



→ EDM Case Study: The Polymath Virtual Library and EDM

1. Bibliographical approach



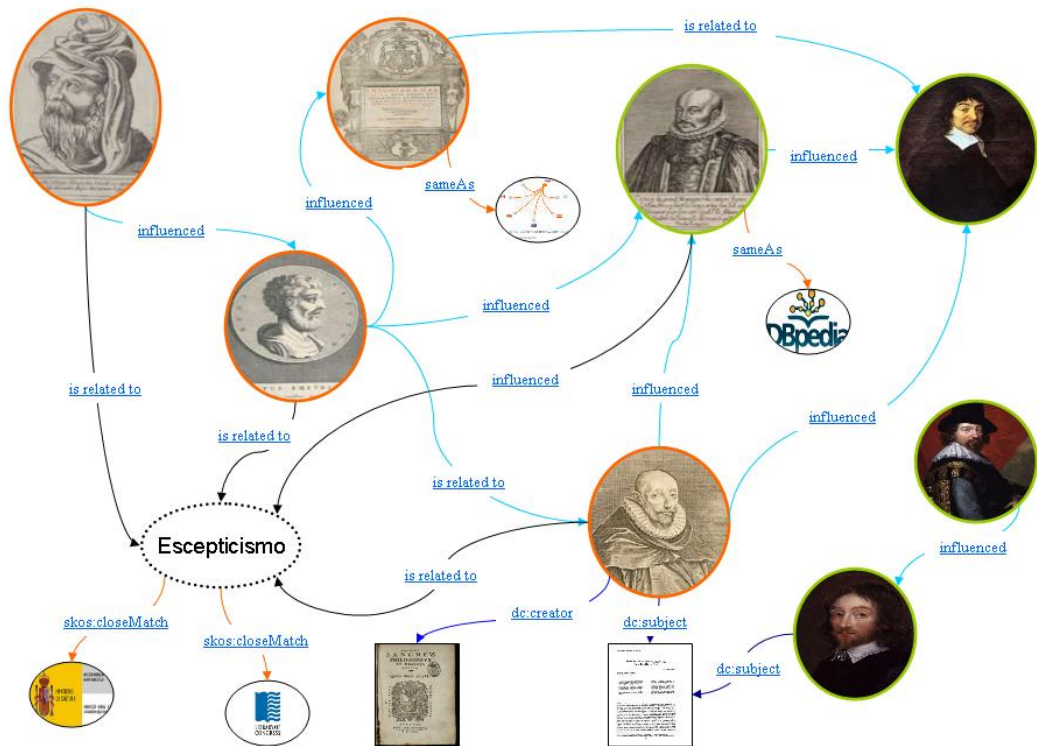
The [Polymath Virtual Library](#)^[1] aims to bring together the works of the most important Hispanic polymaths and to establish semantic relationships between them, expressing the different schools of thought, from Seneca to Octavio Paz in Hispania ^[2]. The aim is to bring together information, data, digital texts and web resources about Spanish, Hispano-American, Brazilian and Portuguese polymaths from all times.

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The examples used in this case study illustrate, for instance how the author Francisco Sánchez, the Skeptic (1550-1623) was influenced by the authors [Pyrrho](#) and [Sextus Empiricus](#), through the translation into latin of the *Outlines of Pyrrhonism* by Sextus Empiricus in 1562.

¹ See the [Polymath use case](#) as part of the W3C Library Linked Data incubator group report.

² The Iberian Peninsula is now divided between Spain and Portugal.



An author network (click for more details)

The [Polymath Virtual Library](#) decided to use the resources made available by Europeana through its API and by the [Linked Open Data cloud](#). The semantic relationships between authors and their works have been described using the [Europeana Data Model](#), in addition to other schemas.

Europeana has become a source of basic information for European culture and the information that it provides will more useful if it is semantically enriched and linked.

2. Technical approach

The general process performed by the Polymath Virtual Library was as follows:

1. Data retrieved from relevant sources of information in different formats
2. Further processing of author's data for semantic enrichment
3. Links made to external sources
4. Generation of resources in different formats, including EDM

The definition of author resources



The backbone of the system is ‘authors’ (not the name, but the person). For each author, a MARC21/RDA authority record is made and is enriched with biographical data. Specific attributes are categorised to enhance relationships and navigability (profession, occupation, gender, membership, birth and death dates, places of birth and death and languages or script used). In that way, each authority record aggregates information from multiple sources. Also the digital versions of works are described for each author, following MARC/RDA. Each author is related to other authors (translators, publishers, commentators, etc.) as a way of following the textual transmission of their work using author-title authority records for works, expressions and manifestations. The creation of these authority records is made through different trusted sources (authority files, encyclopaedias, biographical dictionaries, etc.).

Semantic enrichment of the data through the Linked Open Data cloud

Since 2011 the [Fundación Ignacio Larramendi](#) developed different tools to semi-automatically obtain data from Linked Open Data sources. Until now, data and URIs have been obtained through automatic queries against SRU/OpenSearch servers and SPARQL Endpoint or through files available in LOD. Recently, links to other resources is being done semi-automatically using sources like DBpedia, VIAF, GeoLinkedData (from the Instituto Geográfico Nacional) and GeoNames, or to other value vocabularies available in id.loc.gov and most recently to [FAST](#). One of the most important links is made to [Lista de Encabezamientos de Materia](#) from the Spanish Ministry of Education, Culture and Sports which has the advantage of its ‘skos:closMatch’ mapping relations to LCSH, Rameau and SWD.

In addition, the Polymath Virtual Library was interested in expressing relations between people or between people and institutions in a more specific way. In fact, influence properties defined in DBpedia Ontology (<http://dbpedia.org/ontology/influenced> and <http://dbpedia.org/ontology/influencedBy>) are more precise than generic edm:isRelatedTo. We worked on implementing a set of properties for all relations relevant to the Polymath Virtual Library of Polygraph, reused from different vocabularies and metadata element sets, basically [DBPedia](#), [FRAD](#), [FRBR](#) and [RDA Elements](#) or [RDA Relationships](#).

Semantic enrichment of the data with Europeana resources

The librarianship strategy of the Fundación Ignacio Larramendi and its Polymath Virtual Library is based on providing and consuming Europeana data, among others sources. Data are obtained from Europeana through [Europeana Search API](#) or through data.europeana.eu, the Linked Open Data service of Europeana. A routine was developed allowing after harvesting the full metadata in SRW format, to update the bibliographic database which makes use of data in authority files, especially variants of names, with which Europeana records are associated. In that way, our enriched authority records and their network of relations are used to aggregate new resources.



Generation of resources using the Europeana Data Model

The Polymath Virtual Library uses all properties defined in the EDM specifications, especially `edm:Agent`, not just the properties defined for the first EDM implementation. This is the case of the `edm:isRelatedTo` property that establishes generic relationships between people or between people and institutions. `Edm:isRelatedTo` is included in our EDM resources, as well as the `owl:sameAs` property that links to similar resources from other contexts. The most important relationships for the Polymath Virtual Library of Polygraph are exemplified by these two properties.

3. EDM integrated into the system DIGIBIB ILS

The Polymath Virtual Library is implemented on [DIGIBIB](#) v.8.0, a piece of management software for digital and virtual libraries well-used in Spain.

DIGIBIB architecture is based on MARC 21 Format but it enables the export of data in multiple formats, including EDM. The data is then directly fed and exposed through an *Open Archives Initiative Protocol for Metadata Harvesting* (OAI-PMH) repository.

This system has allowed the provision of data to Europeana by Hispana, the Spanish national aggregator.



The description of an Agent resource in EDM

```
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<owl:sameAs rdf:resource="http://dbpedia.org/page/Francisco_Sanches"/>
<owl:sameAs rdf:resource="http://id.worldcat.org/fast/138875"/>
<owl:sameAs rdf:resource="http://viaf.org/viaf/100902578"/>
<skos:altLabel>El Escéptico (1550-1623)</skos:altLabel>
<skos:altLabel>Le Sceptique</skos:altLabel>
<skos:altLabel>Lusitanus, Franciscus Sanchez</skos:altLabel>
<skos:altLabel>O céptico</skos:altLabel>
<skos:altLabel>Sanches, Francisco</skos:altLabel>
<skos:altLabel>Sanchez Lusitanus, Franciscus</skos:altLabel>
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<skos:note xml:lang="es">Bibliotecas Virtuales FHL. Edición 2008. Madrid : Fundación
Ignacio Larramendi, 2008, p. 171</skos:note>
<skos:note xml:lang="es">Catálogo de autoridades de la Biblioteca Nacional de España
(BNE19900610838). Visitado el 9 de febrero de 2010</skos:note>
<skos:note>The Virtual International Authority File. - VIAF ID: 100902578 (Personal) . -
http://viaf.org/viaf/100902578</skos:note>
<skos:note>Library of Congress Name Authority File. - Sánchez, Francisco, ca. 1550-ca.
1623. - http://id.loc.gov/authorities/names/n84179270</skos:note>
<skos:note>Scholasticon (Visitado el 9 de febrero de 2012). - Sanches, Francisco . -
http://www.scholasticon.fr/Database/Scholastiques_fr.php?ID=1129</skos:note>
<skos:note>Ferrater Mora, José. Diccionario de Filosofía Española (1980). Tomo 4. pp. 2923-
2924. - Sánchez [Sanches], Francisco</skos:note>
<skos:note>Díaz Díaz, Gonzalo. Hombres y Documentos de la Filosofía Española (2003).
Tomo VII. pp. 96-101. - Sánchez, Francisco</skos:note>
<skos:note>Diccionario Biográfico Español. Real Academia de la Historia. Visitado el 9 de
febrero de 2012. - Sánchez, Francisco. El Escéptico. Lugar de nacimiento:Tuy (Pontevedra),
Fecha: 1550. Lugar de muerte: Toulouse (Francia), Fecha.1623.</skos:note>
<skos:note>Diccionario Enciclopedia do Pensamento Galego (2008). </skos:note>
```



<skos:note xml:lang="es">Filósofo y médico. Figura antiaristotelista, de importancia excepcional en la Historia de la Filosofía internacional. Ejerció la docencia en la Facultad de Medicina de la Universidad de Toulouse. Representante de la corriente filosófica denominada escepticismo, tuvo relación con Montaigne, que era pariente suyo, y ejerció una fuerte influencia en Descartes, aunque este es un aspecto muy discutible. Su obra fundamental, y capital para el resurgimiento del escepticismo como método de pensamiento, es Quod nihil scitur, obra que ha sido ampliamente traducida y reeditada, y de la que recientemente se ha elaborado una magnífica edición crítica. El mismo Sánchez se encargó de incluir en este trabajo un prólogo en el año 1576. El resto de su obra es bastante escasa y nunca ha sido editada en España (excepto un breve opúsculo, por la Catedral de Tuy), pero sí en Portugal, aunque de forma incompleta.</skos:note>

<skos:note xml:lang="es">Filósofos</skos:note>

<skos:note xml:lang="es">Médicos</skos:note>

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