Judaica Europeana: Semantic Web tools for expressing the contribution of Jews to European Cities in the European Digital Library - Europeana

Dov Winer
Judaica Europeana
European Association for Jewish Culture
London, UK
dov.winer@gmail.com

Abstract – What is Europe? Europeana, the digital library, museum and archive will provide an answer through the unrivaled access to the digitised expressions of European civilization. Judaica Europeana will present in this context the contribution of Jews to the development of European cities. Jews presence in Europe goes back to the Roman Empire. Their role in urban settings and the development of cities lead to the identification of modernisation with Jews. Judaica Europeana will express this with several million digitized documents. Europeana will adopt Semantic Web technologies and services. Such knowledge management tools will transform the content into a significant input for scholars, curators, teachers and students, cultural tourists and the public at large. Judaica Europeana relevant vocabularies will serve as hubs of knowledge that will integrate the data, making it intelligible and accessible.

INTRODUCTION

Europeana, the flagship of the i2010 Digital Libraries initiative [1] is intended to make Europe's cultural, audiovisual and scientific heritage accessible to all. Political and economic goals are enmeshed in this initiative which nevertheless can be interpreted as an attempt to define European identity by digitally mapping its civilization.

This agenda announced by Vivianne Reding in September 2005 was spearheaded by the letter sent in April 2005 by President Chirac and 5 other Heads of State to the president of the Commission, Barroso, in reaction to the Google Books initiative. This provided a significant boost to activities that have been going on since the eEurope Action Plans; the Lund Principles and Action Plan [2] that were advanced through the MINERVA network [3] and the creation of the National Representatives Group on digitization [4].

While receiving the Erasmus award for networking Europe the following encomium was given to Europeana: "An open mind for the national cultural sources in Europe can be crucial for the development of a common European consciousness and for the dissemination of different social and cultural values of the inhabitants of the participating countries. The long way to an integrated cultural space of Europe has been shortened by realizing Europeana."

Europeana has presently an accessible prototype http://www.europeana.eu . A soft launch is expected for the summer of 2010 moving the prototype to a fully operational service, including an interface for mobile devices; a formal launch is expected for the autumn (Rhine release). There are 5.9 million items already in Europeana and a further 5 million items have been identified for the Europeana Rhine release. A second release, Danube, is expected by mid 2011.

Europeana works with aggregators of content, either national or domain based. No other service offers an access point to European cultural items across such range of information formats – books, paintings, newspapers, photographs, archival records, broadcasts, films and sound. The scale and scope of Europeana enables a contextualisation no other service can

provide, and will underpin the development of inter-disciplinary, cross-border research and open up new fields of knowledge. [5]

The following services and products are lined up for delivery in 2010:

- Improved Europeana metadata. Europeana will semantically enrich the aggregated data from all providers and make it available for re-use.
- Source code for most elements of Europeana. The code will be open for use by everyone, and will be especially useful for organizations that are developing or upgrading their content aggregation sites.
- An API [Application Programming Interface] that learning sites and partners can use to integrate Europeana content into their own content.
- Data license agreement that can be used as a model by national aggregators and the eContentplus projects that are aggregating for their domains.
- The Europeana Public Domain Charter will clarify the legal situation around licensing; spelling out that digitisation of Public Domain content does not create new rights over the material. The Charter is aimed at content providers and funding bodies, and sets out principles for the maintenance of the Public Domain.
- Europeana Policy on User Generated Content. This will be of value to other cultural heritage and learning sites to help deal with questions and concerns about moderation of user's contributions and the associated rights regimes.
- Aggregator Handbook. A 'how to' guide to help potential aggregators deal with all aspects of the process, including standardisation of data, rights and contractual issues.
- The Functional Specifications for Europeana Danube (Semantic Web) release.

The Europeana Data Model seeks to define a high-level model across the domains which are compatible at the same time with current Semantic Web/Linked Data modeling. While this is the subject of a lot of research in Digital Library and Semantic Web communities, there is not much practical experience in our environment. There are ongoing intense and thorough discussions within the group of core experts and the wider community, seeking a workable model that will inform the addition of semantic functionality in the Danube issue [5, 6].

JUDAICA EUROPEANA

JUDAICA Europeana, one of the Europeana projects, was launched in January 2010 and will identify and manage Jewish content for Europeana with a projected contribution of several million documents. See: http://www.judaica-europeana.eu . Its main goals are:

– **Document Jewish expression in Europe:** support content holders in identifying Jewish content in their collections that reflect the activities of Jews in European cities to be integrated in Europeana under the theme of Cities.

– **Digitisation and aggregation** of this content into a coherent thematic collection Coordination of standards across institutions in order to synchronise the metadata with the interoperability requirements of Europeana.

– **Deployment of knowledge management tools** to enable communities of practice to apply controlled vocabularies, thesauri and ontologies for the indexing, retrieval and re-use of the aggregated content pertinent to their own areas of interest.

- **Support the employment of the digitised content** in scholarship and academic research; university-based teaching; online teaching and learning; museum curatorship and virtual exhibitions; cultural tourism; plastic arts, music and multimedia development; formal and informal education.

Steven Zipperstein observes that only in the last decades has the city come to be recognized by historians as a subject of central importance. In his seminal paper "Jewish Historiography and the Modern City: Recent Writings on European Jewry" he reviews an impressive body of research that has substantially altered our understanding of many aspects of urbanization, including mobility, philanthropy, social control, and popular as well as high culture. He also discusses the consistent anti-urban bias of Jewish historiography up to the last quarter of the 20th Century [7].

However, the presence of Jews in urban culture [8] has been so high as to render them the symbolic equivalent of the city itself:

"Modernization is about everyone becoming urban, mobile, literate, articulate, intellectually intricate, physically fastidious, and occupationally flexible. It is about learning how to cultivate people and symbols, not fields and herds. It is about pursuing wealth for the sake of learning, learning for the sake of wealth, and both wealth and learning for their own sake. It is about transforming peasants and princes into merchants and priests, replacing inherited privilege with acquired prestige, and dismantling social estates for the benefit of individuals, nuclear families, and book-reading tribes (nations). Modernization, in other words, is about everyone becoming Jewish." [9]

Urbanisation and occupational specialisation has led to the identification of Jews with specific places, streets, neighbourhoods, buildings and characteristic urban phenomena in cities. Vienna, as an example, was transformed into a music capital [10]. Jews were instrumental in the urban development of commerce. They were often owners of small stores, as well as pioneers in the development of department stores [11]. They constituted the main Social Democratic faction at the end of the 19th century in Eastern Europe[12], and were exponents of the main liberal political parties in Germany [13] and other countries. They were well respected in the medical field, both as family doctors and as specialists. They were the operators of low cost psychoanalytic outreach clinics in the twenties in Germany and Austria [14]. Jews were recognised as intellectuals, journalists and writers; often acting as opinion purveyors as owners of newspapers chains and publishing houses.

Jewish urban expressions may be outlined graphically from a community core to exclusively individual expressions. Jewish communities managed their internal affairs through mutual support, education, politics, theatre, music and publishing. They provided Jewish expressions in the urban landscape, occupations and enterprises seen by their neighbours as characteristic of Jews. Their fully individual expression was also indicated by well known celebrities. These copious cultural expressions are well documented through thousands of documents – photos, films, books, pictures, documents, texts, works of art, monuments, archaeological excavations, cemeteries, buildings across Europe.

JUDAICA Europeana's main challenge is to facilitate access to a critical quantity of European Jewish Cultural heritage at the level of individual, cultural objects. Opening up access to these collections will take place in their proper context of creation and use, that of the wider European civilization – **Europeana**.

LINKED DATA AND EUROPEANA

Danube will be the second Europeana version planned for 2011 and expected to be compliant with the Semantic Web. For this purpose the WP3 of Europeana V1.0 is now

defining the Europeana Data Model. Carlo Meghini, one of the WP leaders, stated at the WP3 meeting in January 2010 that concerning Semantic functionality the relation to Linked Open Data (LOD) could/should be two-way: use of external resources (from LOD), and exposure of Europeana data. [15]

The goal of Linked Data is to enable people to share structured data on the Web as easily as they can share documents today.. The basic assumption is that the value and usefulness of data increases the more it is interlinked with other data. The basic tenets are to: (1) use the RDF data model to publish structured data on the Web (2) use RDF links to interlink data from different data sources thus establishing a single global data space. The Web of Data can be used using Linked Data Browsers just as traditional Web of documents is accessed using HTML browsers. Instead of following links between HTML pages users using Linked Data browsers or Semantic Web search engines are able navigate between different data sources by following RDF links[16]. Technologically, the core idea of Linked Data is to use HTTP URIs not only for the identification of Web documents, but also for the identification of arbitrary real-world entities [17].

THE ROLE OF VOCABULARIES

On the Semantic Web, vocabularies define the concepts and relationships (also referred to as "terms") used to describe and represent an area of concern. Vocabularies are used to classify the terms that can be used in a particular application, characterize possible relationships, and define possible constraints on using those terms. The role of vocabularies on the Semantic Web are to help data integration when, for example, ambiguities may exist on the terms used in the different data sets, or when a bit of extra knowledge may lead to the discovery of new relationships. Another type of example is to use vocabularies to organize knowledge. [18]
Knowledge Organization Systems (KOS)employ a variety of disparate *terminologies* in the form of term lists (e.g. authority files, glossaries, gazetteers, dictionaries), classifications and categorisation schemes (e.g. bibliographic classifications, taxonomies, categorisation schemes) and relational vocabularies (e.g. thesauri, subject heading lists, semantic networks, ontologies). T*erminology mappings* (or vocabulary mapping) are essential to facilitate access and interoperability. It involves imposing equivalence, conceptual and hierarchical relationships between terms in different schemes. The assumption underpinning mapping is that equivalence can exist between disparate KOS and their respective terminologies [19].

SKOS
SKOS—Simple Knowledge Organization System—provides a model for expressing the basic structure and content of concept schemes such as thesauri and other similar types of controlled vocabulary. As an application of the Resource Description Framework (RDF), SKOS allows concepts to be composed and published on the World Wide Web, linked with data on the Web and integrated into other concept schemes. The fundamental element of the SKOS vocabulary is the *concept*. Using SKOS concepts can (1) be identified using URIs (2) labeled with lexical strings in one or more natural languages (3) assigned notations (lexical codes) (4) documented with various types of note (5) linked to other concepts and organized into informal hierarchies and association networks (6) aggregated into concept schemes (7) grouped into labeled and/or ordered collections (8) mapped to concepts in other schemes [20].

JUDAICA EUROPEANA VOCABULARIES
One of the challenges facing Judaica Europeana is how to make intelligible and usable the extraordinary amounts of data that it will make available. The Semantic Web approach

orienting the structuring of Europeana fortunately may make this task manageable. Suitable vocabularies that synoptically summarises knowledge in the relevant domains should be identified, normalised and expressed in SKOS. Mapping concepts from relevant vocabularies belonging to the same domain cluster may enable us to extend the catch for relevant objects possibly indexed with different vocabularies from the same domain [21].

The development of the Europeana Semantic Elements/ Europeana Data Model has been informed by an events oriented approach that seek to facilitate the user to get information about – Who? What? When? Where? Such approach is expressed in the LIDO metadata harvesting schema adopted in the Athena project [22]. Its sources lay in the CIDOC/CRM Cultural Heritage reference model. [23]. In LIDO (Lightweight Information Describing Objects) objects may relate to any actor, date, or place in two ways:

The object was present at an event (such as creation, find, use,)
(-) having participants / carried out by some actors (-) at some time (-) - in some place
or
The object refers to such entity by (-) depicting it (-) „ being about"[24]

Authoritative replies to the Who? question is now being systematically advanced through the VIAF the Virtual International Authority file, a project of several national libraries implemented and hosted by OCLC [25]. The participation of the National Library of Israel will be most appropriate for the purposes of Judaica Europeana.

The Synoptic Outline of the YIVO Encyclopedia of Jews in Eastern Europe [26] is a good example of vocabulary relevant to the Judaica Europeana domain. Other vocabularies include the eJewish Thesaurus for Web Resources and the Dinur Jewish History Vocabulary [27].

The Geospatial Semantic Web that integrates DBpedia Mobile provides advanced services related to geographically tagged objects [28]. This is an area of special interest and we will seek to identify Jewish historical places through gazetteers and vocabularies employed in Jewish genealogy like http://www.avotaynu.com/allbooks.htm.

Vocabularies identified by the survey of European Multilingual Vocabularies in the MINERVA Plus project will also be considered for application in the Judaica Europeana context.

References

[1] i2010 Digital Libraries Initiative – Europe's cultural and scientific riches at a click of a mouse [Retrieved on March 1st, 2010 from http://ec.europa.eu/information_society/activities/digital_libraries/index_en.htm

[2] The Lund Principles and Action Plan URL: http://cordis.europa.eu/ist/digicult/lund-principles.htm

[3] MINERVA – Ministerial network for valorizing activities in digitisation URL: http://www.minervaeurope.org

[4] National Representatives Group on digitisation http://cordis.europa.eu/ist/digicult/nrg.htm.

[5] J. Purday, "Europeana v1.0 Annual Report 1 February 2009 – 31 January 2010", D5.6. URL: http://group.europeana.eu/web/europeana-project/documents

[6] S. Gradmann, "Europeana Semantica: Remarks on the motivations for our Semantic Foundations", Presentation at the 7th EVA/MINERVA Jerusalem Conference on Digitisation of Culture, URL: http://www.slideshare.net/gradmans/europeana-semantica

[7] S. Zipperstein, "Jewish Historiography and the Modern City: Recent Writings on European Jewry", Jewish History V2, 1987, pp.77-88.

[8] A.Polonsky, "A History of the Jews in Warsaw, Lodz, Vilna and Odessa" URL: http://www.jewish-heritage.org/spp8.htm

[9] Y. Slezkine, "The Jewish Century", Princeton: Princeton University Press, 2004. For the first chapter see http://press.princeton.edu/chapters/s7819.html

[10] L. Botstein, K. Albrecht-Weinberger, W. Hanak "Vienna: Jews and the City of Music, 1870-1938", New York: Center for Jewish History, Judisches Museum der Stadt Wien, Yeshiva University, 2004.

[11] Bibliography: "Jews, Commerce, & Culture", An Online Exhibition from the Katz Center for Advanced Judaic Studies 2008-2009 Fellows at the University of Pennsylvania http://www.library.upenn.edu/exhibits/cajs/fellows09/bibliography.html

[12] Z.Y. Gitelman, The emergence of modern Jewish politics: Bundism and Zionism in Eastern Europe. University of Pittsburgh Press, 2003.

[13] P. Pulzer, Jews and the German State: The political history of a minority, 1848-1933, Blackwell Publishers, 1994.

[14] E.A. Danto, "Freud's free clinics: Psychoanalysis and social justice 1918-1938", New York, NY: Columbia University Press. 2005

[15] C. Meghini, The Europeana Data Model, current status, Europeana v1.0 WP3 Meeting Berlin, January 25-26, 2010 [Retrieved on March 1st 2010 from http://version1.europeana.eu/web/europeana-project/wp3berlin

[16] C. Bizer, R. Cyganiak, T. Heath, "How to publish Linked Data on the Web" http://www4.wiwiss.fu-berlin.de/bizer/pub/LinkedDataTutorial/

[17] L.Sauermann, R,Cyganiak (Eds.), "Cool URIs for the Semantic Web – W3C Interest Group Note. URL: http://www.w3.org.TR/cooluris/, W3C, 2008.

[18] Vocabularies URL: http://www.w3.org/standards/semanticweb/ontology,W3C, 2010.

[19] Presentations at the seminar on Semantic Interoperability at the European Digital Library. URL: http://image.ntua.gr/swamm2006/SIEDLproceedings.pdf

[20] A.Isaac, E. Summers (Eds.), "SKOS Simple Knowledge Organization System Primer", W3C Working Group Note, URL: http://www.w3.org/TR/2009/NOTE-skos-primer-20090818/, W3C 2009

[21] M-V. Leroi, J. Holland, "Identification of Existing Terminologies in Museums", D4.1 Athena Project, ECP-2007-DILI-517005, July 2009, URL: http://www.athenaeurope.org/getFile.php?id=398

[22] R. Light, G. McKenna, R, Stein, A.Vitzthum, "LIDO: Lightweight Information Describing Objects", Athena Project, ECP-2007-DILI-517005, November 2009 URL: http://www.athenaeurope.org/getFile.php?id=535 - Annex to D3.3 Specification for Conversion Tools

[23] The CICOC Conceptual Reference Model URL: http://www.cidoc-crm.org

[24] R. Stein, "Publishing Cultural Collections with SKOS and LIDO, An Introductory Workshop", Tel Aviv, Eretz Israel Museum, January 2010, URL: http://www.slideshare.net/ISOCIL/skos-handson-workshop-tutorial-by-regine-stein

[25] VIAF Virtual International Authority File, URL: http://viaf.org

[26] G. D. Hundert (Ed.), "Synoptic Outline of the YIVO Encyclopedia of Jews in Eastern Europe", URL: http://www.yivo.org/uploads/files/synoptic_outline.pdf ,2008.

[27] R.Kedar, U.Miller, "The Thesaurus for Jewish Resources in the Web", eJewish.info Developing Jewish Networking Infrastructures , The Jewish Agency for Israel, URL: http://www.ejewish.info//resources/resourceKeywordManual.aspx?rsID=96

[28] C. Becker, C. Bizer, "Exploring the Geospatial Semantic Web with DBpedia Mobile", Web Semantics, Science, Services and Agents in the World Wide Web, V7, 2009, pp. 278-286.

Electronic Imaging & the Visual Arts

'The Foremost European Electronic Imaging Events in the Visual Arts'

EVA 2010 Florence

Conference, Workshops, Meetings, Training & Exhibition

21 – 23 April 2010

Venue: Palazzo degli Affari, Piazza Adua 1