
Research in History with the method of life science

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Abstract

In the current world, the volume of data is constantly increasing, in computer science, in daily life, and also in historical research.

The BNF Gallica, the ANF SIV, the Atlas of the Louvre Museum, the MET's free access art collection, these online services provided by different establishments allow readers or visitors to consult documents or collections with distance. The Guimet Museum owns the database which can consult by reservation in the museum, the Cernuschi museum also has a library. However, this information often comes to a variety of forms, it's difficult to export and reuse.

My research in Art History focuses both on concrete objects and on documentation. The MET presents its collections in a very clear and well-documented manner, but the details of the related information (former owner, technique, means of acquisition, etc.) require additional external research, this is due to the specialty of this establishment, a museum focusing on concrete objects. Similarly, the interactions between BNF documents require greater evidence.

Thanks to the evolution of telecommunications technology, a centralized platform could be envisaged with 5G. It is true that a large platform offering not only the data storage service, but also the software allowing consultations and interactive analyzes, will be ideal, however, given the volume of work necessary for reformatting, management, and maintenance, and analysis software platform would be more feasible at first.

Simplified diagram and example:

Search by keyword in a museum database: lacquer

Result: (Fig. 1)

Figure 1: The result of a simple search on the database of a museum.

The detailed information that I can get with the first work (Fig. 2)

Figure 2: The result in detail for a work.

Information on the works created by this artist "Ogata Korin" and those of the collector "H. O. Havemeyer" is easy to obtain, a simple search will suffice. But more complex relationships will be more interesting.

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For example, starting with the artist "Ogata Korin", we find his genre, the Rinpa genre, the style of this genre, then its founders "Hon'ami Koetsu" and "Tawaraya Sotatsu". (Fig. 3)

Figure 3: Information about the Rinpa genre.

And also the relations between the different Japanese art genre. (Fig. 4)

Figure 4: Relations between different Japanese art genre.

Or the relation of this type: (Fig. 5)

Figure 5: Relations between the different elements of a historian network.

This relational scheme is inspired by a method of analysis of the science of life, which could be adapted to our research in History.

Simplified explanation: the collector HO Havemeyer began to collect works of art during the Universal Exhibition 1876 in Philadelphia, he became interested in Asian art then in impressionism, he frequented the Durand-Ruel store in Chaussée Antin, where the popular Japanese art dealer Hayashi Tadamasu settled since Exposition Universelle 1878 in Paris, which created a Japanese wave with which Louis Gonse and his friends became amateurs, the competitor of this Japanese, S. Bing, inaugurated Art Nouveau at the beginning of the XXth century, the travelers, while making their voyages in Asia, collected objects of art, to create the museums with their names.

The analysis platform will work as follows:

- The user enters one or more elements to analyze.
- The software will make several surveys in different ways depending on the structures and characteristics of the associated databases.
- The results will be obtained in a uniform format understandable by the software, the relationship, and the distance will be defined by their attributes, text mining, research already carried out, etc.

The goal of this type of relational diagram is not to define a result, but to create a clearer first vision in order to facilitate the research of historians, to create hypotheses to be verified later.

Example of an analysis of three keywords entered "Louis XIV, Kangxi, Commerce". (Fig. 6)

Figure 6: Example of an analysis of three keywords entered "Louis XIV, Kangxi, Commerce".

This multi-user and multitasking platform will need a large computing capacity, it is possible to think of existing computing grids (Fig. 7).

Figure 7: Grid calculation diagram.

The server could be put in Europe at first, then in America and Asia with a daily synchronization.

The management center will invite the various organizations that manage the eligible databases to provide the structure of their data and the appropriate consultation method, the management center will eventually send a technician on-site for this mission. Database managers can also request an association from the management center.

The functioning of this platform could be supported by governments (special funding), organizations (museum contributions for example), by donation (example Wikipedia), or even the combination of these modes.

The profession which contained historical and information characteristic so-called historical-informatics is necessary to verify the data, to extract a large volume at the same time with programming languages (Perl, Python, etc.), and to manipulate them by creating new software. This profession, which requires both computer knowledge and the thinking of historians, is not a combination of these two disciplines, but a brand new profession.

Some possible difficulties: identification of texts with OCR software for old scripts or with different languages, will translations keeping 100% their linguistic conceptions be possible?

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