

Historisch- Kulturwissenschaftliche Informationsverarbeitung Woche 6

CIDOC-CRM



Cultural heritage reality

Heterogeneous sources of cultural heritage information

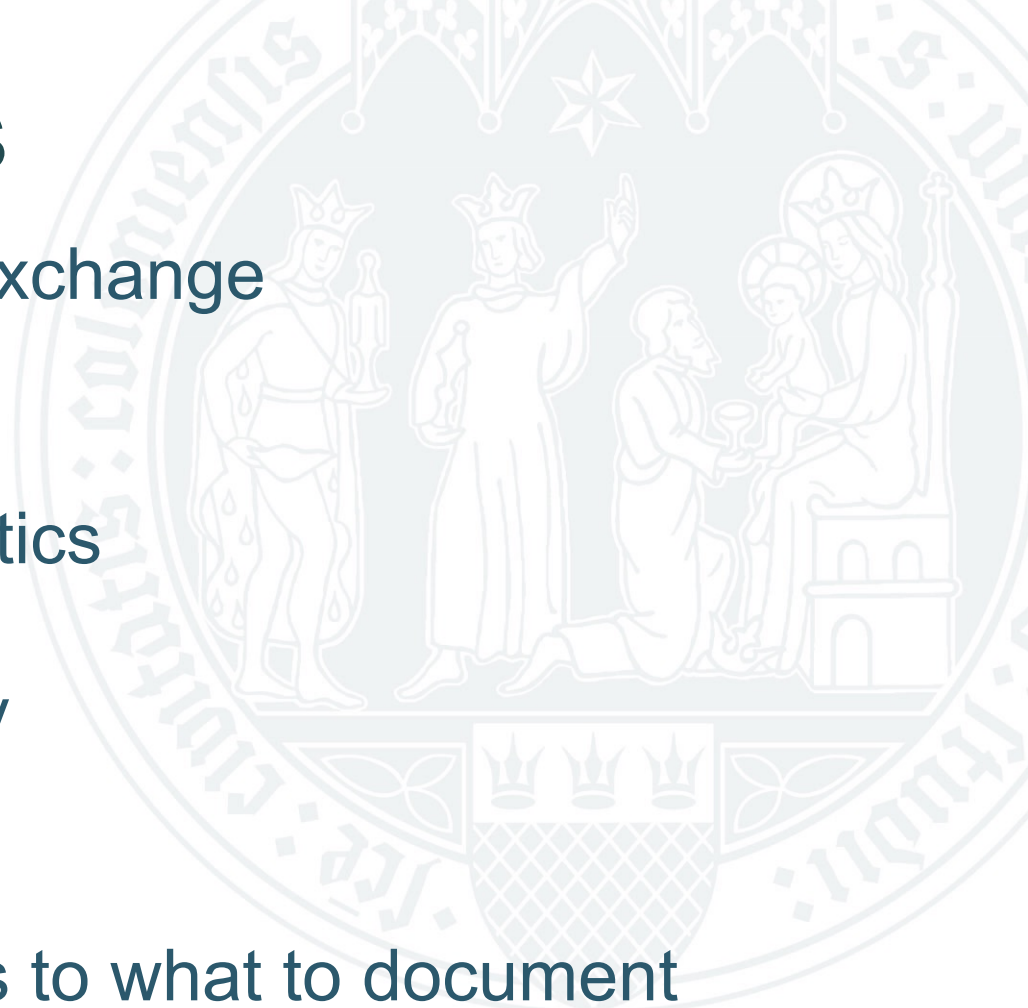
CRM abstract and extensible
→ abstraction

Underlying semantics



CRM objectives

- Enable information exchange
- Enable integration
- Define (and clarify)
 - underlying semantics
 - structures
 - formal ontology
 - no terminology
 - E55 Type
 - not prescriptive as to what to document
 - but how to document it



CRM objectives

- Enable semantic interoperability
- Not implementation-specific
- Functionalities
 - inform developers
 - common language
 - domain experts + IT developers (~ UML)
 - common formal language
 - associative queries (pattern matching)
 - support NLP
 - not replacing natural language



CRM scope

The curated knowledge of museums



Intended scope

- Broad definition of general application principles
- Scientific documentation, sufficient for research
- Museum collections (ICOM definition)
- Contextual information
- MLA harmonisation → exchange
- Institution management outside scope



Practical scope

- Specific documentation standards and practices
 - restricted by the limitations of the intended scope
- Current reference standards for museum documentation
 - CRM scope the union of these
 - for data correctly encoded in these: CRM-compatible expressions conveying the same meaning



Terms

- Class
- Subclass
- Superclass
- Intension
- Extension
- Scope note
- Instance
- Universal

- Property
- Inverse of
- Subproperty
- Superproperty
- *Property quantifiers*
- Query containment
- Domain
- Range



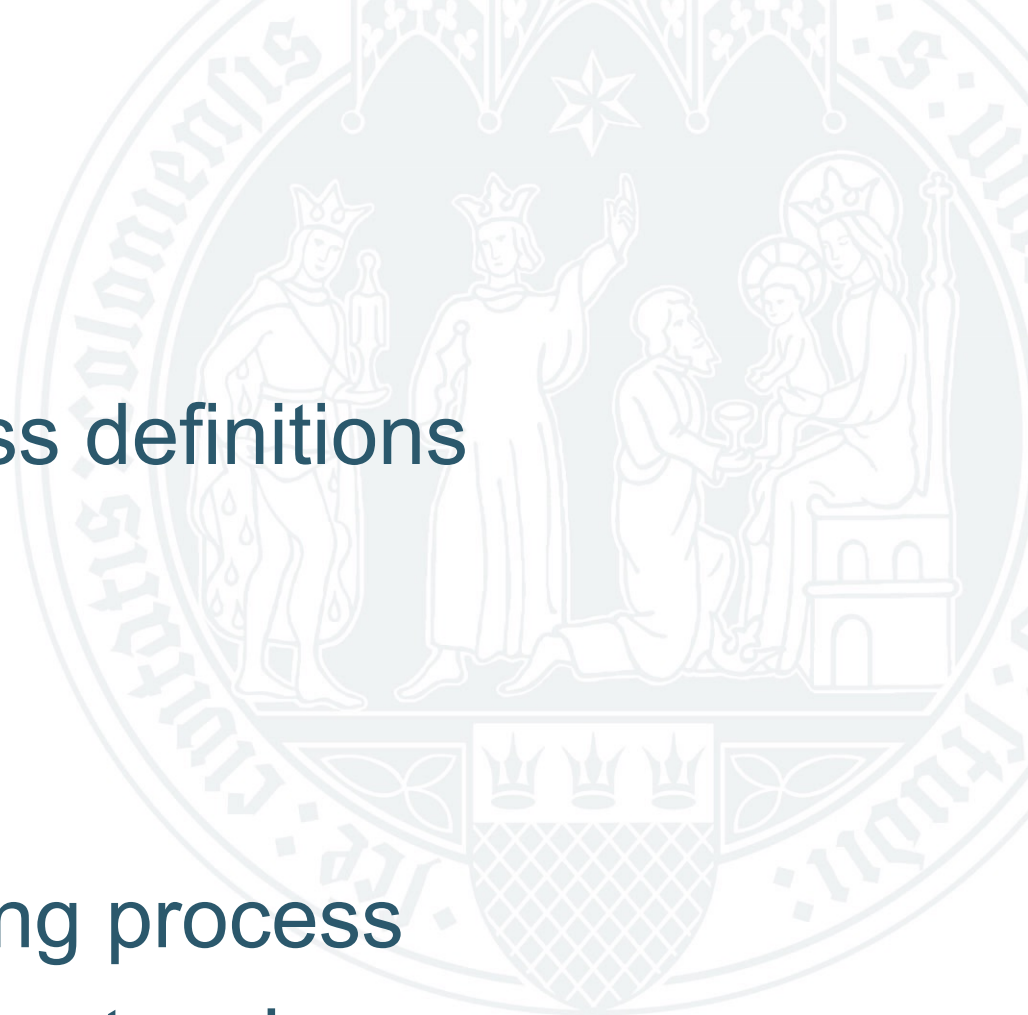
Terms

- Inheritance
 - strict
 - multiple
- *Multiple instantiation*
- Endurant
- Perdurant
- Monotonic reasoning
 - Conflict-free merging
- Primitive concepts
- *Open world*



Terms

- Complement
 - not used in class definitions
- Interoperability
 - syntactic
 - *semantic*
- Knowledge creating process
- Compatibility and extensions



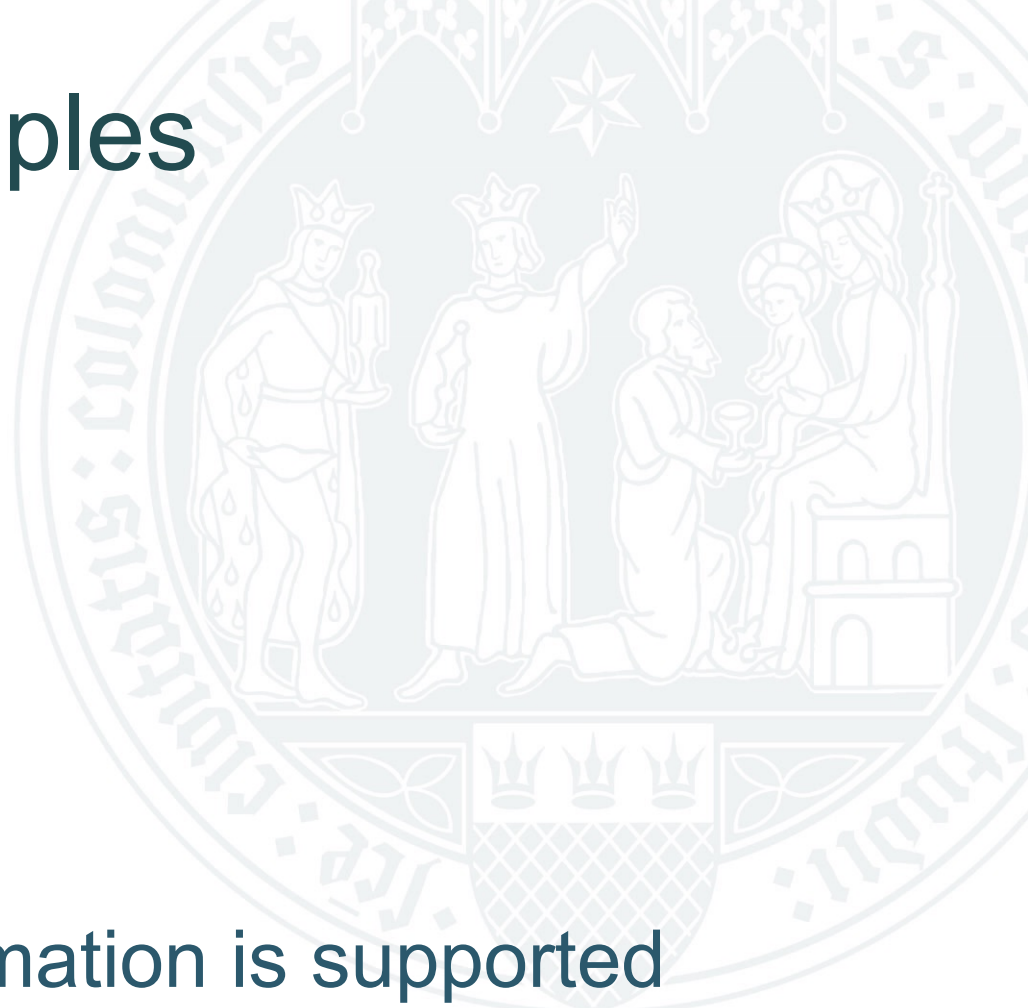
Formal ontology

- Nicola Guarino
- material reality (realism)
 - for practical reasons
- observer independence
- no position on spirituality
- King Arthur
- controlled language to talk about particulars



Modelling principles

- Minimality
- Shortcuts
- Monotonicity
- Disjointness
- Transitivity
- Event-centric
- Property-driven
- Unstructured information is supported
 - outside of conformance considerations



Modelling principles

- Statements that represent knowledge
 - must be identified by humans
 - appellations, reference functions
 - formal semantic vs. human understanding
- Authority
 - who is responsible for the statements?
 - co-reference



Other concepts

- Types
 - gives a place to put type systems
 - does not define terminology
- Fuzzy time
 - generalised Allen operators
- Logical expression
 - first order logic

