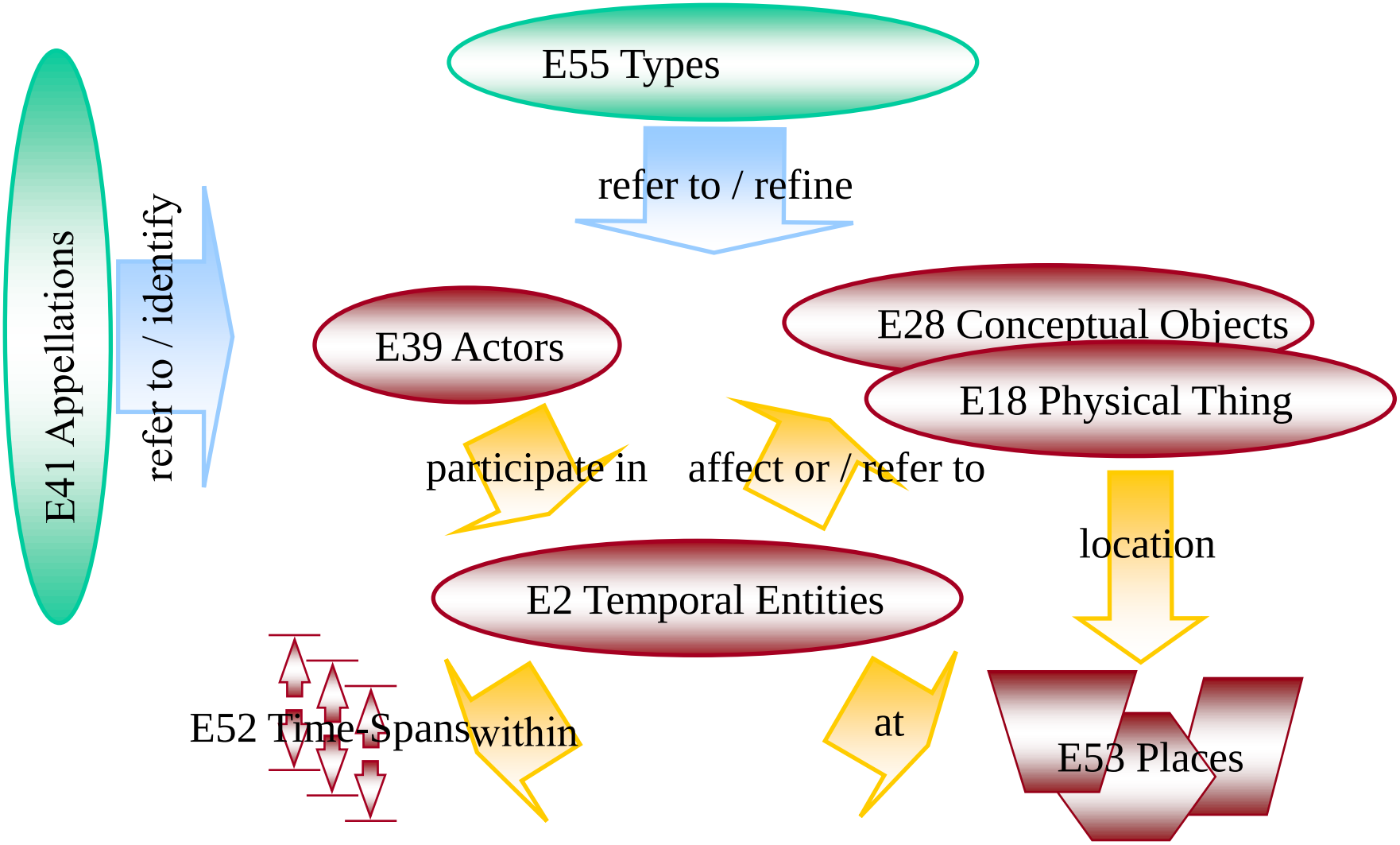
Event oriented analysis and model:



The CIDOC CRM

Top-level classes useful for integration



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Models for information integration

- CIDOC CRM
  - Developed by ICOM-CIDOC 2001 ->
  - Intellectual guide for information analysis
  - Formal ontology, object oriented definition
  - Expressed in RDF/OWL
  - Extensions for archaeology, scientific, observation, spatiotemporal reasoning
  - Ongoing work on a reference model of data provision and aggregation

Models for information integration

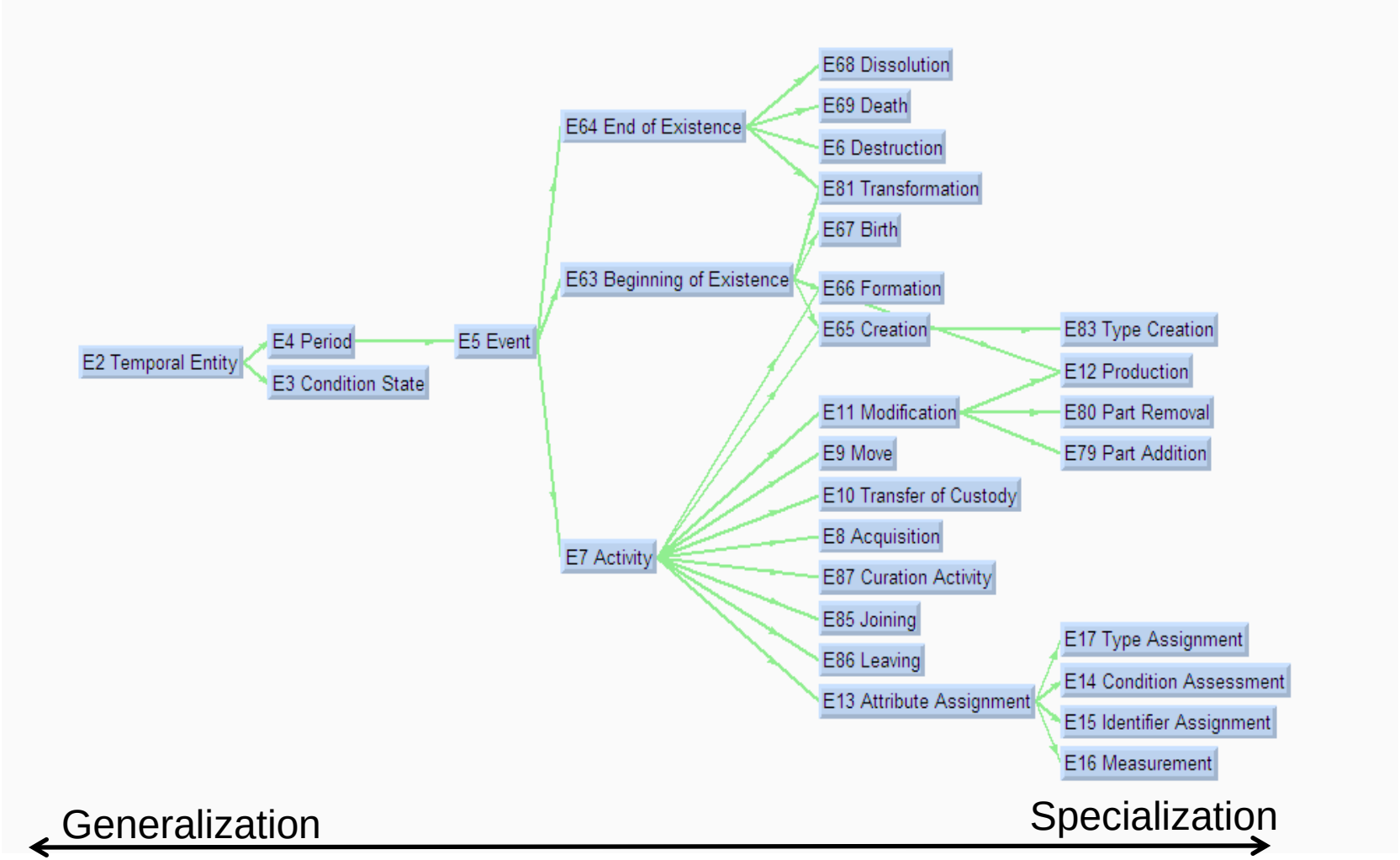
- FRBRoo
  - Developed jointly by IFLA FRBR revision group and ICOM-CIDOC 2003 ->
  - Harmonized with CIDOC CRM
  - Formal ontology, object oriented definition
  - Expressed in RDF/OWL
  - Extension PRESSoo for serials

The CIDOC CRM
The hierarchy for data integration

- Examples from the formal definition
  - The E2 Temporal Entity Hierarchy
  - The Participation Properties
  - The E70 Thing Hierarchy

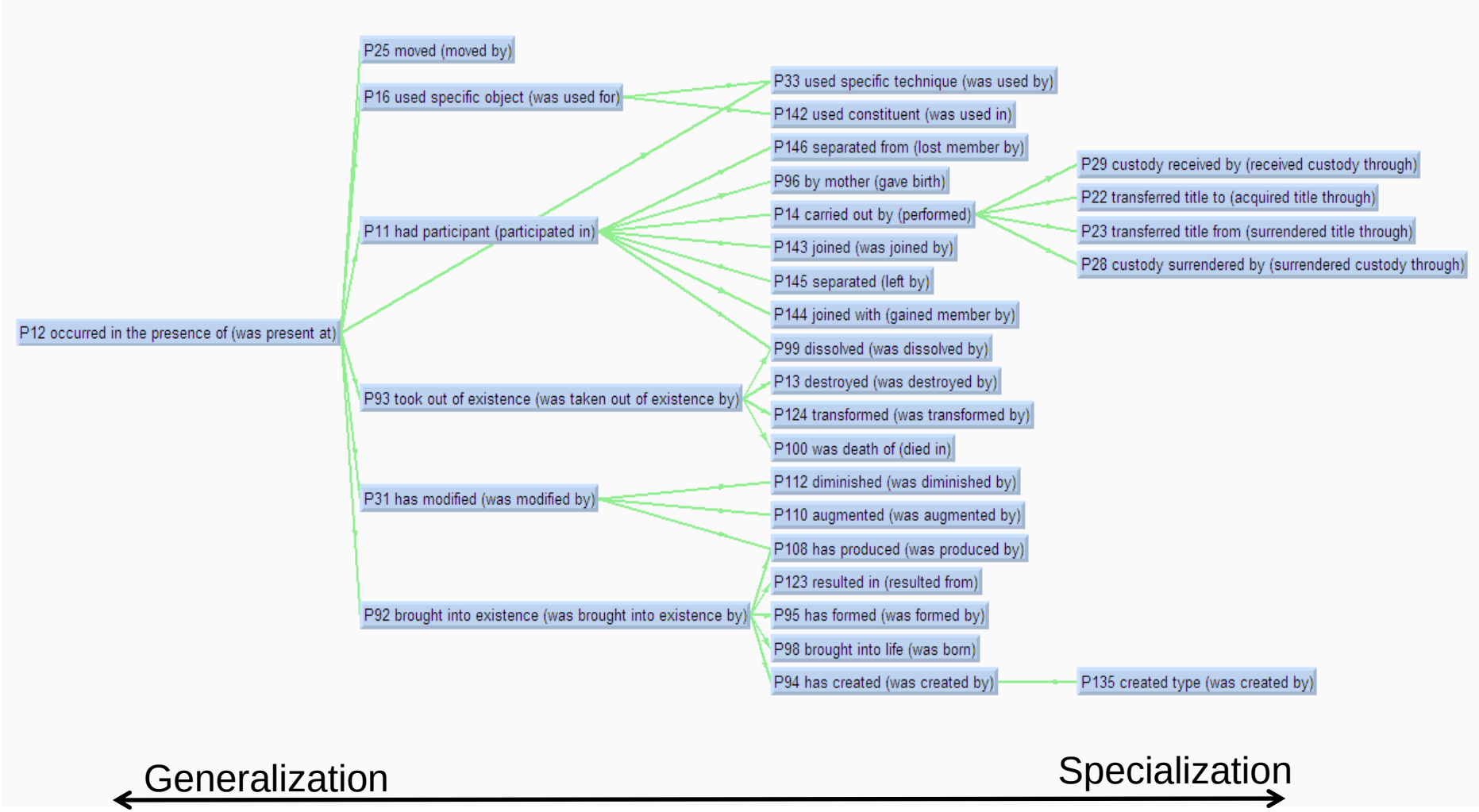
The CIDOC CRM

The E2 Temporal Entity Hierarchy

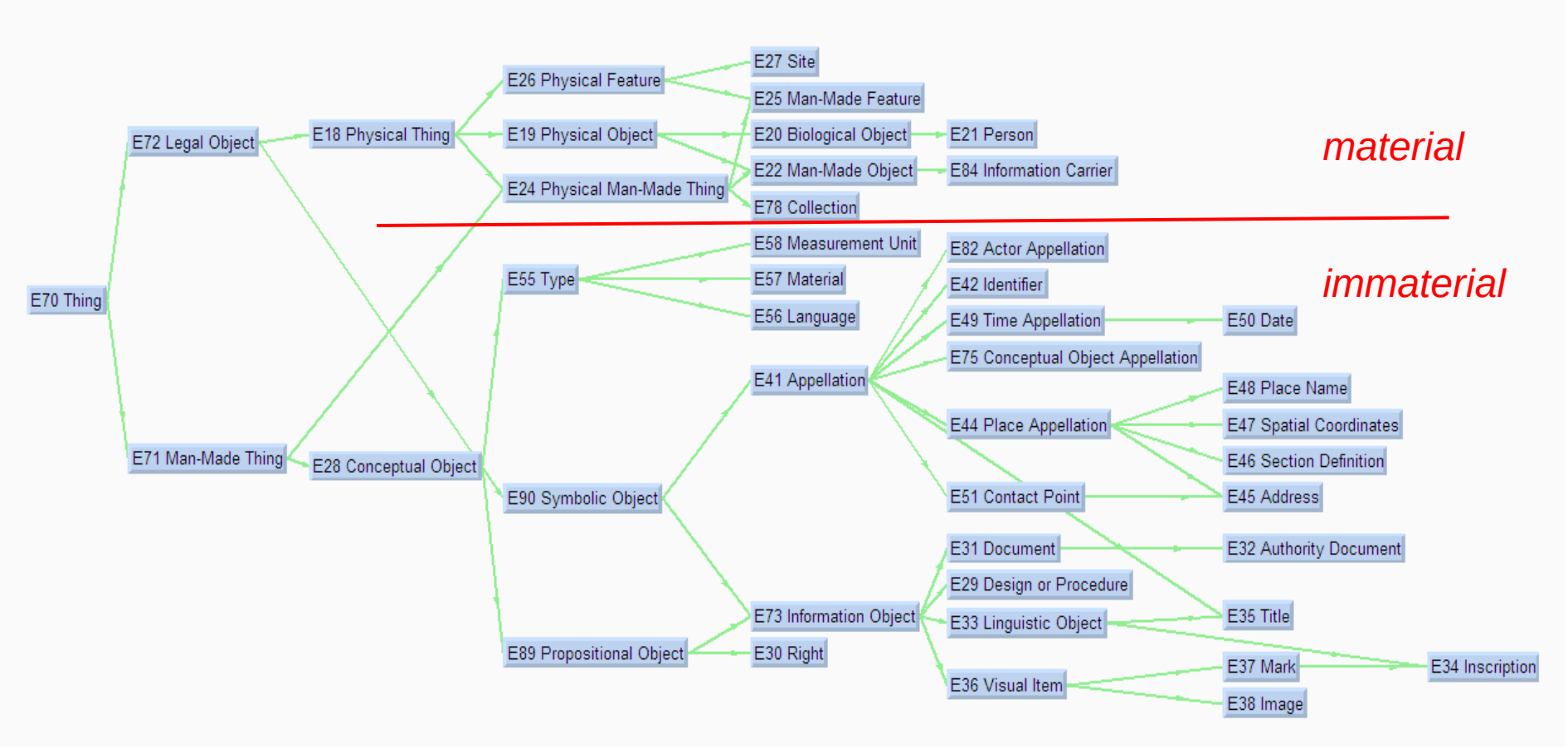


The CIDOC CRM

The Participation Properties



The CIDOC CRM
E70 Thing



Generalization ⟷ Specialization

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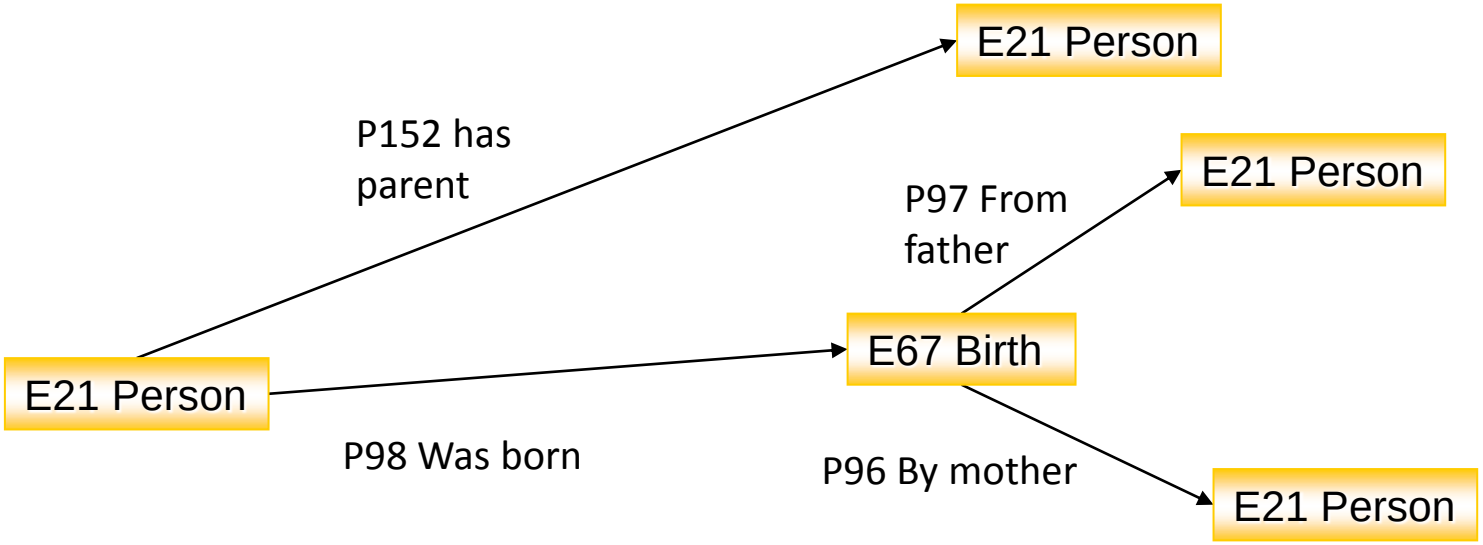
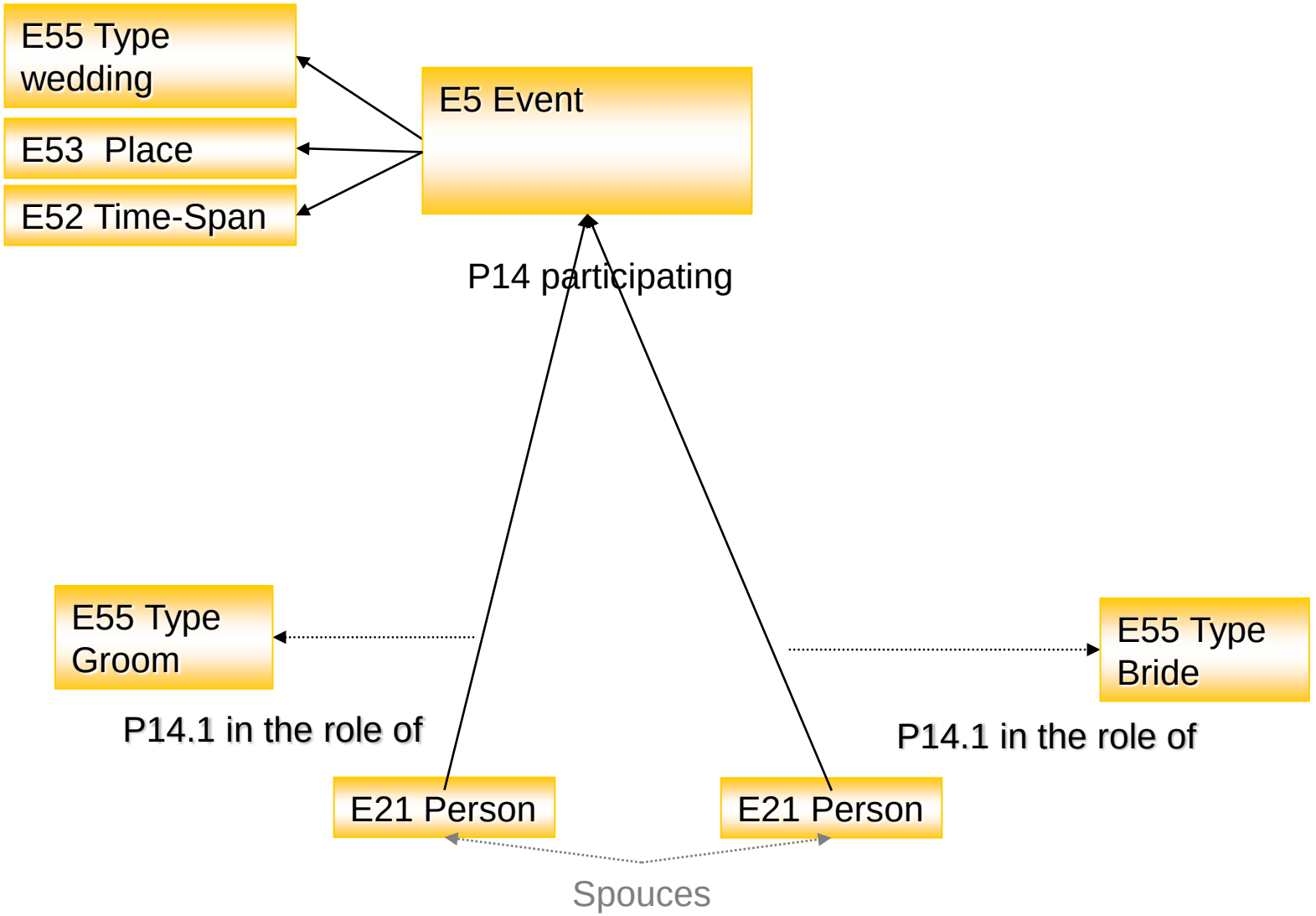
Relations between persons

- SNAP (Standards for Networking Ancient Prosopographies, http://snapdrgn.net/)
  - mentions at least 65 relations
- CIDOC-CRM
  - Only one explicit relation between persons
  - Mother, father, siblings etc. are modelled through events
  - Contains a general model-schema for relations between actors/persons
  - Kinds of relations are expressed via types, e.g. connected vocabularies in SKOS

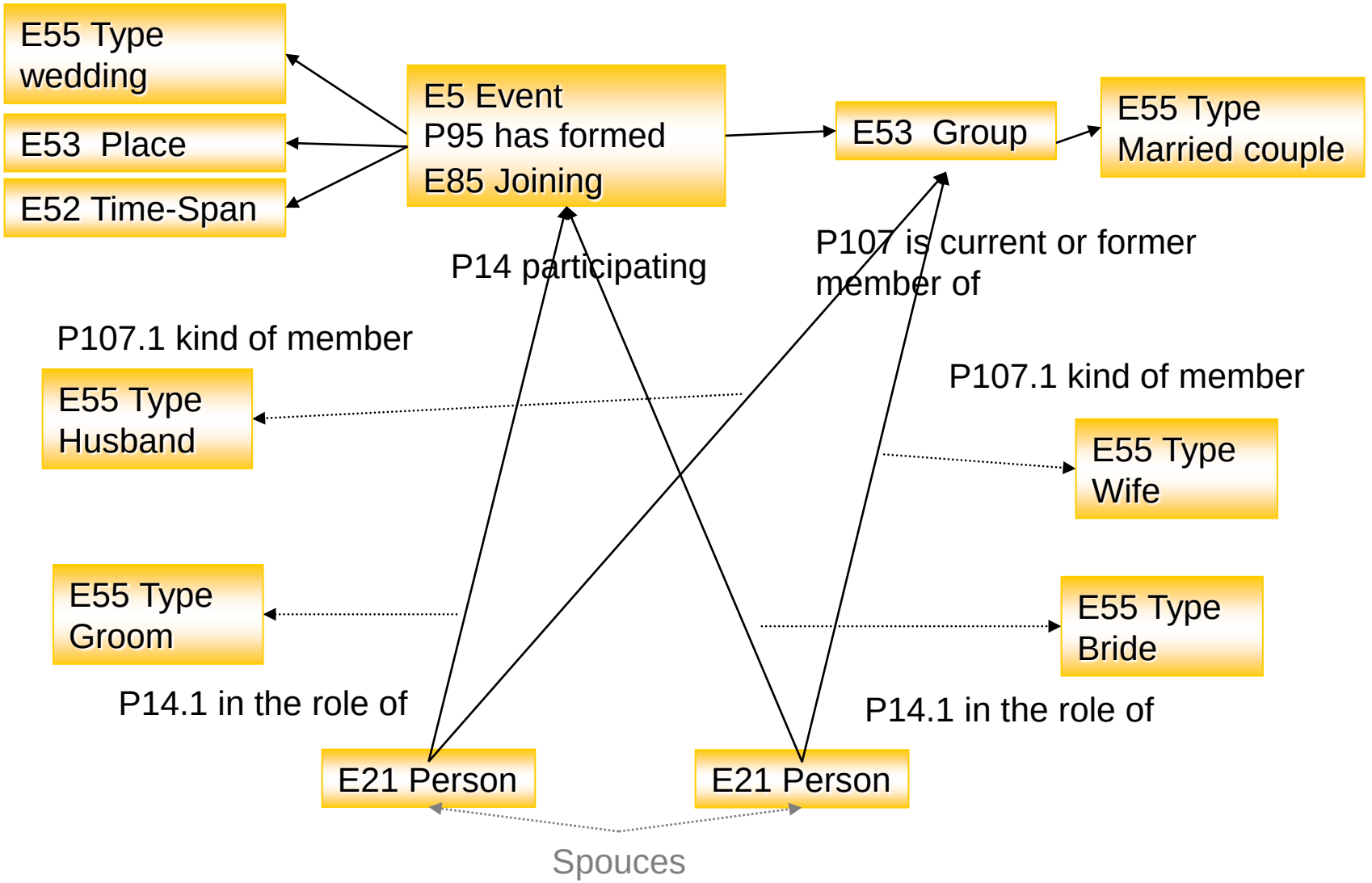
Relation parent – child



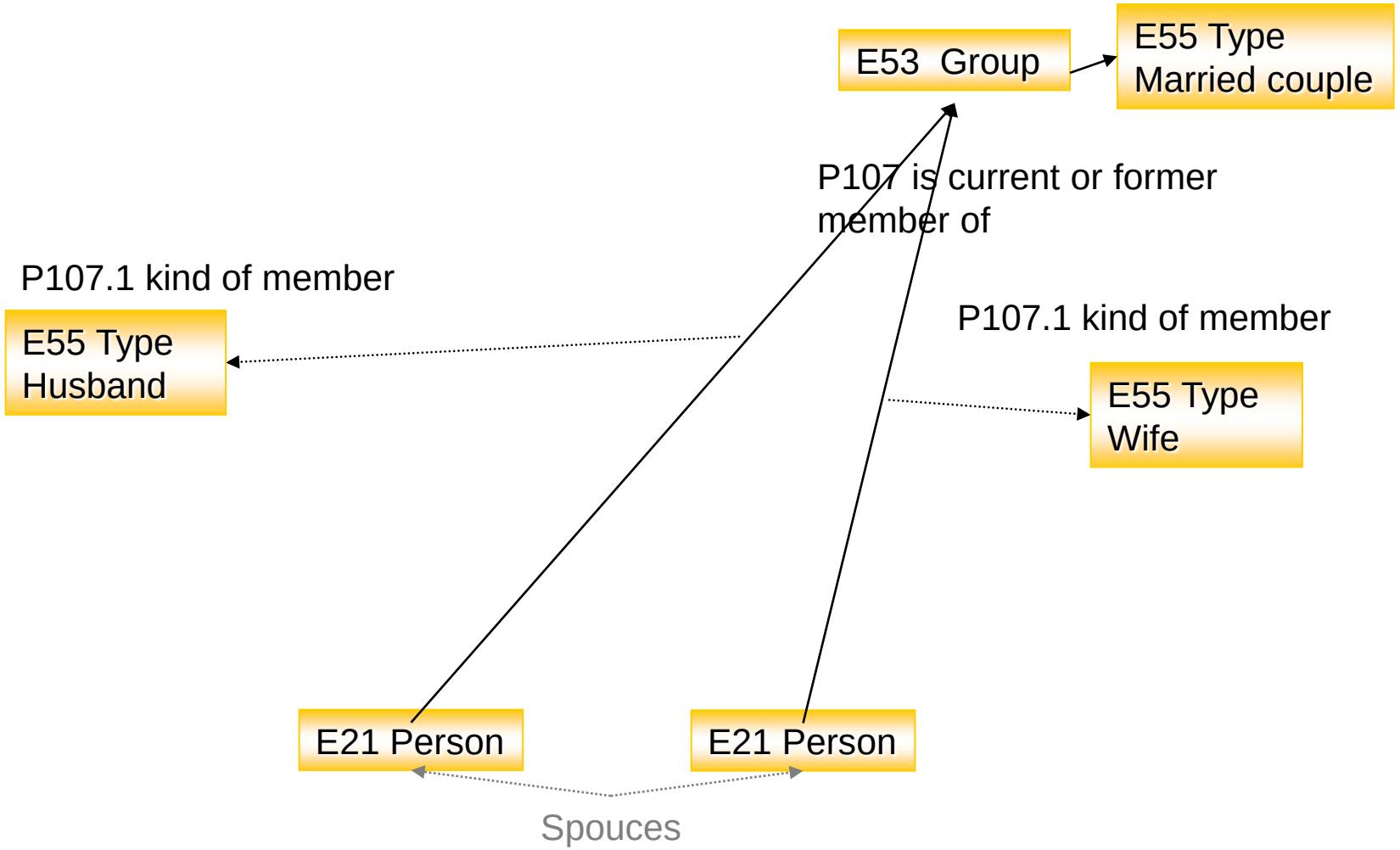
Relations between persons: marriage



Relations between persons: marriage



Relations between persons: marriage
without events



Relations between of persons/actors

- A relation is modelled as a group
- Related actors are members
- In asymmetric relations, use typed properties
- Events express changes over time
  - establishing, joining, leaving, dissolving
- Information with no dating, no place
  - shortcuts from actors to group

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Summing up

- CIDOC CRM
- Formal ontology – supports deduction systems e.g. investigation databases
- Can be expressed in RDF/OWL
- Coherently integrates information at varying degrees of detail
- Designed for mediation of cultural heritage information
- Enables story telling / provenance of cultural objects and persons

Summing up

- Information integration
  - View the contextual information as first class objects
  - Add provenance to your database system
  - Keep track of the events your objects has been involved in
  - Link your objects to accepted authorities/vocabularies

Thank You

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  - CIDOC-CRM and FRBRoo
    - More information at: cidoc-crm.org