The Essling LOD Project
From the Census to the Copies

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Abstract Les livres à figures vénitiens de la fin du XVe siècle et du commencement du XVIe (1907-1914), whose author is Victor Masséna, Prince of Essling, is a census of all illustrated books printed in Venice from 1469 to 1525. The bibliographical descriptions are chronologically organised, on the basis of a ‘genealogical’ approach, suitable for studying the iconographical and stylistic evolution of illustration. Almost all copies of Essling’s Venetian collection are now part of the Fondazione Giorgio Cini library. We conceived a digital tool based on the LOD technology that allows easy navigation among the data, connected with the national and international catalogues, and accompanied by facsimiles of the Cini copies.


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1 The Author

Les Livres à figures vénitiens de la fin du XVe siècle et du commencement du XVIe (1908-14) is a census of all illustrated books printed in Venice from the introduction of moveable type to 1525.

Its author is Victor Masséna (1836-1910), duke of Rivoli and after the death of his older brother in 1898, prince of Essling, a nephew of a famous Napoleonic marshal and the son of François-Victor Masséna, an amateur ornitholo-
gist, and Anne Debelle, lady in waiting of empress Eugénie, the wife of Napoleon III.1

After a brief military career and a few years as a member of the French parliament, and following his marriage in 1882 to Paule Furtado-Heine, the daughter of a rich banker and the widow of another Napoleon associate who left her an impressive inheritance, Essling decided to dedicate himself from 1885 to the twin tasks of adding to his exceptional collection of illustrated incunabula and sixteenth century books, Venetian in particular, and of studying it systematically according to a highly original method.

In the numerous and often picturesque woodcuts that adorned popular booklets as well as books made for the intellectual elites, Essling looked for evidences of an Italian Renaissance, hitherto known only by its masterpieces. Because of this quasi archaeological concern he sought original purity in his books. This led him to have his copies washed, pressed and whitened, to obtain ‘ideal copies’ that he protected under bright new bindings mostly produced in the Parisian workshop of Lortic – with rare exceptions for some of the oldest ones or for others already bound in the same 19th century taste. Their brilliantly coloured skins and parchments always bore his not so discrete gilded coat of arms that makes them easily recognisable: a winged victory holding a palm branch and an olive crown, with salient hound at the bottom, two rampant lions on the sides, the ducal – then princely – crown on top and below the motto Victor et Fidelis. They were prominently displayed in the library of Essling’s Parisian hôtel particulier, 8, Rue Jean Goujon, next to the Champs Elysées.

His first scholarly endeavours, erudite articles based on extensive archival research, were dedicated to aspects of Venetian illustration between the Quattrocento and the Cinquecento. They were mostly published in the Gazette des Beaux-Arts.2 In 1892, Essling published his first book, Bibliographie des livres à figures vénitiens (1469-1525), primarily based on his own collection but also on copies that he consulted during numerous scholarly trips, or on descriptions sent to him by the keepers of the main public and private book collections in Europe, with whom he always maintained intense relationships and an abundant correspondence.3 Four years later, in 1896, he followed suit with his monumental work on Missals printed in Venice, Études sur l’art de la gravure sur bois à Venise. Les missels imprimés à Venise de

1 Ramsden, “Early Venetian Illustrated Books”; Andreoli “Masséna, Victor, Rivoli”.
3 [Essling], “Bibliographie des livres à figures à figures vénitiens”.
1481 à 1600, description, illustration, bibliographie. Another monumental book was published in 1902 with the Alsatian-French art historian Eugène Müntz, Pétrarque, ses études d’art, son influence sur les artistes, ses portraits et ceux de Laure, l’illustration de ses écrits, with 191 photo-engravings, 21 of them full page.

Essling spent the last years of his life working on the book that is still his main claim to fame: the volumes of the Livres à figures vénitiens de la fin du XVe siècle et du commencement du XVIe, published in three parts and six volumes, the last volume, the third part, published posthumously in 1914 by his secretary and librarian, Charles Gérard.

Essling used in it the results of the systematic, in-depth study of the documents in the State Archive in Venice that he funded between July 1901 and April 1904, recording all existing information about miniaturists, printers and engravers active during the first century of print, the results of his impressive correspondence with curators and collectors in Europe, and especially, of course, the attentive examination of his own books, which are indicated in the catalogue by a small star in the list of the known copies of each edition.

As in his first work of 1892, Essling organised his census of Venetian illustrated books according to a ‘genealogical’ approach. After the first illustrated edition of a title, he indicated all successive ones until the middle years of the 16th century. Identifying the series of illustrations allows the reader not only to construct a hierarchy of iconographic developments, but also to compare contemporary editions united by the same graphic style. This method was wholeheartedly defended by Essling against professional bibliographers, who found it confusing, because he thought it well suited to the study of illustration and specifically to woodcuts.

Chance and fortune characterised the fate of the Essling library. The Parisian bookseller Louis Giraud-Badin sold it to the Swiss Ulrich Hoepli who organised a public sale in Zurich. Meanwhile, the learned Italian bookseller Tammaro De Marinis (1878-1969) signalled the collection to Count Vittorio Cini (1885-1977) – a collector and bibliophile as original as Essling had been, with a special interest in livres à figures – who decided to buy the Venetian core of Essling’s collection even before Hoepli could publish the catalogue of the sale that was supposed to take place in 1939. The rest of the collection was dis-

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4 Essling, Études sur l’art de la gravure sur bois à Venise.
5 Essling, Müntz, Pétrarque, Ses études d’art.
6 Essling, Les livres à figures vénitiens.
7 Venice, Archivio di Stato, Archivietto, busta “Duca di Rivoli”.
8 Kristeller, “La xilografia veneziana”.
persed during two public sales in 1939 and 1942. After keeping the Essling Venetian books in his castle of Monselice, where De Marinis prepared their first catalogue, in 1962 Cini offered them to the Foundation that he created on the Venetian island of San Giorgio Maggiore island, in memory of his son, Giorgio, killed in an air crash.

The very same year, De Marinis, who had personally acquired some 15th and 16th century Florentine editions and the reference library of the prince, gave them to the new institution.

The Nuova Manica Lunga, the Fondazione’s new and stunning library that now occupies the former dormitory of the Renaissance Benedictine monastery, holds the largest portion of Venetian books in Essling’s collection. It is exceptional that such an important collection, a remarkable source for the history of the Renaissance illustrated book and Venetian woodcuts, remarkable also because of the quality of its copies, would have been kept almost whole. Editions printed in other Italian, French or Northern printing towns, and some duplicates, are now in the most important American libraries such as the Houghton Library of Harvard University, the Library of Congress, the Beinecke Library in Yale University, the Boston Public Library, the Getty, etc. Essling copies still regularly appear, and disappear, on the market.

2 The Census

Today Livres à figures is still the indispensable bibliographical reference tool for the study of illustrated Venetian books. It is essential reading for historians of the book, for librarians, for rare-book dealers and collectors, but also for art historians and print experts who consider illustrated books as a mirror of contemporary art and a medium for its diffusion.

The Essling census covered the first century of the history of printing, when Venice was the European capital of printing and when some of the most important printers and artists of the Venetian Renais-


10 Livres à figures; Livres rares et précieux.
11 De Marinis, Il Castello di Monselice. About the Fondazione, Agnati, La Fondazione Giorgio Cini.
12 Rhodes, Catalogo del fondo librario antico.
13 The Authors express their heartfelt thanks to Alessandro Antonuccio of hstudio, for the graphic conception.
sance were active: the illustrations that adorn the pages of the books described by Essling are thus a precious testimony to this extraordinary moment in the history of Venice, and in the history of the illustrated printed book.14

As previously indicated, the content of the census is organised chronologically, the description of the first illustrated edition of a given title being followed, as in a genealogical tree, by the descriptions of all subsequent illustrated editions. The trunk, so to speak, is the title of the work; the limbs are all the editions presented in chronological order, while the leaves are the copies, the material objects.

We use a woodcut from an edition of *Hortus sanitatis* to visualise the work’s structure.15 It represents the *Divine Comedy*; the leaves correspond to copies identified in one or more libraries as described by Essling; those in the shape of stars represent the copies owned by Essling, now at the Nuova Manica Lunga. Because of the unique connoisseurship of the author, the census is much more than a mere list of illustrated Venetian editions. It contains abundant notes in which Essling provided detailed descriptions of illustrations that he minutely compared with those present in other editions.

15 Essling, *Les livres à figures vénitiens*, entry no. 1723, fig. 1; *Ortus sanitatis* [...]. Venetijs: per Bernardinum Benalium: Et Joannem de Cero de Tridino alias Tacuinum, 1511 Die XI Augusti.
There are 2,889 entries in the census: 2,585 are numbered, 275 are not, and there are 29 more in the *Addenda*. There are 488 descriptions based on Essling’s own copies. Some of these were not found in the holdings of the Fondazione Giorgio Cini, probably because dispersed before the sale, ‘lost in transaction’, to quote Falk Eisermann.\(^{16}\) However, thanks to an important donation of more than 800 15th- and 16th-century books that entered the library in 2008, the Grassetti collection, many books mentioned in *Livres à figures* but not owned by Essling, have now enriched the library’s collections.\(^{17}\) Moreover, Cini and Grassetti, who knew one another, exchanged some copies and, thanks to this donation, some Essling books could rejoin their original collection.

### 3 The Essling LOD project

The unique character of the Essling census made us wonder whether a digital tool could be created to allow easy navigation among the editions described and to link the Essling descriptions with major reference tools. Taking into account the work of ICCU\(^{18}\) in terms of Semantic Web and Linked Open Data (LOD) we contacted Regesta.exe, a service provider for Cini digital archives, with whom we plan to publish the data in open and shared format with controlled vocabulary and formal ontologies, in relation with other Open Data that share the same features.\(^{19}\)

Bearing in mind the indications of the Digital Agenda for Europe in terms of interoperability, and well aware that library catalogues cannot be accessed through search engines, we decided to base the entire project on the Resource Description Framework Standard (RDF) and Linked Open Data (LOD) technology.\(^{20}\) We also decided to use Semantic Web tools because they facilitate the discovery of new information assets as well as the use of available data. These choices highlight our will to work collaboratively, using international standards and supporting interoperability.

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\(^{16}\) Eisermann, “Lost in Transaction”. Some missing copies identified in American libraries were probably sold before the catalogue for the 1939 sale was prepared. Essling continued to add to his collection after the first volumes were published, so that the Fondazione Cini possesses copies described in the census but not identified as his.

\(^{17}\) The catalogue of the Grassetti collection, compiled by Daniele Danesi with Ilenia Maschietto, is forthcoming (Florence: Leo S. Olschki Editore).

\(^{18}\) Istituto Centrale per il Catalogo Unico delle biblioteche italiane e per le informazioni bibliografiche, [https://www.iccu.sbn.it/it/attivita-servizi/attivita-nazionali/pagina_0867.html](https://www.iccu.sbn.it/it/attivita-servizi/attivita-nazionali/pagina_0867.html).

\(^{19}\) URL [https://www.regesta.com/info/](https://www.regesta.com/info/).

\(^{20}\) URL [https://www.w3.org/RDF/](https://www.w3.org/RDF/), [https://www.ifla.org/about-linked-data](https://www.ifla.org/about-linked-data); [https://www.w3.org/DesignIssues/LinkedData.html](https://www.w3.org/DesignIssues/LinkedData.html).
We also have endeavoured to guarantee the permanence of digital information on the web in the long term as well as its high level of availability and visibility. LOD technology and its best practices, first conceived by Tim Berners-Lee, creator of the World Wide Web, was immediately put to good use by international experts working in archives and libraries so that the huge mass of available bibliographical data, structured according to Web standards, could be linked to each other. Using standardised vocabularies, specific ontologies and shared languages was indispensable to allowing access not only to the database but to numerous external resources.

RDF-standard defines relations between objects through triples. This way, contents are created out of a simple relationship, according to the ‘subject-predicate-object’ model. We thus produced a set of metadata and ontologies with wide granularity levels, describing the resources, in accordance with the Functional Requirements for Bibliographic Records model (FRBR), at three levels of abstraction: work (‘short title’), instance (edition) and item (copy), which corresponded to Essling’s trunks, limbs and leaves. We specifically use the Bibframe model to describe data referring to the individual bibliographic unit of the Essling census and Dublin Core vocabulary metadata for more general information; from every bibliographic unit we extract and ‘triplify’ information about the identification of the editions; then, each unit is associated with VIAF authorities and is linked to the same edition, as described in other national and international catalogues such as SBN, Edit16, ISTC; likewise, we link the Cini copies with the descriptions in MEI and Archivio Possessori, thus increasing also the CERL Thesaurus. This interconnection will be achieved through the use of Natural Language Processing tools that

21 Berners-Lee, Fischetti, Weaving the Web; Bizer, Heath, Berners-Lee, ”Linked Data: The Story So Far”.
22 Bianchini, ”Dagli OPAC ai library linked data”; Guerrini, Linked data per biblioteche; Cervone, Svensson, Linked Data and User Interaction; Baker, ”Designing Data for the Open World of the Web”, 63-6.
23 International Federation of Library Associations and Institutions; IFLA Study Group on the Functional Requirements for Bibliographic Records, Functional Requirements; Coyl, Frbr, Before and After; Galeffi, Sardo, FRBR; Guerrini, Bianchini, Possemdo, Manuale RDA.
26 URL https://viaf.org/.
will extract the entities present in quotations. The operational steps of the project include a first phase of transformation into RDF according to the established ontologies of metadata related to the quotations of the Essling’s census, the reconciliation of internal information through the use of SKOS vocabularies (‘a common data model for sharing and linking knowledge organisation systems via the Web’) and thesauri and, finally, an interconnection with external datasets through the automatic identification and validation of triples.

We started to transfer the data in the new database, based on xDams. xDams is a multimedia and document platform, designed and developed by Regesta.exe in 2002, with subsequent enhancements, and available under an Open Source licence from 2012. Thanks to its own versatility it has been possible to perfect a scientific model for collecting data, suitable for the different type of data and for the main national and international bibliographic standards. Thanks to this digital tool, we were able to insert and link together the stand-
ardised bibliographic information of the edition (author, title, printer, place and date of printing, format, etc.) with the copy specific data (binding, ownership, manuscript annotations, etc.), also standardised by means of specific vocabularies. Thanks to continuous and close collaboration between specialists of the hand printed book and data architects, we created a digital tool based on the latest information technology, able to meet the needs of librarians as well as to those of scholars.

The final result of this project will be a portal through which to interrogate the Essling census; compared to the original printed one, the Essling LOD will be enriched by bibliographic information assembled by bibliographers and librarians during the course of the century following the original publication; information made uniform, standardised, open and shareable through electronic catalogues.

The library of the Fondazione Giorgio Cini was the best suited to develop a new relationship between the census and the collection with LOD because of the unique character of its rare book collection and a policy that favours the development of new tools to make the collection more accessible.

In the context of the Printing Revolution conference, we decided to conduct a simulation using a well-known title, published both in the fifteenth century and in the following one: Ketham’s *Fasciculus medicinae*, of which Essling listed nine illustrated editions, published in Venice from 1491 to 1522, three of them owned by him and now in the Cini collection [fig. 3].

As we can see [fig. 4], the short title (work) “Fasciculus medicinae” introduces a list of nine editions (instances), each providing different bibliographic information, first about the edition:

- **label**: Essling’s entry, date, printer and title;
- **title**: edition’s title;
- **alternative title**: edition’s alternative title;
- **provision Activity Statement**: printer/publisher as reported in the census;
- **source**: known copies quoted by Essling;
- **work**: work’s short title;
- **isReferencedBy**: bibliography of the edition, links to Sander’s census;
- **identifier**: identification number in Edit16, SBN and ISTC catalogues;
- **contribution**: agent’s responsibilities in the edition (i.e. author, editor, translator, etc.);
- **physical description**: leaves, illustration;
- **impronta**: fingerprint;

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31 Sander, *Les livres à figures italien*.
Clearly, the editions identified in the census with a star, that is described in Essling as his own copies and now at the Fondazione Cini, are described in depth at the item level, providing much more information on the specific Essling copy:

- **label**: title;
- **identifier**: handwritten number on Essling’s copies;
- **custodial History**: provenances notes;
- **shelfmark**: Cini’s shelfmark;
- **historical shelfmark**: former shelfmarks;
- **Essling binding-cover material**;
- **Essling binding-coat of arms**;
- **Essling binding-cover colour**;
- **other binding**;

**Figure 3** Graphic representation of Ketham’s editions listed by Essling
Another development providing access to the collection of rare books in the Fondazione Giorgio Cini is the digitisation of the entire collection; copies owned by Essling have priority and they will be digitised first. In collaboration with ARCHiVe (Analysis and Recording of Cultural Heritage in Venice), the new centre for digitisation inaugurated a few months ago on the island of San Giorgio Maggiore, we are currently working on guidelines for a standard model adapted to the rare books collection.  

Work done on metadata\textsuperscript{33} will make it possible, for example, to extract the files with engravings, woodcuts, frames, ornamental initials, and graphs coming from incunabula and contribute to 15cILLUSTRATION, the image-matching system developed by the 15cBOOKTRADE Project.\textsuperscript{34}

The digital reproductions of the rare books stored in the Fondazione Giorgio Cini will be linked to their specific descriptions in the Essling LOD. This means that it will be possible to read \textit{Les livres à figures} and to have digital access to the copies owned by the author during his bibliographical activities, coming full circle, back to the title, from the census to the copies.

It is important to underline how this project represents the meeting point of information technologies and bibliographic skills, where the digital world meets primary and secondary sources of the humanities. We can talk with every justification of a project in the field of digital humanities; the achievement is the result of efforts made by very different actors to learn the vocabularies and tools of each other, with the common goal of publishing and sharing data for the entire scientific community.

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