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Digitising the Patrimonial Collections of the Paris Observatory Library

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Abstract. In the past few years, there have been many emerging digital library projects, and digitising heritage collections has become a major issue for libraries. Digitisation supports the preservation of collections and facilitates accessibility to the public. Furthermore, the richness and variety of the Paris Observatory's patrimonial collections, which includes ancient books, periodicals, manuscripts, archives, and iconographic documents, makes it an invaluable source for research on the history of astronomy. This is why the Paris Observatory library has started work on a digitisation policy and has since launched several digitisation projects.

1. Introduction

The Observatoire de Paris includes a broad range of heritage collections: its library holds more than 3.000 pre-1850 works, which includes 40 early-printed books, 300 linear meters of manuscripts, 2.000 iconographic documents, photographic archival collections, and more. All of these documents constitute a prized collection of the history of astronomy. Since 2011, the library has launched several digitisation projects to make these collections more accessible and to preserve the originals. Given the fact that more resources are now available online, what has been the library's digitisation policy, and which bodies of text were selected for digitisation?

2. Multiple actors

Two organisations lead the French digitisation policy. On the one hand, the French National Library (BnF) has been campaigning for the digitisation of the collections it holds. Today, more than two million of the documents held at the BnF are accessible on Gallica.¹ Documents held by specialised partner libraries — via the associated poles network — are also being digitised by the BnF using its own resources. Moreover, the BnF co-funds various digitisation projects. The BnF's policy is to make the national heritage accessible to researchers as well as to the general public.

On the other hand, the Ministry of Higher Education and Research (MENESR) funds digitisation campaigns in university libraries through yearly tender calls (i.e., "BSN 5" programme). Documents must be of particular interest for research or academic teaching programmes. Finally, on a local level, the Observatoire de Paris is a

¹<http://gallica.bnf.fr/>

member of the PSL (Paris Sciences et Lettres) University Community, which can also fund the digitisation of collections on transversal research schemes. To sum up, the Observatoire de Paris Library gets funding from the institution itself, from PSL, MENESR, and the BnF, as the Library has been part of the associated poles network since 2012.

3. Digitising the astronomical heritage

Today, many printed documents such as books and magazines are available online, a result of digitisation campaigns led by national and academic libraries and private entities (i.e., Google), originating mostly in the E.U. and the U.S. All digitisation policies must take this context into account. Knowing this, the Observatoire de Paris Library decided to build its digitisation campaign based on the specifics of its own collections, such as its unique documents (i.e., archives and manuscripts), rare annotated documents, materials produced by the Observatoire, or the iconographic collections that may be of interest to the general public. On a thematic scale, due to the international scope of its collections, selection is not limited to the history of the Observatory nor of French astronomy, even though these themes are of course favoured. Finally, priority for digitisation is given to those that are currently conducting research or are upgrading projects.

There are four main selection criteria for the digitisation campaigns led in the past few years, which may overlap. The criteria include documents that belong to the first historical archives of the Observatoire de Paris; documents published by the Observatoire de Paris, and more broadly by other French observatories; papers from international scientific exchanges; and arts and science (i.e., iconography).

4. Projects timeline

2011–2012: The Hevelius Correspondence (7.011 files)
 Publication of these letters (Brepos), led by the
 International History and Science Academy.
 Funded by: Observatoire de Paris Status: finished

2013: Zach-Lalande correspondence (585 files)
 Funded by: Observatoire de Paris and private researcher
 Status: finished

2013: Digitisation of Jean Dominique Cassini-related documents
 (printed documents, hand-written observing notebooks) (6.917 files)
 Funded by: BnF and Observatoire de Paris Status: finished

2012/2013/2014: Journals edited by the Observatoire and
 the Bureau des Longitudes (291 441 files)
 Digitisation on the BnF channels
 Status: 19 titles digitised to this day, all accessible on Gallica
 Next: by 2015 this project should be broadened to journals
 edited by other French observatories.

2014: Delisle correspondence and inventories/indexes

related to this correspondence (10.226 files)

Max Planck Institute for the History of Sciences research project.

Funded by: BSN 5, Max Planck Institute for the History of Sciences, Observatoire de Paris

Status: in progress, to be delivered in July 2014

2014: Minutes of the Bureau des Longitudes meetings (about 22.000 files)

Research project carried out by the Bureau des Longitudes, the Poincaré Archives and the Observatoire de Paris

Funded by: BSN 5 Status: in progress

2014: The Cassini dynasty — archives, correspondence and registers, about 13.000 files

Following the project carried out on Jean Dominique Cassini in 2013, the selected body of documents comprises observation reports, the

first archives of the Observatoire, Cassini's and Maraldi's correspondence, and analytical criticism materials of Jean Dominique Cassini's prints.

Funded by: BnF and Observatoire de Paris

Status: in progress, to be delivered in December 2014

2014/2015: iconographic and photographic documents (4683 files)

This body of documents is mostly centred around the people (portraits of astronomers and group photographs), the places (French and foreign observatories, settling of observation missions), the instruments and observation results (objects and celestial phenomena).

Funded by: BSN 5, PSL, Observatoire de Paris Status: to come

5. General technical specifications

Every document is digitised in colour at 300 to 400 dpi and saved as TIFF files. Prints are OCR-processed and tables of contents are manually entered. The aim of digitisation is to represent the “object” itself, which includes its information as well as the physical materiality of the document.

6. Content with added value: Towards digital humanities projects

In order to guarantee optimal accessibility of the documents, the digitisation process must include metadata work. Therefore, the library had to conduct detailed inventories of the hand-written documents for which none was available, such as the Hevelius and Delisle correspondence, the Minutes of the Bureau des Longitudes meetings, and the first archives of the Observatoire. This identification task was considerable.

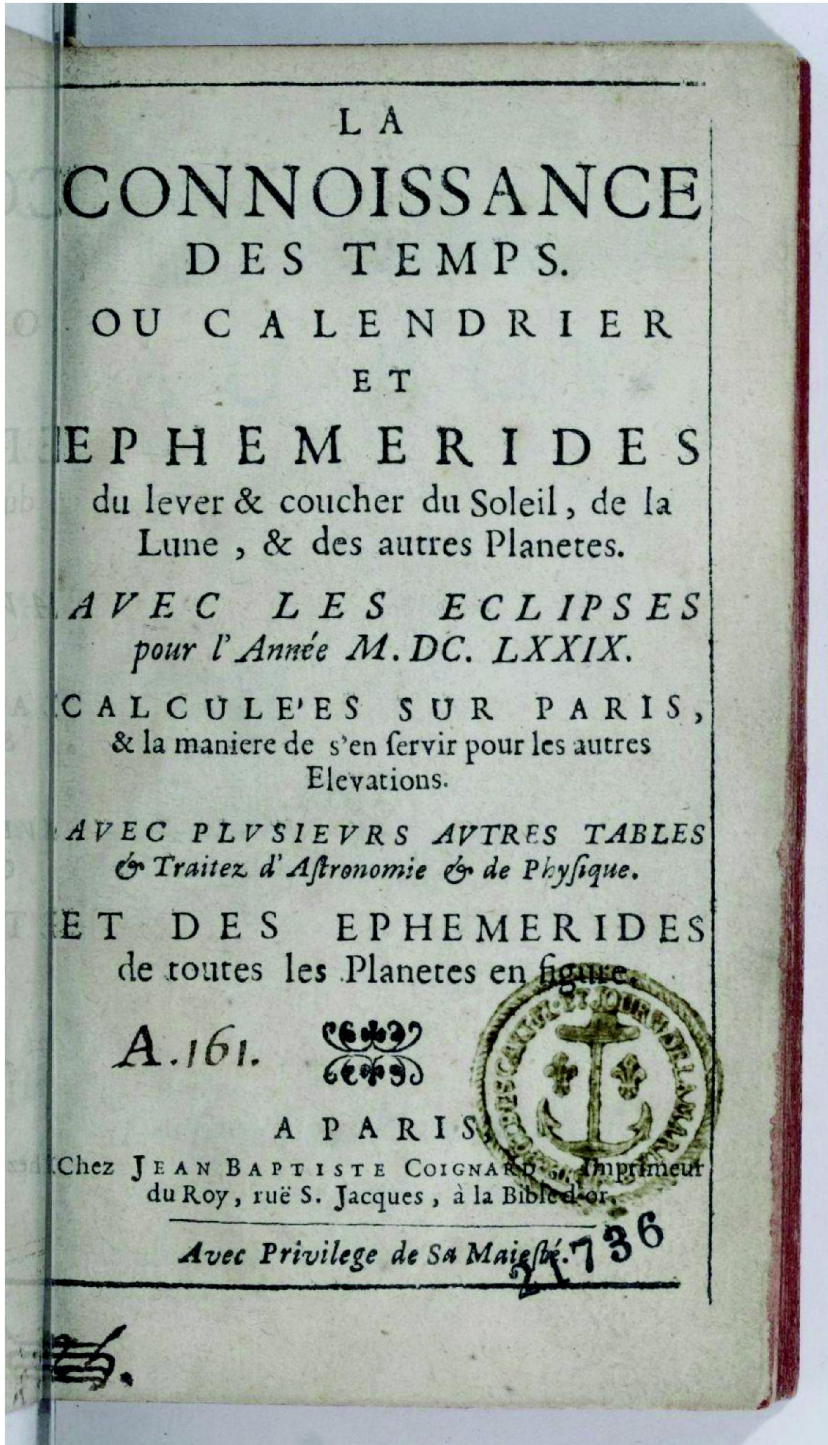
At the same time, the library is currently working on textual browsing tools that are specific to the Delisle correspondence and its inventories, as well as specific indexes to browse digital documents of the *Connaissance des Temps*, a partnership project with the Institut de Mécanique Céleste et de Calcul des Ephémérides.

7. What about the distribution?

Aside from the periodicals edited by the Observatoire, digitised by the BnF and accessible on Gallica, the Observatoire's digitised documents cannot be accessed online yet. The team working for the library does not have enough staff to carry out digitisation projects and to develop a digital library project at the same time. In 2014, the first analysis of the existing software was underway, as well as a reflection on what a digital library on the history of astronomy should be, including needs and editing policies. In 2015, priority will go to the development of a tool allowing the open accessibility of digitised content on the Internet. At this stage, we can say that beyond file management and access features, the tool will need to be an OAI harvester and allow boosting of its editorial content.



Figure 1. “Atlas de photographies solaires” by Jules Janssen, 1903, planche XXVII. ©Observatoire de Paris



Source gallica.bnf.fr / Observatoire de Paris

Figure 2. Title page of the first volume of “La Connoissance des temps”
 ©BNF/Observatoire de Paris

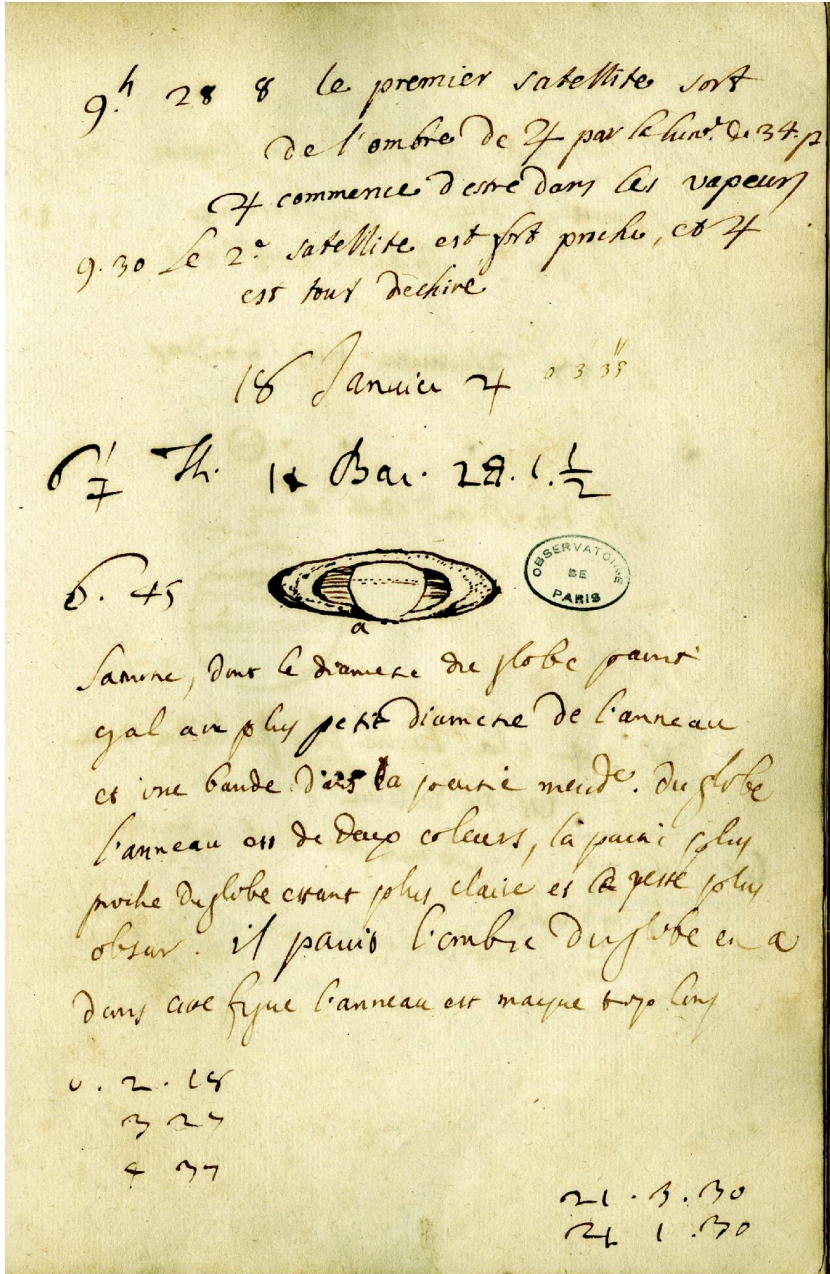


Figure 3. Observation of Saturn par J. - D. Cassini [Cassini I] le 18 janvier 1691.
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