This year 2018 marks the 20th anniversary of the *Printers’ Device database* of the Rare Books and Manuscript CRAI Library of the University of Barcelona.

Since the database is a project created with our bibliographic funds, I think it is important, before talking about the database itself, to make a little introduction of our library. The collection of Rare Book and Manuscript Library of the University of Barcelona was created with the funds of the conventual libraries that had been expropriated in the decade of the 30s of the 19th century. They were very complete libraries from all religious orders, that had received important donations and bequests from private libraries. In number of volumes, I believe it’s important to mention that it hosts the largest collection of 16th century prints in Spain, the third in number of incunabula and the second in prints from the 17th and 18th centuries after the Spanish National Library.

With this volume of books, it is easy to understand that cataloguing is one of our main tasks. Online cataloguing of the incunabula and of 16th century editions is completed, but not the 17th, 18th centuries and the two first decades of the 19th century, of which approximately a fourth still doesn’t have an online version.

In the cataloguing, controlling the activity of those in charge of the edition is a basic task. I am referring to the mentions that appear in the imprint, on the title page as well as in the colophon, which include printers,
booksellers or editors. From now on, when I say printers, this term will also include those others responsible for publication.

In this sense, the incorporation of this data in the bibliographic record is fundamental. From the beginning of the online cataloguing in our library in 1985, the following were recorded in separated fields: the presence of typographical devices in books, the secondary entries of those responsible for publication, as well as the cities.

However, we soon realized that it was important to take a step further and conduct a more individualized study of printers, focusing on the geographical and chronological dimension, and their devices. The bibliography doesn’t always collect all this information. In fact, in many cases, the works dedicated to printers’ devices don’t carry out a comprehensive study of the printers, and the same happens in reverse: the works that study printers, don’t usually mention their marks.

It was as a result of all these reflections that we proposed the following: to create authority records of the printers in the library’s catalogue, and, to create a database linked to the bibliographic catalogue of those who presented devices. The great number of books that we catalogued allowed us to make a tool that was useful for us. In fact, at the beginning, the database was planned as a work tool for cataloguers.

Our collection ranges from the incunabula period until the year 1820 and it captures the editorial activity of modern times in all of Europe, especially Western and Mediterranean Europe. These characteristics permit the creation of a database with a wide chronological and
geographical scope. Sadly, with a limited presence of the Anglo-Saxon field.

The fundamental inconvenience of the database is that its structure is not based on Linked Open Data. However, as the records are incorporated in the CERL Thesaurus with a direct link to the database, the records become no so invisible on the net. Now, a change in the catalogue system is being planned in order to manage the data from the semantic web.

Currently, the *Printers’ mark database* includes over 1,800 printer records and nearly 3,200 images. From the very beginning, the database has been updated weekly with new additions and modifications.

In order to begin to grasp the scope of the database, here are some graphs of the most represented cities; the first correspond to the European cities that have more than 30 printers’ records.
We can see that the cities with most representation are Venice, Paris and Lyon with more than 200 printers records each, followed by other cities from different countries.

This second graph shows the most represented Spanish cities. I have included those with more than 10 printers in the database, in the following order: Madrid, Barcelona, Salamanca, Valencia, Zaragoza, Alcalá de Henares and Seville.

I’ve also included a graph of the printers’ records in the database distributed per centuries. We can observe that the 16th and 17th centuries are the most represented.
Printers’ devices database homepage and search page

I would now like to briefly look at the structure of the database. As I have said, it is informed by the authority printer records that have specific fields for their devices.

The database can be consulted in three languages: Catalan, Spanish and English, though Catalan is the main language. Headings and mark terms are translated in the English and Spanish interfaces, but the rest of the records are in Catalan.

The first four tabs are the following:

Home page, search page, bibliography and Timemap.

The Home page includes an explanation of the nature and function of the database and it also includes a link to a Pinterest account with
questionable images, that is, images we cannot assure are printers’
devices.

There are 7 search possibilities: printer, motto, ensign, city, country, mark
term and keyword with different possible operators.

Working with outdated software entails some problems. I will talk about
the three main issues: First, different search parameters cannot be
combined. Second, when the index option is selected (which is highly
recommended if you’re looking for printer, city and country), the results
for these two last options are not listed alphabetically but randomly.

For example, if we search Barcelona, the 59 results don’t follow any order.

In order to avoid this problem, we recommend to do the search using the
AND or OR options. However, be aware that the terms for cities and
countries are in Catalan.

It is important to mention, that all the different version of the printers’
names will appear as a result in the index. For example, these 9 entries
correspond to an only one normalized form.
Printers’ records in the database

That said, I will show you the printers records with its different fields. I am accessing to those from the database itself.

In the first place there is the link to the bibliographic catalogue, where all the books of the printer selected are listed, whether they have a device or not.

In the second place there is the persistent link of the record.
Then, there is a first part dedicated to the printer, his normalized name, the “see” references and the “see also” references in case of associations and lineages, the data of his activity, concretely the country, city and years, and if it is pertinent, a note field. Finally, the resources from where the information has been taken in a brief form, that are shown with its complete citation in the bibliography page that we will see afterwards.

Separated by a horizontal line, there is the information about the devices.

If a printer has various devices and these are iconographically different, these are considered separately and are shown with a horizontal line between them.

So, each different devise includes a description in free text in Catalan and if a motto exist, its transcription. In the case of mottos being used by different printers, this field becomes navigable.

In the cases of devices which are in red ink or two inks, for signed devices and for devices used by other printers, a note field appears.

The different devices of a printer that are iconographycally the same but with some variation, are shown in the same section.

The Mark term field includes the most significant iconographical terms from a vocabulary created by the cataloguers, which doesn’t follow any normalized thesaurus. The accepted terms are treated with an internal excel document in the three languages. We are aware that we have to think about the migration through a controlled vocabulary.
So, in our case, the iconographic study of the devices has to be done through this navigable field of device terms, thus allowing the user to group iconographic motifs.

Then the image of the device is shown with a rule at the side. The incorporation of the rule was in 2010. This is the reason why not all the images have it.

After, there is the link to the bibliographical record from which we have extracted the image.

And finally, in order to have an individualized citation of each mark, there is an identification number. Thus, the user will be able to obtain all the books that include one concrete device from the bibliographical catalogue. As this number has only been adopted since October 2016, this search is not really reliable yet, as they are being introduced little by little, and as you can imagine, this is a really slow task as it is necessary to look at each book individually to make the correct match.

**Bibliography page**

Now, I go back to the tabs at the top and I have to talk about the bibliography page. It includes a reference work list, both printed and virtual, that has been used to create the printers records, both for the normalized form and for the information about his activity. It is a long list that includes a great variety of works: authority catalogues on line, libraries catalogues, typobibliographies, as well as other type of studies
that give information about printers. We can access this bibliography from each printer record and nowadays it has more than 100 references.

**Timemap**

Finally, we have the Timemap.

In July 2017 we published this new resource. The large amount of data in the database encouraged us to take a step further and present the data in a more interactive and attractive way. The timemap allows the user to discover the printers of the database through a European map and a timeline. You can combine year and city.

The program has a fundamental inconvenience because it is only fully workable with the Mozzilla navigator. We are working to overcome this problem.

**Use of the printers’s devices in the printed books between 1501 and 1800. Research from the catalogue**

Next and to finish my presentation, I would like to show you a research based on our catalogue, not the database. The considerable amount of catalogued books in our library from the 16th to 18th centuries allows us to make a comparative study of the use of printers’ devices in books. Our library doesn’t have enough 15th century books, so I haven’t included them because the extraction of conclusions would be too risky.
If we calculate the proportion of printed books that present devices in relation with the totality of printed books in the different European cities, both European and Spanish, we can grasp which cities have used the devices the most and their evolution through the centuries. This calculation has been made from the internal application of the bibliographic catalogue program.

Anyway, these numbers should be interpreted cautiously and not as categorical data because they have been extracted from a catalogue of a specific library. The ideal would be to do this bibliometrical study based on different collections or collective catalogues in order to make more factually based affirmations about the use of printers’ marks. These samples could be the beginning of more extensive studies in this research line.

Let’s talk first of the use of printers’ marks in printed books in the European cities, not Spanish cities, with more than 500 books between 1501 and 1800.
In the graph we can see the order of use of printers’ devices per cities: Lyon, Antwerp, Venice, Cologne, Paris, followed by Rome.

Also, we can see the evolution through Modern times, where it is evident that the 16th century is when the devises have their moment of glory and the 18th century shows a considerable descent in use.
In the Spanish context, if we make the same calculations to obtain the percentage of books with marks in the different Spanish cities with the most printed books, we can see that Salamanca is the city that has the most, with 36%, with Madrid and Zaragoza following with 13%, followed by Valencia and Barcelona.
Referring to the evolution in Spain of the use of devices during these centuries, we can observe the same phenomena as in the European cities: the 16th century is the most represented, but the 18th century doesn’t suffer such a considerable descent as in the rest of Europe.
In order to see the difference of the evolution between European and Spanish more clearly, I have calculated the average of both. Through the graph we can see that the printers’ devices are used less in the Spanish context than in the European one, as well as it reflects the different tendency in the 18th century.

However, I would like to insist that this data is extracted from our catalogue and therefore cannot be interpreted in a literal way within the book production world during Modern Times. As I have said, they can be seen as an approach to some tendencies in the use of marks.

**Study on printers’ devices**

As a conclusion, I think it’s worth stressing the wide variety of different studies on printers’ devices. All of them can be done from local and
chronological concrete scopes. The database wants to be an initial tool for all them. I am going to mention some ones:

- Study of the different objectives that the book agents searched with the use of their devices.

- Iconographic systematization of the marks in order to observe the use and evolution of the different iconographic motifs.

- Study of the different devices of a same printer. In first place, control and put them in a chronological order, and in second place, to try to discover the reasons that justify this diversity.

- Study of the use of a concrete device by different printers. As the previous case, control them and search the reasons of the repetition.

- Use or not use of the motto in the marks. Evolution and possible reasons.

- Technique used in the devices, xylographic or chalcographic.

- Study of the specific functions of the owners of the devices: Printers, booksellers and editors. Relation with the place of the mark in the book.

- People responsible for the designs and engravings of the devices.

- Bibliometrical studies which can serve to understand better the use of devices, in a geographical frame as well as chronological, as I have presented in the end of my presentation. The results open the door to give pertinent arguments.
The list is sure to be longer and all the studies would help to understand better the function and the nature of this illustrative element so characteristic in ancient books.