The SyMoGIH project
(Système modulaire de gestion de l'information historique)

and the issue of historical place types

Francesco Beretta / Charlotte Butez
(CNRS UMR 5190 LARHRA – Université de Lyon)
The « Pôle Histoire Numérique » of LARHRA is a mixed team of researchers and engineers that incite use of digital tools for research in history.

Five historians and seven research engineers (5 full time positions) are active in the 'Pôle'.
The « Pôle Histoire Numérique » of LARHRA is a mixed team of researchers and engineers that incite use of digital tools for research in history.

Five historians and seven research engineers (5 full time positions) are active in the 'Pôle'.

The Digital history department missions are :

- Help researchers to better structure their data
The « Pôle Histoire Numérique » of LARHRA is a mixed team of researchers and engineers that incite use of digital tools for research in history.

Five historians and seven research engineers (5 full time positions) are active in the 'Pôle'.

The Digital history department missions are:

- Help researchers to better structure their data
- Build a collaborative system, with a generic semantic model to produce reusable primary data
The « Pôle Histoire Numérique » of LARHRA is a mixed team of researchers and engineers that incite use of digital tools for research in history.

Five historians and seven research engineers (5 full time positions) are active in the 'Pôle'.

The Digital history department missions are:

- Help researchers to better structure their data
- Build a collaborative system, with a generic semantic model to produce reusable primary data
- Use available opensource software to visualize and analyze data
The « Pôle Histoire Numérique » of LARHRA is a mixed team of researchers and engineers that incite use of digital tools for research in history.

Five historians and seven research engineers (5 full time positions) are active in the 'Pôle'.

The Digital history department missions are :

- Help researchers to better structure their data
- Build a collaborative system, with a generic semantic model to produce reusable primary data
- Use available opensource software to visualize and analyze data
- Publish and share our historical and geographical resources using 'classic' web and semantic web technologies
1. Aim:

- elaborate a collaborative platform (database, GIS, semantic web) allowing to achieve the Digital history department objectives
- publish and interlink our data with those of other projects using web and semantic web technologies
1. Aim:

- elaborate a collaborative platform (database, GIS, semantic web) allowing to achieve the Digital history department objectives
- publish and interlink our data with those of other projects using web and semantic web technologies

2. Method:

- creation of a generic data model adapted to historical method, and specifically:
- define classes of historical objects (actors, concepts, places, etc.) and create authority records with URIs to identify them
- create informations (atomized knowledge units) that document relationships among objects at a given time
- provide sourcing for each information
The SyMoGIH project: http://symogih.org

1. **Aim**:
   - elaborate a collaborative platform (database, GIS, semantic web) allowing to achieve the Digital history department objectives
   - publish and interlink our data with those of other projects using web and semantic web technologies

2. **Method**:
   - creation of a generic data model adapted to historical method, and specifically:
     - define classes of historical objects (actors, concepts, places, etc.) and create authority records with URIs to identify them
     - create informations (atomized knowledge units) that document relationships among objects at a given time
     - provide sourcing for each information

3. **Results**
   - More then 40 scholars and students are currently using or have used the database and more then 5 research programs are linked to the project
   - 3 websites publish our data and a Virtuoso triplestore is available in alpha stage
Système Modulaire de Gestion de l'Information Historique (SyMoGIH)

Le projet

Le projet SyMoGIH a développé un modèle générique de stockage des données historiques permettant leur interopérabilité et leur publication sélective. A partir de ce modèle, une plateforme collaborative pour la recherche en histoire a été mise en place, utilisée par plusieurs chercheurs et projets.

Cette plateforme permet le stockage de données primaires concernant toute activité humaine (sociale, économique, intellectuelle, ...), de textes codés en XML (traités selon le standard proposé par la Text Encoding Initiative), d'images et de leur métadonnées, tout en permettant d'associer à ces différents objets leur 'empreinte spatiale'. La réalisation d'un système d'information géographique (SIG) joue un rôle essentiel dans le projet.

La plateforme permet :

- la modélisation progressive et évolutive de l'information historique grâce à un dictionnaire de types d'unités de connaissances ;
- le stockage collaboratif, cumulant l'expertise des études ;
- l'indication précise des sources.

http://symogih.org
The SyMoGIH collaborative platform – http://symogih.org

Linked data

SPARQL endpoint

RDB2RDF

Users input

https://bhp.ish-lyon.cnrs.fr

selection

mapping

alignment

Linked data

PostgreSQL Database

Users output

Individual or collective projects

www.patronsde France.fr

selection

publication

Linked data

Semantic Model

Analysis with already available tools

Linked data

PostgreSQL, PHP, AJAX, DRUPAL, PostGIS, OpenLayers, TinyOWS, eXist, baseX, D2RQ, Virtuoso, ...

DARIAH-DE Expert workshop - Mainz, 10-11 October 2013
GIS ressources : http://geo-larhra.org

GEO-LARHRA
Partage de ressources géo-historiques

Bienvenue sur GEO-LARHRA

Animé par l’équipe du Pôle Histoire Numérique du LARHRA (Laboratoire de Recherches Historiques Rhône-Alpes - UMR 5190), ce portail de ressources géographiques est destiné à l’usage des chercheurs, enseignants et étudiants du laboratoire.

Les données publiées ici sont issues de la Base d’hébergement de projets (BHP), base de données collaborative réalisée dans le cadre du projet SyMoGIH et alimentée en permanence par ses utilisateurs. Le ressources ainsi produites sont mises à la disposition de tous les membres du laboratoire pour permettre la réalisation de productions cartographiques dans le cadre des travaux de recherche, en lien avec les formations en systèmes d’information géographique (SIG) qui sont proposées régulièrement. Une partie de ces ressources sont mises également à la disposition du public.

Dans ce portail vous trouverez :

- Un gazetteer : Un dictionnaire des lieux (noms, type et coordonnées).
- Un géocatalogue : Un catalogue (ou répertoire) des plans, cartes ou images, géoréférencés ou non, pouvant être intégrés et utilisés dans un logiciel SIG ou de cartographie. Le géocatalogue a pour but de connaître les ressources et les métadonnées associées dont disposent le LARHRA.
- Un Atlas historique : Un atlas historique à cours de construction. L’objectif est de mettre à la disposition des historiens un atlas historique à différentes échelles, sous forme de vendeurs géoréférencés utilisables dans un logiciel SIG pour représenter de l’information historique sur un découpage territorial adapté chronologiquement.

L'accès à une partie de ces ressources est réservé aux méthodes pour avoir plus d'informations.

- Gazetteer
- Spatial data catalogue
- Historical atlas
A use case: displaying data from the web on the historical atlas

Evolution des territoires en Italie

Site expérimental. Données non exhaustives, en cours de production.

SPARQL – endpoint B3Kat
Bayerische Staatsbibliothek, Bibliotheksverbund
Bayern, Kooperative Bibliotheksverbund
Berlin-Brandenburg
http://lod.b3kat.de/sparql
Places and their historical development

What is a place?

"In the context of the TGN, a geographic place is an administrative entity or a physical feature that has a proper name, is of the type recorded in atlases and gazetteers, and is required for cataloging art and architecture."

(Getty Thesaurus of Geographic Names (TGN): Editorial Guidelines 1.1.3)
What is a place?

"In the context of the TGN, a geographic place is an administrative entity or a physical feature that has a proper name, is of the type recorded in atlases and gazetteers, and is required for cataloging art and architecture."

(Getty Thesaurus of Geographic Names (TGN): Editorial Guidelines 1.1.3)

A more general definition:

A place is a portion of the earth's surface to which we assign some characteristics. Therefore, a place is a conceptual construct.

From a historical point of view, we are interested in the temporal evolution of the place's characteristics, including its toponymic, typologic and spatial evolution.
What is a place?

"In the context of the TGN, a geographic place is an administrative entity or a physical feature that has a proper name, is of the type recorded in atlases and gazetteers, and is required for cataloging art and architecture."

(Getty Thesaurus of Geographic Names (TGN): Editorial Guidelines 1.1.3)

A more general definition:

A place is a portion of the earth's surface to which we assign some characteristics. Therefore, a place is a conceptual construct.

From a historical point of view, we are interested in the temporal evolution of the place's characteristics, including its toponymic, typologic and spatial evolution.

What kind of characteristics shall we provide to identify a place and compare our data with those produced by other projects?
Basic properties allowing to identify a place

- Standard gazetteer properties: name, location, type
- More specific typology: classification
- Properties treated as associated objects, identified by URIs
Sets of places (SyMoGIH project)

Two disjoint sets of 'places'

→ **Named-places** :

Places that can be conceived as a portion of the earth's surface: natural geographical elements (forests, mountains, rivers, ...), limits of surface resulting from human activity (inhabited place, administrative division, country borders)

→ **Immovables constructions** :

Every building or construction resulting from human activity that can be represented as a relief on the surface of the earth (building, church, telegraph pole, ...)

DARIAH-DE Expert workshop - Mainz, 10-11 October 2013
Place types state essential characteristics of a place. Classifying places with types produces disjoint sets including objects that share the same basic characteristics. Therefore, basic types are very important to identify and compare places.

→ Named-places
   - Inhabited place
   - Territory
   - Geographic region
   - Geographical natural area
   - Infrastructure area
   - Address

→ Immovables constructions
   - Infrastructure
   - Building
   - Part of a building
   - Collection of buildings
Place **classes** state more detailed characteristics of a place.
Classifying places with classes produces sets that **can include the same objects considered under different perspectives**.
This classification can also be related to a specific period by indicating a start and end date in the association to a class.

For example
→ Place set : Named-place
    → Type : Territory
        → Classes : town, municipality, administrative division,...
Le centre Berthelot (Berthelot center)
http://fr.wikipedia.org/wiki/Centre_Berthelot

→ Place identification / description :
  → Place set : Immovable construction
  → Name 1 : Le centre Berthelot [lang:fra] ; Name 2 : Berthelot center [lang:eng]
  → Location : 4° 50′ 8.06″ E 45° 44′ 47.9″ N
  → Type : Collection of buildings
  → Classes : Historical building, hospital (1894-1981), army medical school (1894-1981), prison (1943-1944), research center (1999), ...

→ Historical informations :
  → 1888 : Construction of the buildings
  → 1894 - 1981 : Army Medical Corps School occupation
  → 1943 : A building occupied by the Gestapo from the Spring of 1943 to 26 May 1944
  → 1944 : Bombing and destruction of buildings
  → 1958 -1962 : Reconstruction of the buildings
  → 1992 : Inauguration of the Centre d'Histoire de la Résistance et de la Déportation (Resistance and Deportation Museum)
  → 1999 : Occupation of the buildings by Institute of the Science of Man and Society (SHS), housing the headquarters of the LARHRA (since 2003)
Aim of the DARIAH's project: creating a thesaurus or an information system?

Substantial difference between:

1. developing a controlled vocabulary allowing to identify and classify historical places

2. creating an information system for storing and managing historical events and evolutions related to places.

In the SyMoGIH project we draw a fundamental distinction between identifying a place (or any other object) and collecting historical information about the evolution of the place in time and space.

To treat historical information we use a generic data model allowing to:

- define classes of historical objects (actors, concepts, places, etc.)
- create informations as atomized knowledge units documenting relationships between objects at a given time
- provide source for each information
The data model of SyMoGIH's information system

- Generic data model
- Informations conceived as dated and sourced relationships between objects
Modeling specific historical informations (SyMoGIH project)

The generic data model is instantiated to specific, user defined information types.

These instantiated models express the semantic meaning of the produced data.

For instance: assimilation of a place (type: territory) to another one.

Public documentation of all defined information types: www.symogih.org

DARIAH-DE Expert workshop - Mainz, 10-11 October 2013
Give access to our objects and their description (knowledge units)

- identify objects using URIs
- dereference objects at symogih.org
- gather information (knowledge units) about objects i.e. linking them

Kepler, Johannes - Enseigne : Mathématiques

Who is that Kepler?

SPARQL endpoint (D2RQ) to query them

What do we know about Kepler?

```
SELECT ?date ?libelle ?type
WHERE {
  ?role symogih:belongsToKnowledgeUnit ?info.
  ?info symogih:knowledgeUnitStandardDate ?date.
  ?info symogih:hasKnowledgeUnitLabel ?libelle.
  ?info symogih:knowledgeUnitType ?type
}
ORDER BY ?date
```
Our proposal: a thesaurus and a separate information system