

Creating a Digital Atlas of French Public Architecture (1795 – 1840)

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Abstract:

After the French Revolution, a national council called *Conseil des bâtiments civils* was put in charge of the nation's public architecture. Its aim was to build the Republic, providing the necessary infrastructure to establish the new political power and to control public space. The CONBAVIL database consists in the compiled statements of the council meetings, from its creation in 1795 until 1840. It therefore contains all civil building projects pertaining to this time, as each project was examined by the council due to nation-wide administrative centralisation. This database is currently available on the web, yet its use is constrained to interrogation through a static form¹. Each query returns a list of results which can be studied individually. This model makes limited use of the digital potential within the database and restricts exploration of its contents.

In this presentation, the focus will be set on the intrinsically spatial nature of the data. Beyond the immediate implementation of architecture in space, civil buildings were planned and constructed with spatial awareness on local, regional and national scales. What kind of interface can render these characteristics of the CONBAVIL data? Furthermore, how can it impact discovery and knowledge production? My hypothesis is that creating an interactive interface focused on visual and spatial approaches to the data will enable discovery and foster new theories on its contents. My thesis therefore consists in the editorialization and visualization of the CONBAVIL database into a *Digital Atlas of French Public Architecture*.

Creating an atlas is characterized by its specifically visual and graphic form. Spatial stakes are apprehended by mapping the data. In addition, the reader has an active role while exploring the content, assembling or resourcefully linking the information in order to produce new understandings of the topic. Creating a digital atlas prompts further properties. Defining the form of a database's interface is an editorial act. As its production and structuring occur as the digital space, it becomes a form of editorialization. In this experiment to produce an atlas for the internet, it seemed relevant to do so while using its language: HTML, CSS, and JavaScript. The intent was also for the *Atlas* to inherit the web's distinctive traits – such as an interconnected structure and user interactivity. Its maps and visualizations are therefore interactive data-driven graphics produced for this specific context. Enabling actions such as modifying and manipulating maps encourages a critical approach of these sometimes seductive images. Rather than defining the shape and thus the meaning carried by the visualization, the emphasis is put on a hermeneutical approach shaped by the affordances of the interface and by the user's imagination.

To create the *Atlas*, the contents of CONBAVIL, currently stored in Filemaker, were exported into an XML database. This format allows flexibility of use and, very importantly, long-term conservation of the data. At this stage, a script converts the data to the JSON format, the preferred format for the web that is also well supported by the chosen visualization library: d3.js². In this script, the CONBAVIL database is restructured into an array of objects. Each object describes an architectural project discussed by the council. It therefore has properties such as location, architectural type, architect, and cost estimate. The council's comments and decision, the date of the meeting, and other various data are also recorded. As the database contains over 25,000 objects, queries of interest comprise a visual, spatial, and quantitative approach. This combination allows a search for patterns and in general provides new rich insights into the data. Correlations between locations, architectural types and/or council decision can be examined in a manner that

¹ *Conbavil*, Online Database available at <https://www.inha.fr/fr/ressources/outils-documentaires/conseil-des-batiments-civils-conbavil/interroger-conbavil.html>

² *D3.js* library. Documentation available at <https://d3js.org/>

neither the archives themselves nor the current interface allow. Furthermore, it enables the analysis of institutional and political trends underlying these decisions.

Supplements to the current dataset, such as geographical data, were added as to broaden the scope of CONBAVIL and create from it a *Digital Atlas of French Public Architecture*. The data is then visualized through its spatial characteristics on a map, through its chronological characteristics within a timeline, or through architectural typology with a sunburst (an interactive version of a pie chart). As these three formats are central, I continuously evaluate and (re-)design their form using an iterative prototyping process. In addition to these complex forms, the data is also expressed by the means of statistical graphs and charts, for example a simple bar chart indicating the number of projects the council reviewed during each meeting. This type of information provides context through which to analyze their reports and decisions.

The process of interlinking these visualizations in the same interface produces the *Atlas*. As they all represent the same dataset, each visualization becomes a potential filter, selecting a subset of the data. The relevance of creating data-driven visualization arises particularly in this context, as they all update accordingly to the selected subset. The interface is a workspace reminiscent of a light table. The view on the data is constantly adjusted and adapted to the interests of the user exploring it, by changing the scale, scope or thematic content. In sum, this atlas incites exploration of the database through an innovative apparatus of interlinked and interactive visualizations.

This research tool takes into consideration the possibility for a visual, digital and spatial epistemology in art history. The goal of this proposal is therefore to transform the access to the CONBAVIL data and its use, enabling rich exploration and discovery. Beyond the innovative technical process and its challenges, it is important the *Atlas* remains anchored in its historical and political context. Examination of historical maps, their political roles, and spatial thinking at the first half of the 19th century focus the research on contemporary stakes. The purpose is to near an understanding of civil architecture as it was conceived by its administrators in the wake of a new nation state. This research therefore aims to combine the study of territory, knowledge, and power through a spatial and quantitative method. The prototypes of the *Atlas* as well as its theoretical and epistemological stakes will be presented and discussed. This proposal aims to spark interdisciplinary discussions and perhaps inspire further initiatives by identifying successful strategies as well as limitations of such a project.