The Bologna historical archives on the Web

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Abstract. The historical archives of the Department of Astronomy of Bologna collect papers from 1696 to 1958. The documents refer to the scientific activity of local astronomers, including letters, drawings, projects and manuscripts of their works. Our article describes the re-organization of the archives and its inventory, together with the project of availability on the Web. In fact, since the archives are often attended by foreign scholars, due to the wide-range relationships of the Bolognese astronomers throughout times, the best solution for an electronic availability seems to be the Internet. The project includes both string queries and sequence approach to the archives, together with hypertext links to the local museum and some iconography.

1. Introduction

The archives of the Department of Astronomy of the University of Bologna date back to the XVII century, collecting scientific and administrative papers, letters and drawings.

The astronomical institute of Bologna - first public observatory in Italy - was founded in 1711. The archives collect its preliminary documents, the first observations made in the astronomical tower, then following its history until 1957.

The papers can be divided into three main archival categories: meteorological observations, astronomical observations and 65 miscellaneous boxes.

The archives had been organized by prof.Guido Horn d'Arturo (1879-1967), director of the Observatory from 1921 to 1954. He followed a twofold method, both chronological and by subject. Therefore the boxes bear a title and are grouped according to their subject, such as "calendar", "ephemerides" or "letters". Inside the subject, the papers are placed in chronological order.

We decided to keep this organization, thinking that informatics could cope with some oddities in the classification. In order to select a program, at first we considered some Italian databases for historical archives and we eventually focussed on the program used at Brera Observatory, in Milan[2].

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[2] http://mahler.brera.mi.astro.it/img/port2.conf?377,76;
http://albinoni.brera.unimi.it/CAELUM/BIBLIO/biblioteca.html

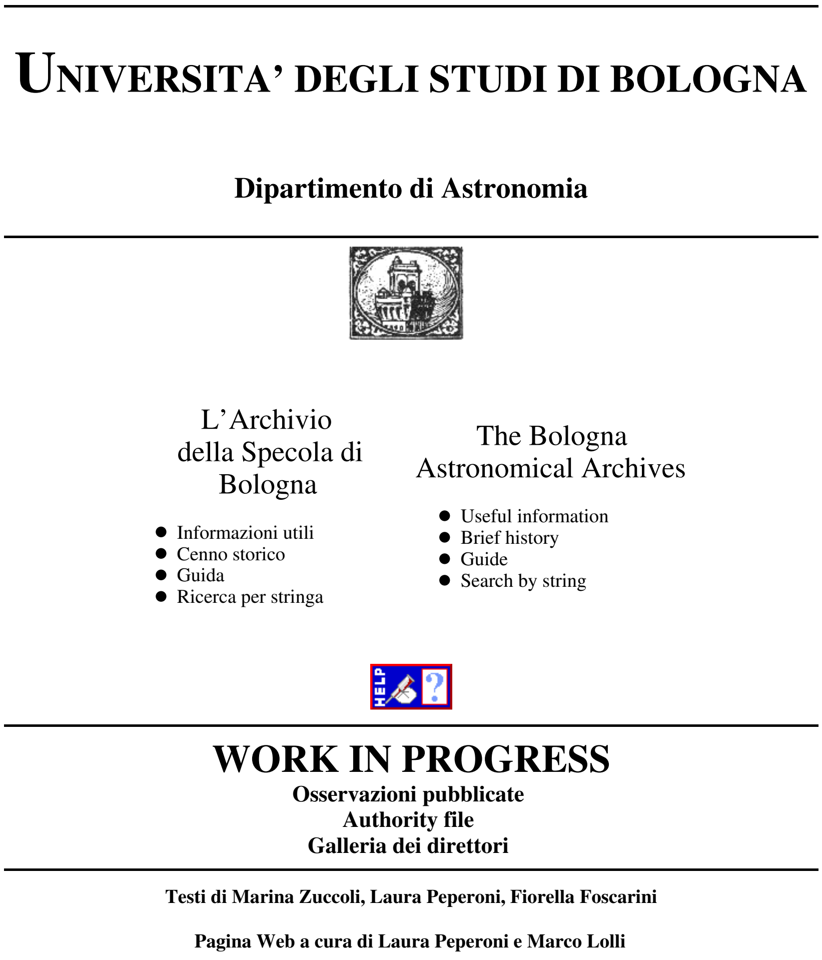

Figure 1. The home page of the Bologna historical archives

2. Our choice

Our choice went to a Web interface, putting the archives on the Web server of the Astronomical Observatory of Bologna[3]. The Web interface appeared suitable not only for aesthetical reasons, but also for its hypertextual structure and added values, such as e-mail, network-based information retrieval, and document saving.

The home page opens with general information about the archives and an interactive form for microfilm requests. A brief history of the Observatory is

[3] http://www.bo.astro.it/ biblio/Archives/copertina.htm

linked to a list of its directors. An English version of the historical introduction and of the main information services is provided.

The main part of the site is the archives inventory. The database, written in HTML, is made of files, all with uniform structure. Each file contains a description of the documents (or set of documents) collected in a box, or the list of notebooks of observations.

Our choice of the HTML language is based upon two reasons. The first is that, being HTML a standard format for description of document structure, Web browsers can view the files directly . Secondly, the wide spread diffusion of the Internet and of the Web interface ensures future maintenance and updating of the involved protocols and tools.

The database can be accessed **in sequence** and **searched by strings**.

The sequential approach is available through the hypertextual guide and its frame structure. The Web page is thus divided in two sections: a fix section on the left side, bearing the list of the archival series, and a larger one on the right, showing the item selected from the list.

Since taking care of the historical archives is not the only due, and maybe not the first one for the astronomical library, the work goes on slowly. The Web interface allows to present the archives even if work is still in progress. In fact, a first look at the archives is possible through the summary in the frame. As soon as an item in the list (e.g. a new box) is examined and decribed, a new file is linked to the summary. In the end, all items in the summary will have an analytical description on the right of the screen. Abstracts of each letter will be a further step in document description. Anyway, letters are available at the present with their date, place and names of sender and addressee; only a few of them are already abstracted.

Search by string has been developed trying to meet the users' needs, as they had been expressed during the last years. The archives are generally visited by university researchers (astronomers, historians of science and of meteorology) and by students attending the course of history of astronomy. Our historical archives deal mainly with astronomy, but some mathematics, physics, meteorology and other disciplines are touched by its documents. The life of the observatory itself is of paramount importance for historians of science. In fact it started its activity under the Pope's government, was closed by Napoleon and, in XXth century, it bored the consequencies of having a Hebrew director during Fascism. This makes the archives interesting for a wide range of users, whose information needs are not entirely predictable. Therefore search by string should be available on a very analytical database, even if archival theory suggests to stop description at series level.

Information retrieval is possible through WWWWAIS.C (2.5), an ANSI.C program downloadable from the Net[4]. It works as a gateway between other programs creating indexed files catalogs, such as freeWAIS or SWISH, and a Web formscapable browser. Search by string should follow the instructions supplied, using boolean operators AND and OR and the asterisk as a wildcard.

[4] http://www.eit.com/software/wwwais/wwwais.html

3. Work in progress

The page ends with a "Work in progress" section, comprehending three projects: the directors' gallery, the published observations and the authority file.

- The directors' gallery is a development of the directors' list showing, for each director, a portrait, a biography and a complete bibliography. By now the first director's page (e.g. Eustachio Manfredi) is available.
- The published observation project is based on the idea that the archives are strictly connected with the astronomy library and museum. Presence in the observatory of the instruments used for observations, together with the astronomers' notebooks and their books, create a unique witness of eighteenth-century astronomy in Bologna. Analysis of bibliographic sources shows that, in XVIII century, for each observed phenomenon a short communication was published in Italian after a couple of months. This brief account, usually not more than two-three pages long, was generally with no printer's name nor date. Today this kind of document would be called "grey literature". After some years a longer paper, in Latin language, used to appear in the proceedings of Bologna or Paris Academy of Sciences. Our project aims to create a link from the manuscript observations in the archives to the published observations, indicating which ones are owned by the astronomy library. Another link goes to the instrument mentioned in the observations and present in the museum, whose catalogue is available on the Web.
- The creation of an authority file is needed, in order to refine search by string. In fact the list of accepted forms of names can help to solve cases of synonyms and to identify the correct names of towns and people. Entering the accepted form as a string to be searched would allow easier and prompter searching. A future development of the authority file could even include subject headings, but the hypothesis is not in our plans, at the moment.

Our present task is to complete description of the boxes still missing to put them on the Web, supplying the astronomical community with an important tool for historical research.

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References

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