Temporal Knowledge Representation and Exploitation for the Henri Poincaré (1854-1912) Correspondence Corpus

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A historical corpus
- Composed of around 2200 letters
- Important knowledge base:
  - Scientific content
  - Administrations and learned societies
  - Social, political and cultural context
- Semantic Web technologies used to represent and to exploit corpus data (RDF, RDFS, SPARQL) [1]

Examples of facts that require a temporal extent
- Student at the École polytechnique from 1873 to 1875
- Member of the French Academy of Sciences from 1887
- Lived in Paris from 1881 to 1912
- etc.

How to add a temporal extent to facts represented using the RDF model? How to exploit this newly formed knowledge?

A model based on n-ary representations [2]

OWL-Time ontology and reasoning process
OWL-Time provides specific predicates to support, or to make explicit the results of, reasoning over the order or sequence of temporal entities [3].

A system based on custom inference rules has been set up to automatically enrich the corpus knowledge base.

Example of graph with inferred relations

References