The STructured Assertion Record (STAR) Model
for Event-based Representation of Historical Information

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The Christian world in the 11th century…?
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- “Here [north-eastern France in the mid-11th c.], as in the rest of Europe, even nobles could expect to live their entire lives without travelling more than a hundred kilometres from home.”
  — Thomas Asbridge, 2004

- “…the quickening of long-distance trading and written communications in the course of the long eleventh century; ever more frequent face-to-face encounters of western Christians with easterners and Muslims and also, in Scandinavia and Rus, with pagans…”
  — Jonathan Shepard, 2017
Digital data for the 11th century: help or hindrance?
Digital data for the 11th century: help or hindrance?
Digital data: can we quantify certainty?

Fig. 2 Diagram of reliability assessment using the new CRM classes

E20 Biological Object "skeleton Z001"
- P2 has type
- E55 Type "male"
- P140 was attributed by
- E13 Type Assignment
  - T1 was assessed as regards reliability by
  - Z1 Reliability Assessment
    - T2 assessed as reliability
    - Z2 Reliability
    - P90 has value
    - E60 Number "0.7"


Digital data: when we are unquantifiably unsure

- Multiple perspectives: when contemporaries disagreed
- Conflicting certainties: when modern scholars disagree
- How to represent these digitally?
2021–2026: ERC project RELEVEN

People and Movement

Place and Space

Textual Culture

Re-evaluating the Eleventh Century!
2021–2026: ERC project RELEVEN

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https://releven.univie.ac.at/
What historians want to know when they encounter “facts”: who is saying this (authority), and on what basis (source/provenance)?

This is how we establish that information can (or can’t) be relied upon.
The STAR model (Structured Assertion Record)

SUBJECT: Hervé Frangopoulos
PREDICATE: died (was executed) in
OBJECT: 1063–1064 (512 of the Armenian era)

Who claims this? (Authority)
On what grounds? (Provenance)
The STAR model (Structured Assertion Record)

Extending the generic LOD model
**STAR model and existing standards**

CIDOC-CRM versions >= 7.1.2
- All defined properties (predicates) can be instantiated as E55 Type
- Assertions are E13 Attribute Assignments

LRMoo versions >= 0.9
- Representation of written source material
- Representation of database entries

SDHSS-based ontologies
- Representation of prosopographical information not covered in CIDOC-CRM
The STAR model (Structured Assertion Record)

P4
has time-span

E69 Death of Frangopoulos

E52 Time-Span c. 1063

Assertion

E31 Document Chronicle of ME

E21 Person Matthew of Edessa
The STAR model (Structured Assertion Record)
Aggregating assertions into viewpoints

- E69 Death
- E13 Attribute Assignment
- E34 Inscription Seal #404
- E21 Person Werner Seibt
- P4 has time span after Aug 1071
- E52 Timespan
Aggregating assertions into viewpoints

Viewpoint

E21 Person
Werner Seibt

A

Viewpoint

E21 Person
Matthew of Edessa

A

A

A
Aggregating assertions into viewpoints
On whose authority?!

- “Matthew of Edessa writes that the emperor had Frangopoulos executed in 1063/64”
- “Dédéyan concludes from the text of Matthew’s Chronicle that Frangopoulos was executed in 1063/64”
- “Seibt understands Matthew’s Chronicle to contain the information that Frangopoulos was executed in 1063/64” (but Seibt concludes differently from other evidence)
- “Andrews understands Matthew’s Chronicle to contain the information that Frangopoulos was executed sometime between 1072–1078”

These are different statements!
On whose authority?!

- Primary written sources: can the author of a text be an authority in the database?
- Secondary sources: can we take it at face value if a scholar today refers to a primary source to make a claim, or is this a different authority?
- Material sources: where is the line between “just reading what it says” and complex interpretation?
- Common knowledge: on whose authority, exactly, do we have it that Apospharios the slave was male? Do we need an authority statement for this?
What constitutes a source?

- Material items: easy to represent in CIDOC-CRM, also as assertions
  - PBW concept of “boulloterion” for seals
  - Decipherment / interpretation of the text
  - Decipherment / interpretation of the image

- Textual sources: use of FRBRoo/LRMoo to represent Expressions
  - Can deal with DB entries, passages from texts, etc.
  - Structure to indicate that PBW-derived material is adapted from the relevant factoids
Authority and source for material evidence

- E22 Human-Made Obj. Seal BN,S 12
- E13 Attribute Assignment
- P128 carries
- E33 Ling. Object Catalogue entry

- E13 Attribute Assignment
- C13 Social Role Emb. Magistros
- E21 Person Catalogue author

- SP26 is embodied by
- E13 Attribute Assignment
- E34 Inscription Seal legend
- E21 Person Hervé Frangopoulos

- E21 Person Michael Jeffreys
Authority and source for textual evidence

- **F2 Expression** fpo:Factoid
  - Factoid #224133
- **F1 Work** Synopsis historikon
- **E21 Person** Ioannes Skylitzes
- **E33 Ling. Object** SH 485.52
- **E18 Physical Thing** House at Dagarabe
- **E21 Person** Hervé Frangopoulos
- **E13 Attribute Assignment**
- **P51 has...owner**

Relationships:
- **R76 is derivative of**
- **P70 documents**
- **(Authorship)**
- **(Comes from)**
Prosopography in the STAR model
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- Uses SDHSS (Semantic Data for the Humanities and Social Sciences) ontologies as a base
- Everything is an event! (or at least, a “space-time volume”)
  - The state of a person holding a rank or a dignity
  - The state of two people being in a kinship relation
  - The state of a person knowing a skill, such as how to speak/write a language
- Indisputable events (birth, death) are linked only once to a person; assertions can be about when/where the event happened. Avoids redundancy
- Everything else requires a sourced assertion that the event involved the person in question
Brainstorming: a “locography”
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- More than a gazetteer!
- Some aspects of place are very easy to assert with existing ontologies
  - Where was it physically located?
  - What type of place?
  - What other place(s) was it a part of?
- Other aspects are trickier
  - What were the languages / culture of a place?
  - How do we express possession or dedication of a place?
  - How do we express cultural production in a place?
- Physical environment (easy/solved) vs. lived environment (trickier)
Vocabularies for a locography

- As physical and natural phenomena:
  GIS concepts, CIDOC-CRM and CRMgeo

- As sites of production, locations of events:
  Event-based ontologies, including CIDOC-CRM and SDHSS

- As sources of power, influence, or cultural memory:
  Here we have a gap in the ontology!
Brainstorming: text as assertions
Brainstorming: text as assertions

- Tracing interactions
  - People and texts: authorship, transmission, mentions
  - Places and texts: origin, transmission, mentions
  - Texts and other texts: sources, borrowings, manuscript colocations

- Interfaces between XML and LOD
  - LRMoo as a base ontology for the assertions
  - Annotations pointing into XML documents?
  - We are here to pick up some ideas from you!
Thank you for your attention!