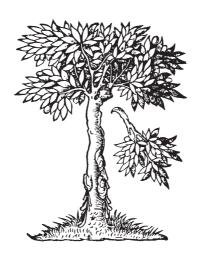
SCRIPT, PRINT AND THE INTERNET

Script, print and the internet:

the early-modern book and its readers

Papers presented on 9 November 2007 at the CERL Seminar hosted by the Universitetsbibliotek, Uppsala

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Shelf-marks at Vadstena Abbey: a late-medieval retrieval system

MONICA HEDLUND

Every book collector knows that books must be arranged in some kind of order to be useful. With a couple of hundred books, you may not need a very complicated system, and in the early Middle Ages, most cathedral and monastic libraries were rather small, even if we know of some libraries with holdings of several hundred books. But from the mid-twelfth century, with the rise of the universities, libraries start to grow, and reading habits start to change, too; instead of the slow and contemplative reading of one book at a time, practised in the monastic milieus of the Early and High Middle Ages, a new form of reading and a much more practical use of books emerged; the new generations of book users, the university people, used books to look up things, to compare texts, to prove or falsify theories. These users needed many books at a time, they wanted them quickly, and they wanted them to be there when they needed them. This type of book use was instrumental in creating the typical late-medieval and early-modern reference libraries furnished with long book desks, where books were chained, normally according to their subject matter. At the Sorbonne, for instance, they had such a reference library, called the magna *libraria*; this name, however, indicated that the room it was kept in was large (and probably that it contained the most important books), for, in 1338, it only contained some 330 volumes and the college actually owned a much more numerous book collection that was not chained and from which books could be borrowed by masters and students.

If the older, small monastic libraries could manage well with rather primitive inventory lists, designed more to establish the ownership of books than for retrieval purposes, the new growing library collections called for better and more precise cataloguing and retrieval methods. Here, too, the Sorbonne showed the way. Their way of identifying single manuscripts by the *incipit* of the second folio spread widely and was used

for instance in the only English Brigittine house, Syon Abbey. This was, however, still more a way of securing the ownership of a specific copy of a book than a retrieval system. But then their systematic arrangement of their reference books, starting with Bibles and biblical commentaries, came to be a model used – with local variations – practically everywhere. And a systematic grouping is easily turned into a shelf-list, and as such it can function as a catalogue for users, not just as an owner's inventory.

Towards the end of the Middle Ages, shelf-marking based on systematic grouping came to be used all over Europe. Shelf-marks were both entered into the books and put up on library walls or on book-cases, to help readers find a certain book as well as to help him to replace it correctly. But still, the librarian is the ultimate resource. As Umberto Eco says in his famous book, only the librarian knows where everything is . . .

During this period, new methods of citation were also developed. Pagination is, as we know, a rather late feature; the normal method in the Middle Ages, from the twelfth century on, was foliation, often combined with column numbers or letters. For more precise information, we often see letters in the margins too, most often A to D, dividing a full page into smaller units. An extreme case is the practice at Oxford University, where many scholarly manuscripts even have line numbers entered in the margin, to facilitate precise quotation.

In Sweden, medieval libraries were small and rather insignificant, or at least, the remains of them are rather insignificant. Besides Vadstena, we have substantial remains from only two monastic and one cathedral library (Strängnäs), in each case between 20 and 25 manuscripts in all (I now exclude the cathedral of Lund, which was the metropolitan see of Denmark in the Middle Ages). The two monastic libraries, the Blackfriars of Sigtuna (between Uppsala and Stockholm) and the Greyfriars of Stockholm, evidently chained their books and wrote some kind of owners' marks in them, but they did not use shelf-marks and we have no catalogues or inventories left from them.

The great exception, both in size and in library techniques, is the monastic library of Vadstena Abbey, the mother house of the Brigittine order, founded in the 1370s and officially consecrated in 1384. From this house, more than 450 manuscripts and about 40 incunabula have survived. Most of the Latin manuscripts are now kept in Uppsala University Library and belong to the so-called C collection. Most of the vernacular manuscripts were brought to the Royal Library of Stockholm, some administrative material ended up in the National Archives, and then there

are smaller groups or single manuscripts at many places in Sweden and abroad. All these books did not, at least not technically, belong to the same library: the monastery was a combination of two convents, one male, consisting of thirteen priest brothers, four deacons and eight lay brothers, and one female, consisting of sixty nuns. Some liturgical books belonged to or at least were kept in their common church; of these latter books only fragments remain, since most of them were cut up for post-Reformation bookbindings. The nuns had their own book collection, mainly consisting of books in Old Swedish, since they were not required to know Latin, even though many of them seem to have had a fairly good knowledge of the language. Their devotional literature and table reading was in Swedish, but they also had their personal liturgical books, such as Psalters, which were in Latin, and many of the nuns had their own prayer books with a mixture of Latin and vernacular material in them.

When we speak of the Vadstena library, we most often mean the men's library, the learned library. This collection was brought together in a period of less than 150 years; it has been estimated to have contained at least 1,400 volumes, which is a very impressive figure for that time and indicates that the library was the largest in Scandinavia and could compete with important continental libraries.

Now to the question: how can we claim that the brothers owned over 1,400 books, when we only have some 400 left from their collection?

Most often, we recognise a book from the brothers' library by its shelf-mark. In its fully developed version, it was a three-digit system. We do not know exactly to what form of repository system the digits refer, but the hierarchy is absolutely clear: the first item was a letter, designing the library unit, the case or repository, the second was a number, indicating the section or level, probably a shelf, and the third, also a number, marked the place of the book in the row on that shelf.

By collecting all known Vadstena shelf-marks and arranging them on virtual shelves, library historians already in the late nineteenth century could approximate at a total of some 1,400 books. Since then, we have found some more shelf-marks but also several books that for some reason lack the shelf-mark but still undoubtedly belonged to the brothers' library. So today we say 1,400–1,500 volumes, and some scholars would even go up to some 1,800, a very high number indeed for the late Middle Ages.

To this estimation must be added that we are not speaking of 1,400 works – in accordance with the normal medieval practice, each bound volume could contain several works; in some cases, such as the sermon

collections of which I will say more later on, we have counted up to a hundred separate and identifiable textual units within a volume.

Even if the library reached its peak, both in number and in organisation, in the decades just before the Reformation, it started to grow rapidly as early as around 1400. In a study from 1997 by Anna Fredriksson Adman, the acquisitions and holdings have been sorted into periods on the basis of information gleaned from the codices themselves, such as owner's notices, colophons, secondarily inserted texts etc., mainly information available in the modern catalogue of the C collection.

When we look closer at some of the oldest acquisitions, we see that the typical Vadstena shelf-mark is not homogeneous: the first two units are written by one hand, the third is added secondarily (Fig. 1). But we can also see yet another shelf-mark there, which is written in red ink. This is a trace of the oldest system, preserved in only a few books, which has never been properly investigated. We do not even know, whether it was a system used at Vadstena in the first years or if it is taken over from some other library, from which Vadstena bought books (for we do know that books came there at least from their neighbours, the Blackfriars at Skänninge, but we simply do not have enough material to build any theories on).

The two-digit system, however, was in full use in the late fourteenth and in the first decades of the fifteenth century. The Nestor of Swedish book historians, Sten G. Lindberg, listed all known shelf-marks according to where they were written and whether they had had two or three digits in the first place. He concluded that the oldest library practice must have been to place the books on their front cover (which most often have bosses) and write a two-digit shelf-mark and a title on the back cover, which was then what the book user saw, when he looked into the repository, whether it was some kind of a chest, a cupboard, or a more modern book-case – the term used is *capsa*, which originally was a container for book scrolls but then got a wider meaning as a container in general but not least for books (cf. the English word *case*, which is derived from *capsa*).

Lindberg also saw that when the brothers added the third digit, they completed the old ones where they were, on the back covers, but they also started to write the new shelf-marks on the front cover or on the first leaf of the volume – some books have shelf-marks in several places. Since this new shelf-mark system coincides with titles written on the front covers, Lindberg thought that the brothers just turned their books upside down. It is a fact that the brothers often speak of the books as 'lying', not 'standing' on or in the *capsa*. But it is difficult to see this as the whole



FIGURE 1 Cod. Ups. C 351. Photograph by Uppsala University Library.

A typical early Vadstena binding, with a horn-plate and brass bars over the title on the back cover. Under the horn-plate, there is also an old shelf-mark, *E. vj* (in red). Red shelf-marks are few and mostly preserved only where they could not easily be deleted. Above the horn-plate, a new shelf-mark, *E. II*, has been added, and finally this latter mark has been completed with a third digit, in this case 12 (today barely legible).

explanation; at least to me, it seems more probable that the brothers started to stand their books up on shelves, to save space, when the collections outgrew the old system. The change from lying books to standing books is a late-medieval and early-modern development, which takes place even in milieus where books were chained; at Vadstena, where books were not chained, it must have been much easier to change the practice.

The organisation of the library also took the form of preparing the books themselves for scholarly reading. As said before, pagination as we do it is a rather late usage. In the late Middle Ages, foliation is the rule, but many medieval codices were not even foliated. At Vadstena, the brothers seem to have preferred to use a combination of letters and leaf (or sometimes page) numbers. Many books that have been important for the brothers' daily study are organised in this way, the letters sometimes used for gatherings but more often for units of contents, not for gatherings or other codicological units; that is, they are clearly secondary to the construction of the actual codex and related to its use. To make the system operational, the brothers inserted in the books very comprehensive lists of contents based on this reference system. And those lists work perfectly well; they have been extremely useful for us when cataloguing the volumes.

In many Vadstena books, we can see that the brothers used their own system, and we can also follow its development. Most of our knowledge of these matters derives from one single brother, a man called Johannes Borquardi. He came from Stockholm, of German stock to judge from his patronymic. He joined Vadstena in 1428 and lived there till his death in 1447. He was himself one of the most prolific preachers there, and he has left three big volumes of collected sermons. Two of these, and a part of the third he wrote down himself, and the texts are clearly sermons he has reworked in Latin, after delivering them in Swedish. They are meant to be used by himself and his colleagues, as material for sermon preparation. We have a great number of volumes containing such material in the C collection, more than 12,000 sermons, in fact. Over 6,000 of them have been written down at Vadstena, and the great majority of those were composed there as well. But Johannes Borquardi is especially interesting, because at the end of some of his sermons, he has collected useful tips for the composition of further sermons for the same day or for the same biblical text. These references, some sixty short texts, have been used as early as in the 1920s to date the addition of the third and last digit of the shelf-marks to his lifetime, but they can yield much more information. Johannes uses the library system in such a way that his notes can be used *firstly* to find out which books were in the library already at his time, *secondly* to fill in gaps in the book-lists we can make up on the basis of extant books with shelfmarks, *thirdly* to establish which books Johannes himself saw as the most important sources for his sermons, and *finally* to analyse in depth how Johannes used these sources. I have recently written a couple of papers on the last two of these four aspects. In this paper, I will only address the first two aspects, that is, I will try to discuss the practical side of his use.

In all of his references, Johannes often refers to a book only with a title or an author name, when the book is very well-known, e.g. Johannes de Voragine, or Jordanus (sc. de Quedlinburg), two of the most admired preachers of the late Middle Ages. Obviously, they needed no further presentation. But when he wants to point out less well-known books, he has to use other methods. In his first collection, Codex Upsaliensis C 330, which contains Sunday sermons, he often refers to two-digit shelf-marks, but it is evident that this system was totally inadequate by this time, since he adds long and detailed descriptions of the books in questions (Fig. 2). A couple of these books were identified by earlier scholars, some by the cataloguing team that wrote the modern catalogue of the C collection, and I have been able to add a couple of numbers later, but it is often difficult to be absolutely sure which book Johannes means and if it is at all to be found among the extant codices or if it is now lost. Sometimes Johannes uses a sort of macaronic language in these descriptions, for instance require in bruna bokenne ('look in the brown book', or 'the book has long bands de rødhlaske', i.e. of red morocco). He seems to have had problems both with words for colours and for different kinds of skin or leather.

Of his other two collections, cod. Ups. C 331 and C 392, the latter is a continuation of C 330, containing Sunday and Feast sermons probably from Johannes's later years, whereas C 331 runs parallel to the two other collection and contains only sermons for Saints' Days; these were probably preached during the same period as the Sunday sermons. In C 330, at the beginning of C 392, and for most part of C 331, Johannes refers to books by two-digit shelf-marks and long descriptions, but suddenly there is this new feature in the two latter manuscripts; the first book quoted with three digits in both C 392 and C 331 has the shelf-mark D V 7. It is, however, evident that this new method is not yet quite accepted, or Johannes is not prepared to rely on it, for in both cases he adds one of his rather detailed descriptions, too: the book is thick and covered in red reindeer skin, he says. Towards the end of both his later collections, the

95 fond ut pomeful a laboreby put Det igo ope 809 ut for applier ut as ethal gete valeamy puer 22 mob Je de com some some some using set par of motour se con 2 promoto of the company of the post of a special of the company of the post of the company of the c valsamy pr 3 7 forma pegin devi initari 2 pfe pegna sort 2 cam no visebut me 2 they mositive a colour me 92 vado ad prem of pol from In the the the mir could Emediat 2 enuat ventes illas que metre fra palute In n Smen post pasteda meorual gant se fise que go 32 ocració crost que go 2 firme mais Apol co m fise millo saluan po ut staple On file apople 2 poluari to fir in apla suo aple 192 Gintozia q ad qued windit /2 obs 2/ qued al pt/2 qued o fito crit nofe pe की किया द्वार सामादा अने का कर्में दे की मारे दे वित किया timozene Pipo peas z fano ses veram ut mfo fias of the मार्थि की क्वक्टिंग दिनार्थ क्षा का मारिय कि किय दिना मिरिकार a 200 2 time no forte I par troop 14 Bat & cullby for quay The males and wallinget worth amobandi Gua mid

FIGURE 2 Cod. Ups. C 330, fol. 190r. Photograph by Uppsala University Library.

After a sermon for Easter Monday, we find the following text in smaller script (end of l. 3):

Item alium sermonem de themate Mane nobiscum domine' require in Contractu de tempore et in sermonibus gallicis Capsa E ij: tytulus est textus 'Sermones de dominicis super ewangelia et epistolas' sub quodam cornu ...

(Look for another sermon on the theme 'Stay with us' in Contractus' Sunday sermons and in the French sermons in case E ii: the title is, in block letters, 'Sunday sermons on the Gospel and Epistle lessons', under a horn-plate ...)

The second part of this reference is a perfect description of the binding depicted above, and the sermon indicated is to be found there, C 351, fols 59v–62r. The 'Gallic sermons', by Guilelmus de Malliaco, are in Latin but they often contain a proverb or a sentence in French.

three-digit system is in consistent use, as a rule combined with a title or an author name, but without the earlier physical descriptions. So it is evidently a correct conclusion that the system was changed during Johannes Borquardi's lifetime, and it is quite possible that his long and imprecise references inspired the change into a more modern and efficient system.

Some decades later than Johannes Borquardi, Clemens Petri (or Clement Peterson) entered the monastery (1462-1500). He, too, was a dedicated preacher and wrote down a great number of his sermons in Latin, often giving some suggestions for new sermons on the same theme as the one just finished. We find such suggestions in two manuscripts, C 308 and C 321. It is evident that he has been inspired by Johannes Borquardi, for he cites him very often, sometimes with a full three-digit shelf-mark and sometimes without any reference at all (he never ever uses a two-digit shelf-mark). He quotes the same well-known books as does Johannes without any further information at all, but he very rarely describes a book - only twice in 19 references; in these cases, the information is superfluous, since he gives the full shelf-mark; both books are extant, too, so we can check his references and see that the shelf-marks are correct. Once, one may ask oneself if Clemens was colour-blind or if a book has been rebound very late, for he says that the quoted source is a red book, and it is certainly brown today and does not look as if the colour has changed with the time.

But the most important difference between Clemens and his older brother is that Clemens also makes extensive use of the foliation system described above. He writes, for instance (C 321:233v) De ista dominica scilicet tercia pasche require in collectis fratris Geruini Q iii; liber iacet D V et est 13 in ordine 'For this Sunday, i.e. the third Sunday after Easter, see in brother Gervin's collection Q 3; the book lies in D V and is number 13 in the row.' D V 13 is extant and has the modern shelf-mark C 328. The book is organised with letters and numbers, and we can look up Q 3; it is today fol. 183r, and there we find precisely the sermon Clemens wanted to use. And I could quote many more instances. I will give just one more, to demonstrate how efficient the system could be - but also that Clemens was careless sometimes: on C 308:278r he refers to sermons on St Birgitta. They can be found in collectis Borquardi de sanctis D 33 et A 1, F 14, G 34, M 12, 'In Borquardi's collection for Saints' Days, D 33 ...' Johannes Borquardi's collection for Saints' Days is a book we have discussed before, viz Ĉ 331; the letters and numbers correspond to fol. 97v, 12r, 138v, 172v, 281v. All Clemens's references are correct but one: 'D 33' ought to be 'D 28'.

But the numbers in C 331 are written in Roman numerals, and it is extremely easy to read xxxiij for xxviij, which is what Clemens must have done here. And he makes similar mistakes a couple of times more.

Finally, I will demonstrate how Johannes's references can be used to supplement the reconstruction of the library that has been made already on the basis of extant shelf-marks. First a preliminary remark: the library was basically organised according to subject matter. Capsa A and B contained Bibles and Biblical commentaries, also some early collections of sermons; very few books are extant from those cases. C, D, and E and partly also F contained mostly sermons, of which a great many have come down to us, probably because they were most often written on paper, of small sizes, and thus unsuitable for bookbinding purposes. G seems to have held especially Canon Law, in most cases books of higher technical quality - and thus also more often 'recycled' - there are very few books still extant with G shelf-marks. Capsa H also starts with Canon Law, but the rest of it was filled with university philosophy, commentaries on Aristotle and such matter. For the rest of the cases, it is difficult to see any clear system, and there are also signs that the systematic order broke down, so that late acquisitions had to be accommodated simply where there was a gap.

A look at 'Capsa D' will be illustrative:

CAPSA D (reconstruction by Roger Andersson, 1994)

(NB: The third digit of D IV 8 is not quite certain; C $_{\rm 339}$ has an incomplete shelf-mark D V)

	I	2	3	4	5	6	7	8	9	IO	II	12	13	14	15	16	17	18
Ι			315					391	27I	399	350		365					
II			342				376	392*	324				306*‡	196*				
III	270				276				353	369			337*		‡	36*		
IV	400	288	299	333		317	393	272			287	269	358*	311*	273*			
V		325	265	259	382	326 [‡]					334	390	328 [‡]		343	278*	574*	335
VI	386‡			685	220		389‡	313*‡										

SURVIVING BOOKS FROM CAPSA D

Books cited by Johannes Borquardi

‡ Books quoted by Clemens Petri

^{*} Books known to be later than Johannes Borquardi

Shelf-marks at Vadstena Abbey: a late-medieval retrieval system

TWO-DIGIT SHELF-MARKS (in most cases not entered into the reconstruction):

- D I 'a broad green book' (lost)
- [D I 'frater Nicholicus'. Erroneous, for everywhere else Nicholicus = E I (10)]
- D I 'bound in red morocco' (lost)
- D II 'a little white book with mixed sermons' (probably lost, not identified)
- D II 'a thick red book'. Identified as C 324 = D II 9.
- D II 'Johannes Präst's little white book'
- D III 'a broad brown book, belonging to Johannes Präst' (may be D III 15, cited later by Clemens Petri, now lost)
- D III 'a red book beginning with a table'
- D IV 'a book with a white cross'
- D IV 'a little book of parchment without covers'
- D IV 'a thick white book'
- D V 'the thick red book that brother Clemens [sc. Emekini] brought with him'

THREE-DIGIT SHELF-MARKS:

- D II 4 lost (Johannes Petri's 'thick book')
- D III 5 C 276 'a green book'
- D IV 1 C 400 Liber de fontibus
- [D IV II + D IV I2 = 'Aurissa' (C 287+269), often cited but without shelf-marks or description]
- D V 4 C 259 Brother Thorirus's collection
- D V 7 lost ('thick little book bound in red reindeer skin')
- DV II C 334 Brother Finwidus's collection
- D V 12 C 390 Brother Gerwinus's collection

As you can see from the complete reconstruction above, we still have 47 books out of perhaps a hundred from this *capsa* – this is actually the richest section we have. Johannes Borquardi has cited 18 shelf-marks from this capsa, most of them only in two-digit form – and here we see how he struggled to make his references understandable, before the introduction of the third digit; we also see that he dared not quite rely on the new system – he still uses descriptions, or at least short-titles.

In the reconstruction above, I have marked books quoted by Johannes by a box. One of his own books and such books that are demonstrably later than his are marked by an asterisk (*). Even if we must take into account that some later acquisitions were put in where there was a gap,

perhaps because some old book had got lost or fallen to pieces, we can still, I think, be fairly sure that books that have lower numbers than the highest number quoted by Johannes were available already to him. This would indicate that the library was very well furnished as early as before 1447. Later acquisitions seem to be much less numerous, and that holds good for all sections holding sermons. There is a proviso, however: these rows might have been too full towards the end of the fifteenth century – we know, in fact, that at least one of the most important late sermon collections was put elsewhere: the famous preacher Nicolaus Ragvaldi, who lived well into the sixteenth century, got a little chest or case of his own, marked 'N'.

In the reconstruction, Clemens Petri's references are marked by a double dagger (‡). Clemens does not add very much to what we have learnt already from Johannes, but he confirms several identifications, and what is more important, he shows that the new three-digit system was adopted and used, together with the foliation system, as a functional and precise reference system.

What we do not know is if the brothers had a corresponding catalogue, too. We know that there existed some kind of inventory, which accompanied the remains of the library when it was brought up from Vadstena to Stockholm in the early seventeenth century. But it seems to be irretrievably lost. We can only guess that it was arranged according to the shelfmark system, as was the catalogue of Vadstena's English daughter house, Syon Abbey. However, by using the references we find in still existing Vadstena books, we can at least fill in some gaps, and get a better idea of their resources and how they used them.

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The Waller Project: a pilot project for the digitisation of autograph collections

KRISTER ÖSTLUND

The Swedish surgeon Erik Waller was born in 1875. After finishing his schooling in 1894 he started his medical studies at Uppsala University and received his degree in 1900. He continued his studies in medicine in Stockholm until 1905 and eventually returned to his home province where he worked as surgeon-in-chief at the local hospital until his retirement. He then moved to Stockholm and held between 1940 and 1946 a position as librarian at the Swedish Society of Physicians. In 1946 he returned once more to his home town where he died in 1955. ¹

Already as a young man in his twenties his interest in collecting documents and books on the history of medicine and history of science in general began to emerge and gradually he was to become internationally known as one of the modern time's foremost collectors in this field. But Erik Waller was in fact not alone: the first half of the twentieth century was a fruitful time for collecting, and thanks to the endless efforts of men like Harvey Cushing (1869–1939), Arnold C. Klebs (1870–1943), Sir William Osler (1849–1919), Sir Henry Wellcome (1853–1936) and others, important and sometimes priceless books and documents have been preserved and made available to research. Erik Waller fits well into this category of prominent collectors - with the help of his vast connections, built up over the years, with antiquarian booksellers and like-minded specialists all over the world, he succeeded in creating a collection that is considered to be one of the finest of all times.2 The fame of his collections rested mainly with the great number of historically important books and editions he had managed to acquire. In 1950 he decided to donate his books to Uppsala University Library (by which UUL received one of the largest private collections of books ever donated to a Swedish library), and in a few years a catalogue had been made by the librarian Hans Sallander, which was published in 1955 under the title *Bibliotheca Walleriana*. The catalogue has

today become a standard work for all those interested in older medical books and it was through this work that it was possible to estimate the richness of the donation properly: more than 20,000 titles are listed in the catalogue with a number of extremely rare editions, covering several fields of the history of science.

But the material stored on Erik Waller's shelves and in his boxes did not stop at this. In 1955 the library finally managed to purchase also the other parts of Waller's vast collections. The manuscript, or autograph, collection was by far the greatest part of this purchase. The manuscripts were delivered in 79 large boxes and consisted of, as it seemed, an endless number of handwritten documents of all kinds, mostly letters, written by thousands of persons. The total number of objects was at the time estimated to be between 20,000 and 35,000. It was also understood from the very beginning that the scientific and historical value of this collection was almost indescribable, but the overwhelming number of items was sufficient by itself at that time in the 1950s to impede all efforts that were made to go through, arrange and make a catalogue of it, and hence it was stored for almost fifty years on the shelves of the library, gradually falling into oblivion with no one knowing the exact contents and richness of the boxes.

It was not until the 1990s that the idea of starting a project for making a catalogue of the manuscript collection was beginning to take form. The project received initial funding by The Bank of Sweden Tercentenary Foundation,⁴ and it was able to start in the beginning of the year 2000. It was then decided not only to make a much longed-for catalogue of the manuscripts but also to digitise them – thus turning the project into the most important digitising project to date of Uppsala University Library and into a pioneering project, since never before in Sweden had such a vast collection of this kind of material been digitised. Suddenly we found ourselves on an unbeaten track.

We are now at the finishing stages of the project; all of the manuscripts will, we hope, be catalogued by the summer of 2008, and it can now be established with certainty that the historical value of the collection comes up to the expectations, with a great number of objects written by the most famous scientists, and there is no doubt that several of these documents also are so far unknown to the learned world, or have disappeared sometime in the course of the history and have been considered to be lost. In this category can be counted letters by Voltaire, Charles Darwin, Albrecht von Haller, Alexander von Humboldt and Ole Rømer, just to mention a few.

The Waller Project: the digitisation of autograph collections

Most documents have, of course, been written by persons who today are lesser known or even forgotten, but in these cases the historical or scientific value could be equally high or even higher. Erik Waller had himself sorted the manuscripts by nation, thus creating a number of minor collections within the collection, and we have decided to hold on to this classification.

The majority of the objects, I would say nearly 80 per cent, consists of letters, but in a collection of this kind aimed at the history of medicine we can also find quite a number of other types of documents, such as medical certificates, prescriptions, treatises and articles. There are also scientific illustrations, drawings, portraits, photographs and financial documents, such as receipts. Even the *belles lettres* are represented: so far we have found no less than 125 poems.

Having then presented the general and diversified character of the material I think that it is time to discuss the solutions we have chosen in presenting the documents in the catalogue on the web. Let me start by emphasising that a collection of this kind, with literally thousands of different authors, cannot, from a cataloguer's point of view, be completely compared to an archive of letters written by, or to, one single person. In such cases the cataloguer will in time get used to the handwriting and learn to know the specific circle of friends or colleagues; working with objects of our kind the cataloguer will have to face a new handwriting and new persons for almost every new document, and thus we cannot penetrate to the bottom of every interesting point that we come upon, often we cannot even take the time needed to identify all persons mentioned in the correspondence. A full edition or transcription of the documents is not our goal.

The catalogue can be found on the web-address: http://waller.ub.uu.se/. By randomly choosing a letter from the catalogue I will now demonstrate the information given on every single item (Fig. 1).

The catalogue of the Waller Collection contains of course the sort of general information which is expected to be found in a catalogue, and thus it can be said to be built on a sort of standard, but there are also fields that are specifically adjusted to the specific character of the objects at hand. The catalogue record starts with a physical description of the document, first its identification number and then standard information, such as dimensions, extent and material. We have added the field 'type of object' in order to single out manuscripts from pictures, prints and non-original copies. To this is added a description of the contents, which starts with the field 'type

KRISTER ÖSTLUND

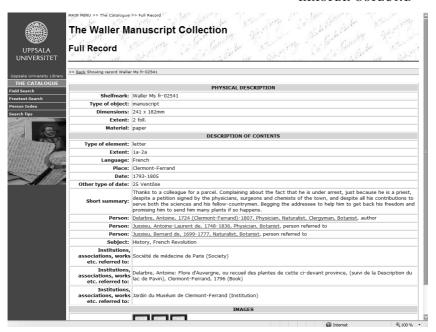


FIGURE 1 Example of a catalogue record from the Waller catalogue

of element. In this field we distinguish between the different categories, that I mentioned earlier: letters, certificates, prescriptions, articles, etc. Then we get information on extent (on which pages the information is to be found), language, place and date. In the field 'other type of date' we print the date according to the French revolutionary calendar or the Roman calendar if that is what the author is using. Then follows a short summary of the document and then the different persons involved in it: the author, the addressee and sometimes other persons, who are mentioned or discussed. There is no limit as to how many persons may be linked to the record. A subject heading is added if the document is scientific in nature or historically important. In the field 'institutions, associations, works etc. referred to', another field that can be repeated endlessly, we try to identify institutions, academies, books or articles that are being discussed by the author. The picture that is displayed on the screen is not the originally scanned TIFF-picture. This one has instead been com-

The Waller Project: the digitisation of autograph collections

pressed to the JPEG-format in order to save space. For the time being around 81,000 pictures have been scanned.

There are several search options on the web-page. In the 'field search' page it is possible to choose one field or a free combination of several fields in order to make a specific search; the database allows for a broad range of searches. There is also a free text search mode by which all fields of the catalogue are searched. The database is relational in its nature, and an authority record database is linked to it. This contains around 60,000 persons, who all, in one way or another, have written, or are mentioned in the documents. A person record contains the name of the person, his or her dates of birth and death and occupation. To this can be added alternative name forms, nationality and biographical information. Only one name form, the authorised, is searchable. Sometimes the documents themselves give us biographical information on the authors, information that is not to be found in biographical dictionaries of today, and thus we can make sure that these persons are saved from oblivion and given their existence back, so to speak.

In the beginning of the project the technical solutions were not obvious. The database now in use has been developed by Uppsala University Library's own Electronic Publishing Centre. But this is in fact the second database in use for the Waller Project: during the first year of the project we were working in an Access-based database that soon enough turned out to be less suitable for this task. Even if we were not too happy at the time about the delay this caused us, I today think that this perhaps was not such a bad thing. Having worked with the cataloguing of the material for about a year at the time, we then knew what we wanted from the new database and we could make a thorough specification of requirements, and several improvements in the input formulas were made (for instance the fields 'other type of date' and 'Institutions etc. referred to' were added at this stage) and we could also weed out a number of terms that in fact there was no use for.

A number of persons have been part of the project group over the years and in order to ensure the highest possible level of concordance and consistency we already in the early stages agreed on a number of cataloguing rules. In a short booklet the terms in use in the database are defined, and a work-flow schedule is given. How to act in specific situation must sometimes be defined. If, for instance, you have a picture post card in front of you, with a picture on one side and a written text on the other, which side is to be considered to be the 'recto-side' and which the 'verso-side'? It is

preferable if questions like these are cleared up from the very beginning, otherwise two different persons will undoubtedly come up with two different solutions.

The catalogue records as they are presented on the web-side are thus the result of a long process, with some solutions specifically adjusted to the general character of the Waller Collection. It would now be interesting to have a discussion on the solutions we have chosen. Is, for instance, the system of short free-text summaries of each document useful enough? Is some information missing? Are there better solutions to this? How could our experience be used in other projects? etc.

A collection of this magnitude is almost like an organic entity, with a mixture of highly interesting and valuable documents on one hand and short notes with just a 'thank you' or an invitation on the other; but let us remember that the non-significant items are equally important in creating this totality, in allowing us to listen to and to some extent get to know persons who are now long gone, in giving us a unique insight into the ordinary working days of physicians and scientists of past times. And this, ladies and gentlemen, is never boring.

NOTES

- Beretta, Marco, A History of Non-Printed Science. A select catalogue of the Waller Collection (Acta Bibliothecae R. Universitatis Opsaliensis vol. XXXI), Uppsala, 1993, 34f.
- 2. One of Erik Waller's best American freinds, John Fulton (1899–1960) of Yale University, wrote in a letter to Waller on October, 6th 1951: 'The Bibliotheca Walleriana is in my opinion the greatest collection of writings in the field of history of medicine and science that has been brought together by any private collector of our time. It exceeds in scope that of the Bibliotheca Osleriana, and in point of size is almost double that of the Cushing collection'.
- 3. Sallander, Hans, Bibliotheca Walleriana. A catalogue of the Erik Waller collection I–II (Acta Bibliothecae R. Universitatis Upsaliensis VIII-IX). Stockholm, 1955.
- 4. For the last six years the project has to the most part been financed by the president, the 'Rector magnificus', of Uppsala university.
- 5. Katalogiseringsregler för Wallers Manuskriptsamling, Uppsala, 2003. It was only printed in 10 copies.

Digitisation projects at Kungliga Biblioteket/ National Library of Sweden¹

EVA MÜLLER

OVERALL VIEW

The National Library of Sweden has embarked on a large-scale project of digitisation to give access via the Internet to significant areas of its manuscript and printed resources. An example of this is the digitisation of the Codex Gigas, a huge thirteenth-century Bible (Manuscript A148) of Czech origin which has been studied and digitised in preparation for its being loaned back to go on display for six months at the National Library in Prague.² Over sixty people have been involved in the Library's digitisation project overall – photographers, librarians, IT staff and conservators. New techniques have been developed in the photographic studio, including advanced OCR (optical character recognition) and text mark-up techniques. Many innovations have been necessary in the areas of preservation and imaging in order to process the special materials, and many valuable lessons have been learnt. At the beginning, the project concentrated on the development of a web site but the emphasis later shifted to creating infrastructures to support the digitisation processes, access and long-term preservation.

Cooperation and partnership are valuable aspects of large projects of this sort. The National Library has been leading and participating in many national projects, such as the Ediffah Project and is taking part in the development of the European Digital Library EDL, as well as working in partnership with CERL.

DIGITISATION AT KB - THE MISSION

The tasks of the National Library are:

• to collect, catalogue and preserve all publications produced in Sweden. This activity has been based on the Legal Deposit Act since 1661;



FIGURE 1 Digitising the Codex Gigas

currently work is underway on an extension of this Act to include online publications.

- to enable access to preserved materials by the general public and other stakeholders
- to serve as a research library within the fields of arts and humanities.

Digitisation (producing surrogates of the original documents) supports this task by

- offering opportunities of wider access even to rare materials
- protecting the original material from risks of harm
- presenting parts of collections which are tricky to expose due to format, size or space, such as the *Codex Gigas* (Fig. 1).

OPEN COLLECTIONS - AN EXAMPLE OF A PROJECT

 Funding: The National Library received a €2.12m grant from the Swedish National Council for Cultural Affairs plus additional local resources.

Digitisation projects at Kungliga Biblioteket/National Library of Sweden

- *Staff*: twenty-seven new positions were created and personnel recruited during spring 2006.
- Selection of material: The project theme was defined as 'Travelling through the Ages'.
- *Prior experience*: the Library was able to draw on its previous work in the digitisation field.

SCHEDULE JANUARY 2006 TO DECEMBER 2007

- 2006, January–April: Planning: staffing, new photo studio
- 2006, May–August: Project start, setting up teams, testing equipment, selection of material
- 2006–2007, September–August: Production: cataloguing, preservation, scanning, recording images, OCR, text marking (TEI), website, editorial text
- 2007, September: Introduction of new website, press release
- 2007, October–December: Documentation and evaluation, integration within DL Department, development of supporting infrastructure

DIGITISATION INVOLVES THE ENTIRE LIBRARY!

- Twenty-seven new positions were created to carry out both the intellectual parts of the project and the practical production.
- Mixture of skills: photographers, librarians, web specialists, communication specialists, people with technology backgrounds, preservation specialists

DEVELOPMENT OF SPECIFICATIONS FOR:

- selection criteria
- image capture
- · cataloguing methods
- image-naming principles
- · quality and security control
- statistics and evaluation

The project has tried to focus on high-quality output, not just for the images, but also for the item descriptions, and for the website itself.

NEW TECHNOLOGIES ARE TESTED

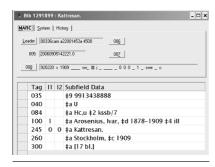
The project has required lots of innovation in the area of preservation and photography to enable the recording of specialist materials. New technologies have been tested and further developed within the production process:

- an image library
- a digital photography studio (ISO standard 3664)
- · workflows supporting delivery to preservation archives
- OCR text processing
- development of a website

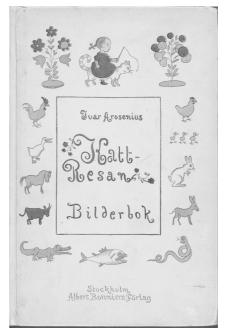
SKILLS/PROFESSIONS INVOLVED IN THE PROCESS

1. Librarians

Two full-time cataloguers responsible for bibliographic control, cataloguing and naming of selected objects. They are also responsible for provision of additional information to the photographers (Figs 2A and 2B).



FIGURES 2A & 2B Catalogue record and its source



Digitisation projects at Kungliga Biblioteket/National Library of Sweden



FIGURE 3 Special-purpose photographic studio in the stacks

2. Curator/Preservation specialist

One full-time curator, responsible for the preparation of bookracks and other equipment adapted for selected material.

3. Photographers

Six/seven photographic staff have been employed to record the images (scanning, photographing).

PHOTOGRAPHIC STUDIO

A new special-purpose photographic studio has been created for the project located between the stacks (Fig. 3). The equipment selected was

Nikon D200 camera

2 Sinar M cameras

Digibook scanner

+ MicrotekScanMaker100XL (A₃)

Document storage facility

HIGH QUALITY OUTPUT

The resultant image is calibrated using a selection of reference targets in the picture, including

Colour checker

White point & black point

Placing object on neutral background

Qp-card

LESSONS LEARNED

The project team has had the opportunity to reflect on its experience in running the project and can offer some conclusions:

- High quality/low quantity? Low quality/high quantity? What is good enough?
- A range of production lines for various material types
- Separate development and production
- Reduce dependency by dividing digitisation process into several separate processes (production of images, cataloguing, publishing)
- Implement automated processes
- Re-use metadata when possible
- Plan staffing carefully!
- Plan incorporation of project results in good time

INFRASTRUCTURE SUPPORTING DIGITISATION PROCESSES, ACCESS AND LONG-TERM PRESERVATION

A whole range of technical infrastructure and processes have been developed to support the entire process, which includes digitisation, access and preservation. The infrastructure integrates a number of existing systems and services such as

- Institutional repository: open source, open standards (FEDORA http://www.fedora-commons.org/)
- Production system: commercial product: Cumulus
- Local catalogue: Regina

Digitisation projects at Kungliga Biblioteket/National Library of Sweden

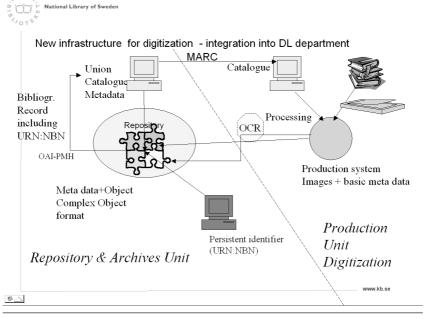


FIGURE 4 The workflow for the digitisation project

- Union catalogue: LIBRIS
- Long term preservation archives at KB
- Persistent Identifiers: URN:NBN
- Web exhibitions (integration with CMS)

NEW INFRASTRUCTURE FOR DIGITISATION

Two new units were integrated into the Digital Library department:

Production Unit for digitisation

Repository & Archives Unit

The workflow for these units is shown in the diagram (Fig. 4).

COOPERATION: BUILDING SHARED SOLUTIONS

The design of the project and its tools and techniques has been the result of a process of cooperation with partners at the national and international levels. Where possible open-source tools have been used.

- National level
 - university libraries
 - National Archives
 - Standards and best practices
 - Technical solutions
 - Digitisation plans
- International level
 - ♦ Fedora commons
 - ♦ EDL (CENL)
 - ♦ CERL and other organisations

THE NEXT STEPS - 2008

- Implement a repository for locally produced (KB) objects (born digital, digitised) several stages. The first stage is due to start in December 2007.
- Implement an automated workflow between KB's IR and current long-term preservation archives
- · Work on specifications for a range of quality levels outputs
- Implement production lines for a range of quality levels outputs
- Work on a Digitisation Plan
- Work on requirements for the new long-term preservation archives

The final conclusion of the whole project must be the advice to use standards and to cooperate wherever possible, to separate production and development and to plan integration of results of the project already in an early stage of the project.

Do not underestimate the technical infrastructure.

NOTES

- This summary of Dr Müller's PowerPoint presentation was prepared by David Shaw and revised by Eva Müller.
- 2. The Codex Gigas has its own web site: http://www.kb.se/codex-gigas/eng/.

The CERL Portal: manuscripts and early printed material¹

IVAN BOSERUP

I. INTRODUCTION

The aim of the CERL Portal² is to promote the use of available machine readable records of manuscripts and early-printed material by giving access to them through a common interface and displaying the retrieved data in a common format (so-called 'cross-searching' or 'federated search'). The record display format of the CERL Portal reproduces any links to digital facsimiles included in the original records as well as a link to the original record itself in the database from where it was retrieved, inviting users to profit from further search and display features available in the database of origin. As a common index of holdings of manuscripts and early-printed material, the Portal thus promotes not only the use of existing metadata for digital facsimiles of manuscripts and early printed material but also awareness among scholars and other users of the variety of systems and services offered by the individual libraries and other institutions that collaborate in the development of the Portal.

The Portal is freely accessible, and inclusion of databases within the Portal is not restricted to institutions (libraries, archives, museums, networks, consortia, etc.) that are members of CERL. The terms of collaboration with the CERL Portal are set down in a Memorandum of Agreement signed by both parties. In the case of the nearly three million records of early-printed material of CERL's HPB Database, otherwise available to users only through institutional membership of CERL, the Portal offers a simple search interface and a limited record display, plus an invitation to send a query to the HPB Project Manager if more detailed information on a particular record is required.

While the HPB Database consists of one single file, highly controlled and homogeneously formatted, the CERL Portal aggregates records of two main types, retrieved through three different internet communication protocols. One type consists of records that are regularly (re)harvested for the Portal through the OAI protocol and are kept in a common format (MODS) at the Portal site in Uppsala. The other type consists of records retrieved from remote databases in response to single-user requests, through protocols for remote search and retrieval (Z39.50; SRU). The protocols used in connection with each database included within the Portal depends on the technical capabilities and choices of each library or institution. The order of preference of protocols, based on reliability, speed, and flexibility is: (1) OAI, (2) SRU, (3) Z39.50. Harvesting is done on a regular and frequent basis, so that all three protocols allow the users to have updated access to the selected databases. Beside the databases accessed through communication protocols, two databases that are not currently being updated have been downloaded, reformatted, and added as separate files to the Portal's OAI repository.

Due to the linguistic diversity of Europe, and to the variety of national or local traditions, rules, and practices followed in manuscript cataloguing, the search options of the Portal have been kept at a simple level. Thus, the Advanced Search option has six fields. Besides, in Advanced Search mode, automated access to the CERL Thesaurus has been included (as an option) in the Person and Place fields. This feature, also known as 'Assisted Search', allows the Portal user to request information from the CERL Thesaurus server situated at Göttingen University Library, and to select whichever additional variant forms of personal names and place names are deemed relevant in a particular search. The selected variant forms are automatically added as synonyms to the search string submitted to the Portal server in Uppsala, see section 4 below.

Aiming at servicing European users – while not excluding others – the Portal software has been designed so as to allow for the maintenance of a multilingual interface which includes context-sensitive help screens and extensive information on the contents of each database included in the Portal. Thus, the interface is currently available in the five main European languages (English, French, German, Italian, Spanish), as well as a few more (Croatian, Danish, Dutch, Swedish) among the many that are desirable.

From the main page of the Portal there is access to general information on the Portal project itself, a general user guide, and usage statistics.

In 2005, after some years of deliberations, investigations, and testing,³ CERL invited the Electronic Publication Centre at Uppsala University Library to start the construction and hosting of the Portal, with Drs

The CERL Portal: manuscripts and early printed material

Liesbeth Oskamp (Koninklijke Bibliotheek, The Hague) as Project Manager (2005–2007). The further development of the Portal is currently being supervised on behalf of CERL by an Advisory Board chaired by the author of this paper. All inquiries concerning inclusion of databases should be directed to the CERL Secretariat (secretariat@cerl.org).

2. INCLUDED DATABASES

The list of databases included in the Portal gives an impression of the potential scope and variety of its contents, see Table 1. The Portal does not select particular segments of database files according to some definition of 'manuscript' that could turn out to be too narrow and exclude material that is in fact useful to scholars because not catalogued anywhere else. On the contrary, it includes whole files as they are designed and produced locally, adapted to the history, importance, and other specificity of each manuscript collection. This implies that the Portal potentially includes not only any conceivable variety of the world's written heritage, but also very important graphic material (illuminations, drawings, maps, etc.), whether written or drawn by hand, or part of the printed heritage.

For the same reason, that is, the inclusion of whole files as they are locally produced, the Portal includes quite recent manuscript material as well as medieval and early modern manuscripts. Records of surrogates (for example microfilms, printed or digital facsimiles, etc.), whenever present in databases included in the Portal, are also among the resources automatically made available to the Portal users.

The total of records accessible through the Portal is currently 5 million. Among these, 1.3 million are related to *manuscripts*, 3.7 million to *early printed material*.

Regarding the protocols used, there is a slight overweight of databases accessed by OAI harvesting over databases accessed through the Z39.50 protocol. However, measured by the number of records available through each protocol, OAI caters for only 250,000 records, or 5% of the total. To date, only the CERL Thesaurus (see section 4) is accessed by the Portal through the SRU protocol.

The home page of the CERL Portal is also its search page (Fig. 1). Below the search field(s) one finds the list of databases, which can be selected individually or ticked group-wise. It is first divided according to material, that is Manuscripts and Early Printed Material, respectively, then each of these main subdivisions is divided according to communication protocol, 'Local index' (OAI and converted files) and 'Remote index' (Z 39.50),

TABLE I

COUNTRY	LIBRARY OR INSTITUTION	TYPE OF MATERIAL	NO. OF INSTITUTIONS OR FILES INCLUDED	NO. OF RECORDS	COMMUNICATION PROTOCOL
	Manuscrip	ts, Autographs	(Letters), Archiv	al Deposits, a	etc.
Australia	The National Library of Australia	Manuscripts and archival deposits; photographs	I	9,000	OAI
Czech Republic	Manu- scriptorium	Manuscripts	40	4,000	OAI
Denmark	The Royal Library	Manuscripts, letters, and archival deposits	I	20,000	Z39.50
Germany	Kalliope Portal	Letters (autographs) and archival deposits	32	1,300,000	Z _{39.5} 0
Italy	Manus online ⁴	Manuscripts, letters (autographs), and archival deposits	6	2,400	OAI
Portugal	The National Library of Portugal	Manuscripts and archival deposits	I	3,200	OAI
Sweden	Ediffah Consortium	Archival deposits	5	8,000	OAI
Sweden	Lund University Library	Medieval Latin manuscripts	1	69 (including 550 parts)	Converted file
Sweden	Uppsala University Library	Letters (autographs)	1	30,000	OAI
UK	The National Library of Scotland	Manuscripts and archival deposits	I	5,000	Z39.50

The CERL Portal: manuscripts and early printed material

TABLE I (continued)

COUNTRY	LIBRARY OR INSTITUTION	TYPE OF MATERIAL	NO. OF INSTITUTIONS OR FILES INCLUDED	NO. OF RECORDS	COMMUNICATION PROTOCOL
	Manuscripts, Au	tographs (Lette	rs), Archival Dep	osits, etc. (co	ntinued)
USA	Columbia University Library, NY	Medieval Latin manuscripts	I	2,000	Converted file
USA	Yale University Library, CT		I	12,000	OAI
		Early Pr	inted Material		
CERL	HPB Database, hosted by OCLC	Incunabula and prints up to 1830	50	3,000,000	Z39.50
Czech Republic	Manu- scriptorium	Incunabula and early prints	40	204,000	OAI
UK	The Eighteenth Century Short Title Catalog (ESTC)	English prints 1700–1799	I	460,000	Z39.50

respectively. Upon passing the cursor over the name of a database, a short description of its contents is displayed, while clicking the info button next to each database name opens a window with supplementary information. The latter may be particularly useful when a database consists of files from a variety of sources, such as Manus online, Ediffah, Manuscriptorium, or HPB.

The user can immediately input the desired search term(s), select the database(s) or group(s) of databases to be searched, and press 'Search'. The results are displayed on the same initial web page, extended downwards below the lists of databases, with one line for each database that has been selected. Each result line displays the number of hits and the further options offered by the Portal: to view the hits, to link directly to the

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FIGURE 1

database (whether there were hits or not), and to consult whatever information the Portal may contain regarding that particular database.

3. SEARCH, DISPLAY, LINK

While the default Simple Search option offers one input field, allowing for search down to one single right-truncated character, the Advanced Search option offers six extra fields: Person, Title, Subject, Place, Shelfmark, and Year (Fig. 2). It should be noted that not all the databases format these types of data in the same way. For example, databases that federate a number of files may include in the Shelfmark field the names of the city and of the library to which each record is related,⁵ while other databases, where the records are considered to be sufficiently contextualised by the local database system in which they are produced and kept, may not. Searching by the Subject field also presupposes precise knowledge of the kind of subject data used in a given database.

The option available next to the Person and Place fields 'Add variants' is described in the detailed help screen activated by pressing the info button nearby. The functionality of this option will be also be described below in section 4.

The CERL Portal: manuscripts and early printed material

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FIGURE 2

From the listing of the number of hits retrieved from each database, it is possible, as mentioned, to link directly to the homepage of that particular database and redo the same or another search. However, users may more often prefer to view the hits from within the Portal, in short form (Fig. 3) and/or in Detailed display (Fig. 4). On the Detailed display one will find (when technically possible) a link to the same record in the database of origin. Here may also be found extra links to digital objects (facsimiles, etc.) (Fig. 5).

4. ADDING VARIANT NAMES

The fields that allow to make searches on personal names (MARC field: 100, 600, 70x) are without doubt among the most commonly searched fields in any bibliographic database. When searching through the Portal, one searches the contents of these fields as though they were one, that is, whether related to a person who has taken part in the creation of a manuscript or printed book (author, scribe, illustrator, etc.), or related to a person – historical or not – who is the object of the document itself (biographed, addressed, attacked, defended, etc.). As already mentioned, one can expect that many persons have been catalogued differently in different

IVAN BOSERUP

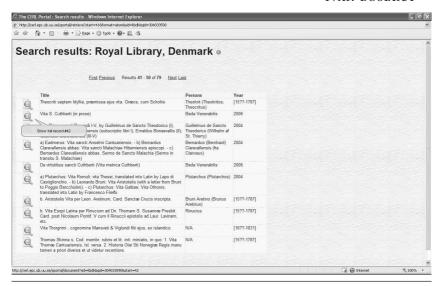


FIGURE 3



FIGURE 4

The CERL Portal: manuscripts and early printed material

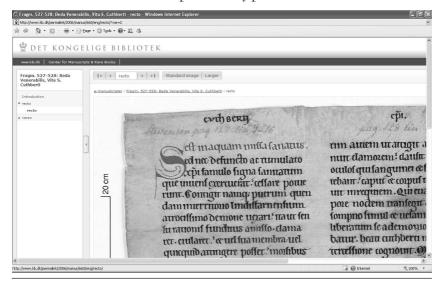


FIGURE 5

countries and libraries, and – just to mention one other pitfall – they may themselves have used pseudonyms which have been diligently recorded by scholars, but included in records available through the Portal.

A parallel phenomenon can be observed with place names: due to linguistic diversity, linguistic evolution, wars, political decisions, etc. one and the same geographical location has received many denominations over time, and no consensus has been established among manuscript and rare book cataloguers as to: (1) whether or not to normalise place names; (2) which variant should be preferred in cases where one does normalise.

The Portal has a feature in the Advanced Search screen which is activated by pressing the 'Add variants' buttons next to the Person and Place search fields, respectively. By pressing this button after having input a personal name or a place name, a search is automatically carried out in the CERL Thesaurus hosted by CERL's Data Conversion Group (DCG) at the University Library in Göttingen.⁶

The CERL Thesaurus has been created by merging and editing records of personal names and place names – and a few more such as imprint names and provenance names – from a variety of sources, online systems, and printed indexes and thesauri. As a stand-alone service, created in order to help individual cataloguers and scholars in a variety of ways, it is freely

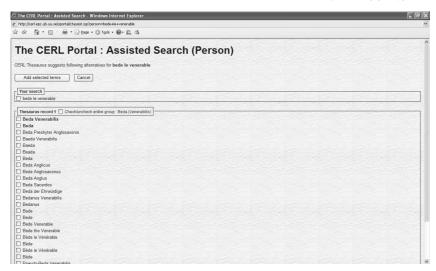


FIGURE 6

available trough its web interface from the CERL homepage at www.cerl.org. As a web service activated through a SRU request sent from the CERL Portal when a user presses the 'Add variants' button, the CERL Thesaurus delivers to the Portal a list of variant forms, arranged according to individuals or geographically distinct locations, which are displayed to the user (Fig. 6). From the display of variant forms the user can then select those that are deemed relevant as expansion of the single name form initially input, and the selected variants will – when the user clicks on 'Add selected terms' – be added (with boolean OR) to the search string in the Person or Place search field, as the case may be.

5. THE FUTURE

The basic functionality of the CERL Portal is in place. It has been thoroughly tested. A common search and display interface to widely differing databases has been set up, and the resources of the CERL Thesaurus are at the disposal of its users in a simple yet flexible and efficient manner. Further databases can and must now be added to the Portal.

Regarding *manuscripts*, the present volume of 100,000 records of manuscripts and archival deposits (and 1.3 million records of autographs), though impressive as a first step forward, is insufficient to make the Portal

The CERL Portal: manuscripts and early printed material

into an important scholarly resource for manuscript studies. Many more relevant databases exist in libraries and institutions in Europe and abroad, and it is known that many of them now give high priority to being accessible through the OAI, SRU, or Z39.50 protocols. They are invited – individually or through national services into which they may already be merged – to join the CERL Portal project and thereby become more visible on the web and at the same time contribute to more visibility and use of manuscript databases.

The list of included databases of *early printed material* will also be extended with databases insofar as they importantly supplement CERL's HPB database.

NOTES

- 1. Revised version of a paper given on 9 November 2007 at the CERL Seminar in the University Library of Uppsala, Sweden. The author (nib@kb.dk) is head of the Department of Manuscripts and Rare Books of the Royal Library, Copenhagen. He is a member of CERL's Executive Committee, and Chairman of its Advisory Technical Group.
- 2. The CERL Portal is freely accessible, most conveniently through the homepage of CERL: www.cerl.org. The illustrations in this paper show the CERL Portal in its experimental version in 2007. A new interface was implemented in Autumn 2008.
- 3. The history of the CERL Portal project from the early 1990s to 2005 have been excellently described in a paper by Fabienne Queyroux, Keeper of Manuscripts of the Bibliothèque de l'Institut de France, Paris: 'CERL's Portal: Origins, History and Progress', in *Katalogisierung mittelalterliche Handschriften in internationaler Perspektive. Vorträge der Handschriftenbearbeitertagung vom 24. bis 27. Oktober 2005 in München* (Beiträge zum Buch- und Bibliothekswesen, vol. 53), Wiesbaden: Harrasowitz, 2007, pp. 61–67.
- 4. The database of ICCU, Istituto Centrale per il Catalogo Unico, known as *Manus. Censimento dei manoscritti delle biblioteche italiane*, consisting of more than 50,000 records from more than hundred Italian libraries, is currently (Fall 2008) being migrated and converted to a new system, *Manus online*.
- 5. This is the case e.g. in the Manus online database.
- 6. The CERL Thesaurus is also available as a web service to users of CERL's HPB Database. Besides, and importantly, the CERL Thesaurus is freely available through a web interface from CERL's homepage (www.cerl.org). The usage statistics of the CERL Thesaurus show a steadily growing awareness of this utility among librarians and scholars.

TIIU REIMO

Historical collections are considered the pride of every academic research library. They represent the long history of an institution as well as reflecting the intellectual background and the development of knowledge in the region.

Book production, distribution, but also survival has always depended on political, economical and social conditions of the region. Estonia, the small state in the North-East of Europe, has a complicated history. Being for centuries a territorial part of foreign powers - Denmark, the Teutonic Order, Swedish and Russian empires, it has only at the beginning of the twentieth century gained independence. Up to the second half of the nineteenth century the German language was used in official matters and as the language of educated men. Estonian was used when communicating with common people and in schools for primary education. The number of educated Estonians was few and they often lost contact with their compatriots. The Estonian-language book production until that time was poor in content and consisted mainly of church books, half-religious moralistic literature, textbooks for primary education, practical advice for health care and agriculture. In the second half of the nineteenth century the situation started to change. The movement of national awakening resulted in the formation of an Estonian nation and the rapid development of Estonian culture. The Baltic German upper classes maintained their leading role in the political and economic life of the Baltic provinces, but the cultural development of Baltic German and native (Estonian, Latvian) people headed in different directions.

These quirks of history are also reflected in the documentary heritage, preserved at present in the Estonian memory institutions. The following paper aims to

 describe briefly the significant early printed book collections in Estonia;

- give an overview of the bibliographical information on these collections;
- introduce digitisation projects in the area of historical collections.

The presentation is based on printed sources and information, available on the web pages of Estonian memory institutions. Speaking about the book culture a distinction has been made between Estonian-language book production, local book production in other languages (mainly in German) and the consumption and use of European books in early modern times.

EARLY PRINTED BOOK COLLECTIONS IN ESTONIA

Book historians use the term 'early-printed books' to designate books printed during the first centuries of print culture – fifteenth and sixteenth centuries. These are books printed in German-speaking areas of Central Europe, in Italy, France, Great Britain, Spain and in some Scandinavian towns. If we transfer the same meaning to our local printing area, seventeenth- and eighteenth-century books printed in the territory of Estonia represent the 'early-printed books' for this region.

Manuscript and early-printed West-European book collections in Estonian memory institutions are not big, but they reflect the intellectual interests of the previous centuries' *literati* and demonstrate some specific features of the local book culture. As Estonia has for centuries belonged to the German-speaking area, a considerable part of early-printed books are of German origin, i.e. published and printed in Germany.

Printed books in the Estonian language date from the sixteenth century and are an outcome of the Reformation – according to Luther's ideas, the Word of God was to be preached in the vernacular language. The need for printed religious texts, the aim of which was to support the clergymen who did not speak Estonian sufficiently well, gave the Estonian language a place among civilised languages – the languages in which printed texts existed. These first printed books were bilingual, with title-page text in German and the content partly in German and partly in Estonian. For more than a hundred years, Estonian-language books were printed outside Estonia; the first printing shops were founded in the Estonian territory only in the first half of the seventeenth century: 1632 in Tartu and 1633/1634 in Tallinn.

Numerous wars of the sixteenth, seventeenth and of the beginning of the eighteenth centuries were devastating for books. From sixteenthcentury Estonian-language books, only the fragments of the one Lutheran

catechism that was printed in Wittenberg in 1535 have survived. The rare fragments of 11 lists were discovered in 1929 in the Library of the Estonian Literary Society (Estländische Literärische Gesellschaft) as padding for the binding of the sixteenth-century book. From the first decades of the seventeenth century only three books are known and only one of them has survived. The unique copy of Agenda Parva, the manual for catholic priests in Livonia, belongs at present to the collection of Olsztyn clerical seminary in Poland. The biggest library of the time, the Library of Academia Gustaviana (Tartu University) founded in 1632, was evacuated to Stockholm in 1710 together with other assets of the university. The library was added to the Royal Library. From the former library only 58 books are preserved at present in Tartu University Library.

The most remarkable collections of early-printed books are preserved at:

- the Tartu University Library;
- the Academic Library of Tallinn University;
- the Archive Library of the Estonian Literary Museum;
- the National Library of Estonia;
- the Tallinn City Archives.

The four libraries named above were in 2002 designated as archival libraries and their task in preserving the Estonian national written heritage are additionally financed by the Ministry of Education and Research.

The collections differ greatly according to the history of their formation. Especially rich in Estonian-language early-printed books is the Archive Library of the Estonian Literary Museum, having in its collections about 80% of all Estonian-language books printed before 1850 that are nowadays known.⁴ The detailed description of historical collections in Estonian memory institutions is presented in the *Handbuch der deutscher historischen Buchbestände in Europa* edited by Professor Bernhard Fabian in twelve volumes of which volume 7.2 contains the collections in the Baltic States and in Finland.

SHORT OVERVIEW OF THE COLLECTIONS

Tartu University Library was founded in 1802 at the time of the re-opening of the university. At first the stock was supplemented by vast collections, acquired from the clergy, professors and noblemen (for example, the library of the superintendent of Livonia, Christian David Lenz which

contained about 4,000 volumes of theological literature from the seventeenth and eighteenth centuries; the book donation of the Russian grand duke Konstantin Pavlovich, containing about 680 volumes from all fields of science; the book donation of the countess Maria Aurora von Lestocq (about 350 volumes of historical, geographical and philosophical literature) etc. At the same time began consistent and systematic collection building, based on the example of Göttingen University Library, the most prestigious library of the time. The first head librarian, Karl Morgenstern built a collection in conformity with Enlightenment ideas, acquiring books on every field of knowledge, including the older editions. He also bequeathed his own library to the university – the biggest private library of a scientist in Tartu at the time.

At present the collection includes 48 incunabula, mainly of German provenance (31 books), including five books from the Koberger printing house. Among more than 2,000 titles of the sixteenth century about 600 were published in the first half of the century. The main publication places are Basel, Frankfurt, Wittenberg, and Leipzig. The majority of books are in Latin (*ca* 76%) and German (20%). The number of seventeenth-century books is considered to be about 16,000 titles, about half being dissertations and other university-related printed matter. The Estonian-language books printed before 1860 are numbered at about 600 titles.⁵

In 1958 the Rara collection was formed which includes:

- West European books from the fifteenth and sixteenth centuries;
- Estonian books published before 1860;
- Russian books published before 1800;
- Baltica published before 1710.

The books corresponding to these criteria were separated from the general collection and are preserved as a special collection. The Rara collection includes also other valuable books like the first editions of famous authors, books that have survived in few copies, books of outstanding design, illustration or binding, libraries and book heritages of outstanding persons, for example the library of Pavel Aleksandrov, illegitimate son of grand duke Konstantin, containing about 3,000 volumes of juridical literature, 6 the library of the Livonian clergyman Gustav Bergmann (more than 1,000 titles), etc. A special sub-collection was formed in the 1990s from the copies of Tartu University printing shop production 1632–1710, acquired from different libraries and memory institutions of Europe.

The Academic Library of Tallinn University

The university library, formerly the Library of the Estonian Academy of Sciences, is still very young, as it was founded as recently as 1947. It was founded together with the Soviet type of the Academy of Sciences. In 1994–1997 the academy system was reorganised, and after some years the library joined Tallinn University.

Its historical collections derive from the former Library of the Estonian Literary Society (ELS) (1842–1940) which in its turn included books from the oldest libraries in Tallinn – the *Bibliotheca Revaliensis ad D. Olai*, founded in 1552; the Estonian Public Library (*Estländische Allgemeine Öffentliche Bibliothek*) founded in 1825; the Library of Tallinn Cathedral School, founded in the eighteenth century and several smaller book collections. The Estonian Literary Society brought together educated Baltic Germans, who were interested in studying the history and culture of the land they were inhabiting, to get to know the nature of its geological and botanical special features etc. The accent on acquiring literature concerning Estonia and other Baltic provinces is traceable from the very beginning of the activities of the society.

The collections of the library are not as remarkable in scientific content as the collections of the Tartu University Library; instead they are closely connected with local cultural development. The old libraries consisted mainly of book bequests and donations, thus reflecting the reading matter of people who lived in Tallinn and in North Estonia centuries ago. Typically the major part of the early-printed books is of German origin. Consistent collection building started in the second half of the nineteenth century; it took account of the interests of the society's members and the goal of preserving the local printed production of Baltic Germans. Estonian-language books were not of special interest; mainly publications in German or other languages were acquired.

On the basis of the ELS library the Baltica and Rare Books Department was founded in the Academy Library in 1968. The ELS Library forms the biggest part of its collections. The early-printed books are not separated from the general stock, thus the collection includes publications printed also in the first half of the twentieth century. At present the collection also includes contemporary Baltica publications on the history and the culture of the region.

The collection has 47 incunabula and about 1,500 titles of sixteenth-century West European books. The Estonian-language book collection

was formed after the Second World War; it numbers more than 500 titles of books printed before 1850.8 There is a valuable collection of foreign-language books printed in Estonia, including many unique publications such as the first periodical publications, occasional poetry and school-related materials. The Academic Library is the main centre for compiling the retrospective national bibliography.

The National Library of Estonia

Today's National Library of Estonia was founded in 1918 as the State Library with the aim of supporting the activities of the parliament and government with juridical literature and official publications. The library also got a free copy of all publications printed in Estonia. In 1935 the Archive collection was formed and the library started to collect the older Estonian-language publications. The foreign-language old books were donated by numerous Baltic German families who were forced to leave Estonia after the signing of the Molotov-Ribbentropp pact in August 1939. They left their book collections to the library; also books left behind were gathered in to the library.

The Rara collection holds at present about 26,000 volumes, one third of it from Estonian-language books printed before 1860. There are 5 incunabula, all of German origin, printed in Cologne, Nuremberg and Leipzig. In addition fragments of 3 incunabula were found. More than 200 titles come from the sixteenth century, also mostly of German origin, being printed in Frankfurt, Basel and Leipzig. The majority of the sixteenth-century books are in Latin. Seventeenth-century books make up more than 1,000 titles, two-thirds of the books are of German origin. At present the National Library of Estonia continues active collection building, acquiring old books from antiquarian shops and auctions.

The Archive Library of the Estonian Literary Museum

The Archive Library functioned as the national library in the years 1918–1940. It was founded together with the Estonian National Museum in 1909; the basis for its collections was the Library of the Estonian Students' Society (ca 10,000 vol.). The aim of the library was to acquire books and periodicals published in Estonia, in the Estonian language or treating Estonia and its inhabitants. The biggest part of the collections form the collection of Estonian-language literature (about 80%), including many unique copies of books, journals and newspapers. At present the library also holds as a special collection the Estonian-language book collection of

the Learned Estonian Society (*Gelehrte Estnische Gesellschaft*). Founded in 1838 by the Estophiles, it had an important role in the development of the Estonian language and literature and in preserving the national oral and written heritage. The Society was closed by the Soviet regime in 1950 and its library divided between the institutions of the Academy of Sciences.¹⁰

The Tallinn City Archives

The collection of manuscripts and early-printed books at the City Archives is not numerous: 16 manuscripts dating from the eleventh to sixteenth centuries, 22 incunabula and 24 volumes of sixteenth-century books. The incunabula are mainly of German origin; only two were printed in Lyon and one in Paris. The books from the sixteenth century are also mainly of German origin with exception of two books printed in Venice and four in France. What makes the collection especially noteworthy is its provenance: the incunabula and pre-Reformation books most probably belonged to the Dominican Friary in Tallinn and were confiscated by the magistrate during the Reformation. Tallinn City Archives is also the holder of the fragments of the oldest surviving Estonian-language book, a Lutheran catechism edited by Simon Wanradt and translated by Johann Koell.

BIBLIOGRAPHICAL INFORMATION ON THE PRINTED HERITAGE

In order to make the manuscript and printed heritage accessible for the public, it is important to produce at least minimum bibliographical information on the collections; at present this means describing the books in the electronic online catalogues.

What information can one get about the early-printed collections in Estonia? At present only a small number of early-printed books are fully described.

Information about the collections can be acquired from:

- international databases (ISTC, ESTC);
- online catalogue of Estonian research libraries ESTER;
- printed catalogues;
- card catalogues in libraries.

International databases include bibliographical information about the incunabula preserved in Estonian memory institutions and about the eighteenth-century English books in the collections of the Academic Library of Tallinn University and the National Library of Estonia.

Information on incunabula reached the Incunabula Short Title Catalogue (ISTC)¹² on the initiative of the former CERL secretary Dr Lotte Hellinga. The information was acquired from the printed catalogues; Dr Hellinga also examined the incunabula in Tallinn libraries *de visu* during the CERL seminar in Tallinn in 2000. ISTC includes data for about 69 incunabula in Tallinn and 46 in Tartu.

Collaboration with the compilers of the English Short Title Catalogue (ESTC) started in 1992 on the initiative of Dr Henry Snyder from the Centre for Bibliographical Studies and Research of the University of California. At that time there were no possibilities in Estonia for electronic exchange of data; the necessary descriptions were filled in the templates manually and sent by post to California. The participation in this project was not officially registered. Both libraries, the Academic Library of Tallinn University and the National Library of Estonia, presented descriptions of the eighteenth-century English language books in their holdings. Altogether 116 titles from the Academic Library and 147 titles from the National Library were described. Via the database in California, the availability of English-language books in Estonia is represented in the database *English Short Title Catalogue* 1473–1800, from which three CD-ROM editions have been published. At present the database is also available online on the website of the British Library.

The online electronic catalogue ESTER is the union catalogue of twelve Estonian research libraries.¹⁵ It is part of the automated library system INNOPAC and was opened to users at the end of 1999. The system is installed in two centres - Tallinn and Tartu; although the databases are in use separately, they constitute one system. Together with cataloguing new acquisitions, massive re-cataloguing projects were started. The first priority of re-cataloguing were the Estonian-language books. At present the catalogue contains descriptions of about 95% of Estonian-language books and periodicals. In order to add the data about the books from the period 1525-1850 the database of retrospective national bibliography was converted to ESTER and the descriptions afterwards checked and manually corrected. The descriptions of foreign language publications, printed and published in Estonia during the previous centuries are consistently added to the electronic catalogue. Re-cataloguing is performed on the basis of card files and partly de visu, if possible. The compilers of the retrospective national bibliography have worked in the libraries of Russia, Latvia, Finland, Sweden and Denmark to find and to describe the books. The online catalogue ESTER is used as the basis for compiling the manuscript for the

Vr.	Val	AUTORINIMED (1-11 - 11)	Laad	Aasta
Hin	nse	l, Gebhard, 1603-1676		
1	Γ	Almanach på thet åhret MDCLXXI. Medh flijt stält aff Gebhardo Himselio : ESTERis ei leidu		1670
2	г	Alter und Neuer Schreib-Calender, Auff das nach der Gnadenreichen Geburt unsers einigen Erlösers und Seligmachers Jesu Christi M.D.C.L. Jahr, Darinnen nicht alleine der alte Julianische und neue Gregorianische, sondern auch der Hebraische und Römische Calender, nebenst fleissiger Beschreibung des Gewitters, Sonnen, Mond und Planeten, Lauff Aspecten, Erwehlungen, Jahrmärckten, und anderen sonst gemeinen Leben zu wissen nothwendigen Dingen ordentlich zu finden. nach wahrem und wol corrigirtem Astronomischem Calculo, auff den Lübeckischen und Revalischen Horizont, auffs fleissigste angefertiget von Gebhardo Himselio: TLÜAR		1650
3	Γ	Cometologia : oder Anmerkung, und natürliche Muthmassung von den Cometen in 3 Fragen vorgestellet von Gebhardo Himselio Hamburg Jn Verlegung Zachariae Hertels. : ESTERis ei leidu	•	1665
4	Г	Gebhardi Himselii Florilegium fortificatorium tripartitum, oder Anweisung zu der jetziger Zeit üblichen Krieges-Baw-Kunst - Reval , 1647 : Tartu ESTER	•	1647
5	г	Gross Prognosticum Astrologico-Physicum, Auff das nach der Gnadenreichen Geburt, unsers einigen Erlösers und Seligmachers Jesu Christi 1646. Jahr. Darinne desselben Eigenschafften, nach den Vier Jahrzeiten, nebenst den Finsternissen, grossen Aspecten, derselben Bedeutung, und andere Himmlische Zufälle, auss natürlichen Gründen ersuchet und erkläret werden. Auff dieser Ost- und Nordlichen Länder Horizont mit sonderlichem Fleiss gestellet, Durch Gebhardum Himselium, Medic. Phys. Ordin. Reipubl. Reval. Reval. [Reval]. Gedruckt bey Heinrich Westphal, Gymnasij Typogr. Verlegt vom Autore: TLÜAR, TLÜAR teadusrk	•	1645

FIGURE 1 Books by Gebhard Himsel, teacher of mathematics at Tallinn Grammar School, Tallinn town surgeon and head of town fortifications, as described in the electronic catalogue ESTER

print edition of the retrospective bibliography and therefore it includes also descriptions of books that are not extant in the partner libraries. This is marked with the expression 'ESTERis ei leidu' (not extant in ESTER). Figure I demonstrates the titles of books with notes on their availability in the libraries. The acronym 'TLÜAR' stands for the Academic Library of Tallinn University, 'Tartu ESTER' for the description of the book in the Tartu ESTER database.

Cataloguing is performed using the MARC21 format; bibliographic data are presented according to ISBD(A). In the notes area the collational formula, misnumbering, existence of illustrations, colophon, etc. are recorded. When possible, reference notes or ID-numbers in international databases are also added.

The copy-specific data is in the case of early-printed books more detailed than usual, containing physical description (collation, wanting leaves, misbound leaves), copy identification (binding), provenance notes (inscriptions, dedications, ex libris, stamps etc), notes on physical condition of paper and binding. Copy-specific data is not fully seen by the user on the web.

Since autumn 2006 the Academic Library of Tallinn University has become a member of CERL.¹⁶ The possibility of using the Hand Press Book Database facilitates not only cataloguing of early-printed books but also the composition of the retrospective national bibliography.

```
LEADER 00000nam 2200000 i 4500
800
      050302s1543
                           | ||||||| 0|lat
040
      ErEAR|best|cErEAR
100 1 Melanchthon, Philipp, |cpseud., |d1497-1560
245 10 Catechesis pverilis, recognita à Philippo Melanth.
246
      Catechesis puerilis
260
     Vitebergae : |bexcvdebat Nico. Schir, |c1540 [1543].
300
     [2], 86, [1] 1. ; |c8°
500
      Antiikva. - Signatuurid: A8-L8; A1v ja L8v tühjad. -
      Graafiline tiitelleht - Päisliist, piltinitsiaalid 1. A2
       ja A3, ehisinitsiaal 1. I8v. - Mitmeid numeratsioonivigu.
       - Trükkali andmed kolofoonis. - Kolofoonis ilmumisaasta
       1543
510
      VD16/[cM2627
650 9 katekismused
650 9 usuõpetus
700 1 Schirlentz, Nickel, [etrükkal
752
       dWittenberg
912
     11516
     |tBA Tiiu-03.05
952
972
```

ASUKOHT	KOHAVIIT		
TLÜAR teadusrk Baltika kogu	I-283 (konvoluut)		

FIGURE 2 View of a bibliographical description in MARC21 format in the online catalogue ESTER

Printed catalogues are still in many cases the only remedies when seeking information about the early-printed books. The incunabula of Tartu University Library have been described by Olev Nagel. The illustrated catalogue published in 1982 contains a lot of additional information about the books, including illustrations and provenance.¹⁷ The incunabula of the Tallinn City Archives have short descriptions in the catalogue by Gotthard Hansen.¹⁸ The only specific description of incunabula in Tallinn libraries was compiled by the archivist Otto Wilhelm Greiffenhagen and the teacher of history at Tallinn Cathedral School Theodor Kirchhofer in the context of international cooperation with the bibliography of incunabula Gesamtkatalog der Wiegendrucke (vol. 1–7, vol. 8, 1; 1904–1925). The list includes incunabula from the Library of the Estonian Literary Society, the Tallinn Gustav Adolf Grammar School (at that time Nikolai-Gymnasium)

and the Tallinn City Archives and was published in 1910.¹⁹ Unfortunately not all books described in that list have survived.

The incunabula of the National Library of Estonia are described in the catalogue of small incunabula collections of the Soviet Union, published in 1982.²⁰ The incunabula of the Academic Library of Tallinn University have not been described.

Some of the early-printed books in Low German are described in the well-known printed catalogue by Conrad Borchling and Bruno Claussen – *Niederdeutsche Bibliographie* (Neumünster, 1931–1936). The information about the books at the Library of the Estonian Literary Society was submitted by historians Paul Johansen and Hellmuth Weiss. The number of books in Low German at that library is actually much bigger; unfortunately it has been impossible to find out the principles of how the choices were made.

Card catalogues on early-printed books of West European origin are found in all libraries. At present only about 500 books are described in the electronic catalogue ESTER which means that Estonian libraries have to think seriously how to speed up the re-cataloguing process.

PRINTED CATALOGUES ON BOOKS PUBLISHED IN ESTONIA

The Estonian-language early-printed books are described in the bibliography *Eestikeelne raamat 1525–1850* (The Estonian Book 1525–1850), edited by Endel Annus. The bibliography belongs to the first part of the retrospective national bibliography and is richly illustrated. Each entry includes in addition to the bibliographical description, information about the book, its treatment in literature or historical studies and the availability of extant copies in the libraries and other institutions in Estonia and abroad. The bibliographical descriptions are also available in the union catalogue ESTER, but not yet in the database of national bibliography. The retrospective bibliography of books published in Estonia in foreign languages 1632–1940 is in progress at the Academic Library of Tallinn University.

The books in foreign languages published in Estonia in the eighteenth century are included in the union printed catalogue, compiled by the Library of the Russian Academy of Sciences. ²¹ Compiling of the catalogue started at the end of the 1970s. The information about the eighteenth-century books, published in the territory of former Czarist Russia, was gathered from the fourteen libraries and archives in St Petersburg, Moscow, Riga, Tallinn and Tartu. The first three volumes of the catalogue were printed in 1984–1986. The disintegration of USSR and the following

years of economic difficulties hindered the work: the last volumes of periodical publications were published only in 2004–2006; the volume of indexes has not been published yet.

Periodicals in the Estonian language are described in the bibliography *Eestikeelne ajakirjandus* 1766–1940 (Estonian Press 1766–1940) published in 2002; periodicals published in Estonia in other languages can be found in the bibliography *Eestis ilmunud saksa-, vene- ja muukeelne perioodika* 1675–1940 (Periodicals in German, Russian and Other Foreign Languages in Estonia, 1675–1940) published in 1993.

A special bibliography together with historical overview was published on the print production of the Tartu University printing house, 1632–1710.²²

DIGITISATION OF THE PRINTED CULTURAL HERITAGE

A digitised version of an old book will never substitute the pleasure of having in one's hands an original copy. However, digital collections make the manuscript and printed heritage accessible for a wider public. An ordinary user is as a rule more interested in content than in a book as a physical object, thus, replacing the original with a digitised copy helps also to reduce deterioration risks.

Estonian libraries started digitisation activities at the beginning of the 2000s. The first years can be characterised as experiments in how to present the digitised material to the users and to find the objects that would be of interest to many possible users. Such an approach brought with it useless duplication and chaotic digitisation of different objects. For example, the project of the Estonian Historical Archives of 2001–2002 *The seventeenth-century Imprints in the Estonian Historical Archives* made accessible via the internet an interesting and rare collection of official orders and decrees from the period of Swedish Rule in Estonia which is preserved in the archives.²³ Unfortunately, the compilers did not consider cooperation with other memory institutions that might have given a valuable supplement of the same kind of publications and the project might have resulted in a full-text database of all extant orders and decrees of seventeenth-century Estonia.

In 2003 the first national digitisation strategy was set out by the Ministry of Culture; in 2007 it was supplemented until 2010.²⁴ During the following years digitisation activities have become more coordinated and memory institutions have ascertained their mission in the field of digitisation.

The most successful cooperative digitisation project is at present *Digitised Estonian Newspapers* (DEA). The initiator of the project is the National Library of Estonia; the project started in 2002 in the framework of the Estonian Libraries Network (ELNET) Consortium project MIDAS. Two years later the Academic Library of the Tallinn University and the Archive Library of the Estonian Literary Museum joined the project. As of November 2007, the full-text database held digitised images of 56 newspapers in 778 annual volumes starting from the year 1821. ²⁵ Newspapers are at first microfilmed and then digitised from the microfilms. Before the microfilming the partner libraries try to compose the most complete copy of an annual volume. Thus, the digitised copy offers the user a better result than any of participating libraries can do.

The cooperative project between Tartu University Library, Department of Literature and Folklore of Tartu University and the Estonian Literary Museum resulted in a digital text repository of older Estonian literature named 'EEVA'. EEVA was started in autumn 2002 with the support of the 'Literary Classics' programme of the Ministry of Culture with the aim of making the old rare texts that have played an important role in Estonian cultural history, accessible to the users.

The collaborative project, entitled *Red Book of Estonian Publications*, was completed in 2003–2005. The aim of the project was to create a methodological basis to determine priorities for further digitisation and preservation of Estonian-language early printed books. The project resulted in the database of historically, culturally and scientifically valuable rare Estonian books. The database includes information on:

- availability of original item(s) and their preservation copies;
- the description of the physical condition of one original item;
- digitised images of the title page and binding of one original item, which is preserved in Estonian memory institutions.

To compile the list of publications the following criteria were used:

- the cultural value of the book;
- the number of surviving copies;
- the physical condition of a book.

The list contains 403 Estonian-language books, of which 127 are unique copies (31.5%). From the unique copies 31 (24.4%) are preserved outside Estonia (in the libraries and archives of Latvia, Russia, Finland, Sweden, Denmark, Germany). Estonian memory institutions have preservation

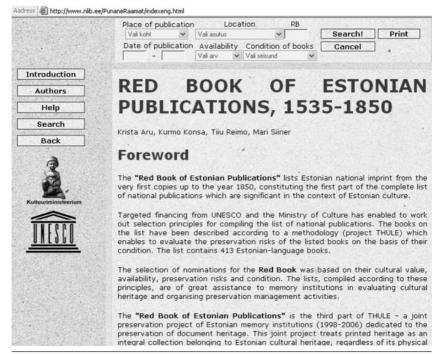


FIGURE 3 View of the search engine of the database of *Red Book of Estonian Publications*, 1535–1850

copies only from half of these books. For three rare books there are no copies in Estonian memory institutions, for 17 books the Estonian memory institutions have no complete copies, and for half of them there are also no preservation copies. In conclusion, 12.6% of books, included in the list, are preserved outside Estonia. From 33 books (8.2%) there are no recorded complete copies extant. Two single copies and six single complete copies are registered to be found only in private collections.

The physical condition of the books could be determined only where they were preserved in Estonia. From every book one copy was assessed. Using a scale of three criteria it turned out that from the books in the list 25 books (7.5%) were partly damaged, 99 books (29.5%) damaged and 210 books (62.7%) severely damaged. Preservation copies, which were made decades ago, do not correspond to present-day requirements, surrogate copies have been made only in few cases.

The results of the project highlighted the fragility and the danger of gradual perishing of the printed heritage. Mapping the location and availability of culturally valuable printed matter enables us to elaborate preservation policy as a whole, helps to determine priorities, provides an accurate assessment of the status of resources being managed and needed for preventive preservation, coordinates establishing and development of preservation collections by microfilming and scanning the most complete copies and providing the partner libraries with user surrogate copies, which improve the availability of publications to users and enables us to safeguard the original publications.

An interesting initiative concerning digitisation can be observed on the website of the Academic Library of Tallinn University. The database of *Book Clasps and Book Furniture in the Baltica Department* was started in 2005.²⁷ The website presents a selection of historical book clasps from the fifteenth to the twentieth century and provides an easily comprehensible overview of various book clasps as well as the manifold styles and

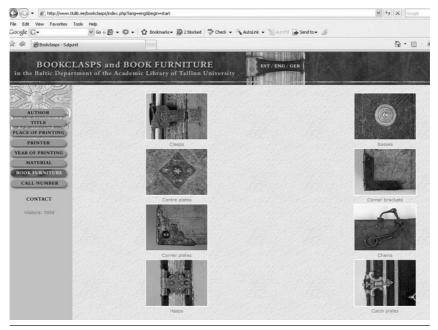


FIGURE 4 Website of Book Clasps

techniques that have been used during that period. There are four material classes: bronze, silver, nickel and brass; book furniture is divided into eight categories: clasps, hasps, catch plates, centre plates, corner plates, corner brackets, bosses and chains. At present clasps and book furniture of 101 books have been described; the biggest number of books derive from the sixteenth century.²⁸

In addition to the above named projects, the websites of Estonian research libraries and other memory institutions present a wide range of digital collections (virtual exhibitions, geographical maps, digitised books, book illustrations, fine arts, etc) available to users. Digitisation inside an institution depends greatly on economic possibilities of libraries and the number of digital collections is growing somewhat slowly. The most active international cooperation is developed by the National Library of Estonia, contributing to *The European Library* and the *Europeana* projects.²⁹

IN CONCLUSION

Historical collections in Estonian memory institutions reflect the multicultural history of the country. The West European book heritage mainly derives from German-speaking areas thus testifying to the cultural orientation of the upper classes. The collections are small, including all together only 122 incunabula and about 4,000 books from the sixteenth century. The early Estonian-language book heritage of the sixteenth and seventeenth centuries is scarce. The special interest for collecting local printing production started among the Baltic German estophiles only in the 1830s.

At present the main task of the memory institutions is to make the information about the printed heritage accessible to the wider public. The electronic online catalogue of Estonian libraries was brought into use in 1999, but re-cataloguing of early-printed books was not among the priorities of the first years. The primary attention has been concentrated on producing the bibliographical information about the national book production, first in the Estonian, then in the foreign languages. Not all information is at present accessible via the internet. The West European printed book has had to wait its turn and the online bibliographical information about the collections is far from what is needed. The situation is constantly improving; this year re-cataloguing of historical collections has been put on the priority list of cataloguing activities in a majority of research libraries. The Academic Library of Tallinn University has become a full member of CERL and the HPB Database has been made available

for library users. This helps not only the users to find the information they are seeking for, but also facilitates the re-cataloguing of old collections.

The digitisation of printed heritage that started at the beginning of the century has developed into coordinated activities guided by the national strategy in the field of digital cultural heritage.

NOTES

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Provenance research at the National Library of Portugal

FERNANDA MARIA CAMPOS

THE NATIONAL LIBRARY OF PORTUGAL: BRIEF HISTORICAL OVERVIEW

The National Library of Portugal has its origins at the end of the eighteenth century. It was created by a Charter of 29 February 1796 with the name of Real Biblioteca Pública da Corte (Royal Public Library of the Court) with the aim of serving as a cultural institution whose collections were made accessible to all 'wise, learned or curious men' in order 'to help the progress and happiness of the people'. The model was established in similarity with already existing major libraries in other countries and the rationale attached considerable importance to the fact that 'no such establishment existed in Portugal' which made it extremely difficult to investigate and to have access to the most recent intellectual foreign production.

Contrary to other national libraries in Europe, the Royal Public Library did not incorporate the Royal Library, which continued to exist as a separate institution, nor was it created with a special donation from the Queen. The Royal Library had been established along the centuries and had greatly improved in the first half of the eighteenth century due to the action of King João V. However, the earthquake that destroyed Lisbon almost completely in 1755, made the Royal Library disappear as well as many private libraries from the nobility and from convents.

Later, King José I and his daughter Queen Maria I reconstructed the Royal Library but the fact remains that, by the time the Royal Public Library was created, there was a great need of a Public Library in Lisbon which would gather not only rare and important old books and manuscripts – in order to somehow recuperate the memory of the heritage lost with the earthquake – but which could also perform a proactive role through the acquisition of new publications. Like many other libraries of the eighteenth century, the Royal Public Library was to have books and manuscripts as well as collections of maps, engravings, drawings, coins

and medals. The Library opened to the public in 1797 with a comprehensive collection inherited from the Library of the Royal Censorship Office which had been established in 1771, already with the aim (though not successful) to serve the public in general. Among the more relevant collections were the libraries confiscated from the Jesuits (expelled from Portugal in 1759), a large number of contemporary Portuguese and foreign publications, and precious books and other items acquired in auctions or donated to the Library. These policies for collection development were favoured by a generous grant for acquisitions, in the first years, and also by the Legal Deposit dispositions dating from 1805.

From 1807 to 1834, the French army's invasions first and the fall of the absolutist monarchy (followed by civil war) afterwards did not help the development of the Royal Public Library. In 1834, the liberal regime ordered the extinction of the religious orders and congregations and that event had very important consequences for the Royal Public Library:

- Its name changed to Biblioteca Nacional de Lisboa (National Library of Lisbon) in 1836 and thus remained until 1980.
- The Library moved to a new venue, occupying a great part of the Convent of Saint Francis in the upper part of Lisbon.

As a result of the confiscation of around 140 convent libraries, the National Library was called on to house, organize, dispose of duplicates, incorporate and/or distribute to other libraries and institutions around 180,000 volumes. As in other countries which endured similar political events, the process proved to be very hard and complex, subject to diverse hazards and risks. In the middle of the nineteenth century, the National Library was still selling duplicates, even to foreign booksellers, destroying books in extremely poor condition and exchanging duplicates with other libraries. On the other hand, the second half of the nineteenth century also allowed for the acquisition of very large private libraries that enriched and diversified the National Library's collections.

In 1910, the fall of the Monarchic regime inaugurated a new cycle of incorporations. In fact, religious orders and congregations had established or re-established their institutions in Portugal and a new abolition law was issued. The National Library received those libraries and the National Archive received the religious orders' archives.

No other political factor affected the National Library during the course of the twentieth century and collection development was mostly based on the Legal Deposit with occasional acquisitions of foreign publications and

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of Portuguese materials (or related to Portugal) with special emphasis in the acquisition by purchase or donation of private collections. In this very brief overview it becomes obvious that in terms of provenances, the National Library of Portugal is, like many other historical libraries, a collection of collections or a library of libraries.

THE NATIONAL COLLECTIONS: CONSTRUCTING, DE-CONSTRUCTING, RE-CONSTRUCTING

The arrangement of the national collections followed, from the time of the library of the Royal Censorship Office, a subject classification scheme, quite popular at the end of the eighteenth century, established by Garnier and Gabriel Martin, later followed with some adaptations and updates, by Brunet.

The monastic libraries confiscated after 1834 were organized also by similar classification schemes that prescribed an arrangement by broad subjects, divided into minor ones, if necessary. When those libraries were received and incorporated in the National Library, the books had been previously separated by size, language and subjects, in order to simplify the task of detecting duplicates, choosing the best preserved copies, reconstructing works in several volumes and to allow for the selection of books by other libraries. Manuscripts, maps, engravings and incunabula were put aside and constituted special collections.

The same policy was always adopted as a rule (with very few exceptions) for private collections acquired or donated to the National Library over the years: the items were separated and ranged in accordance with their subject. The classification scheme was updated several times over the years but is still in use today for shelf-marking purposes. The libraries within the National Library, though constructed with a more or less organized scheme, were de-constructed when integrated in the Library. Therefore, reconstructing the provenances is not an easy task and demands different but complementary approaches.

- The use of lists, catalogues or other archival material where the contents of those former libraries may be recorded, followed by searches in the database or in old card catalogues to locate the items.
- Book in hand examination as a complement of the search in catalogues, as a practical and thorough method to locate provenances and as a specific requirement in retrospective or current old printed books cataloguing.

Regarding this last aspect, at the National Library of Portugal, provenance information has been a regular part of the cataloguing procedures of special collections. An old card catalogue still exists in the Rare Books and Manuscripts Department where information about former owners and provenance marks was recorded. However, a more comprehensive attitude concerning the importance of recording such information occurred only since the 1980s.

Printed catalogues began to include a note of provenance in the bibliographical description, whenever items displayed such information and regardless of the importance of the former owner. Those catalogues also include a special Index on former owners in order to allow a more detailed search.¹

Automation and the use of UNIMARC enhanced the recording of provenance information and made possible a comprehensive search by names of former owners either individual or corporate ones. At the same time, the National Library implemented regular research work on the History of the Library and the national collections, based on the few lists and catalogues that remained, as well as on archival materials. As a result, several studies were published including some provenance ones.²

However, the amount of research information on the database is still modest because as the old card catalogues did not contained such information, the retro-converted records could not include it as well. Like many other research libraries, the National Library of Portugal though broadly aware of the provenances of its collections does not yet provide a clear and systematic overview of who were the former owners, how exactly some of the books arrived at the Library and what were the contents of those former libraries. The phase of virtually re-constructing, although encouraged by special research and carried out whenever retro-cataloguing occurs, is still at an early stage.

THE PROVENANCE RESEARCH PROJECT OF THE NATIONAL LIBRARY OF PORTUGAL

Rationale

The research project we have been conducting since the end of 2006 aims to massively collect provenance information from book-in-hand examination and contribute to a more complete knowledge about the provenances of the National Library's collections. An attempted SWOT analysis of the purposes of such a project could be summarized as follows:

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Strengths

- The project builds on existing practices and the importance of researching the collections and collectors is fully recognized.
- Digital technologies are in place to help building images of provenance marks.
- As the National Library coordinates the Union Catalogue, there are many libraries that include provenance information on their bibliographic records which broadens the possibilities of finding some of the scattered books.

Weaknesses

- The use of provenance marks is at the discretion of the owners and many individual and corporate entities did not mark their books. This is the case with a very important donation that occurred in the first years of the Library made by the Bishop of Beja, a bibliophile with a great library and donor to other institutions. As he did not use a mark, those items cannot be tackled in an easy manner and yet it is one of the greatest assets of the Library. Another example is the library of the Saint Francis Convent in Lisbon. As we mentioned above, that was the location of the National Library after 1836. It is absolutely certain that those books became part of the Library and it was common knowledge at the time that the library contained around 24,000 volumes; however, they are not marked and their virtual re-construction will be almost impossible.
- Whenever the marks exist (and many of the convents, for example, had them) the fact that many of these libraries were subject to confiscation, transport and long storage in very poor security conditions before being integrated, allowed for book thefts, some of them recognized at the time. Moreover, as mentioned before, the National Library did not keep all the books and the same provenance may be found ... even in foreign private or institutional collections!
- Provenance marks are, in some cases, difficult to interpret and to identify. Many names or initials that can be found in books may not be related to the ownership of the book but being sure about it demands a long investigation and comparison with marks existing at the National Library and elsewhere.
- Last but not least, a provenance research project risks being very long and in many cases rather frustrating.

Opportunities

- A massive book-in-hand provenance inventory combined with research on archival materials available can produce more reliable information than one collected randomly during cataloguing.
- The information collected will enhance the National Library bibliographic and authority records.
- The Union Catalogue will be enhanced as well as best practices and cooperation on provenance information and research.
- At the international level, there are nowadays opportunities for sharing and enhancing provenance information.

Trends

- Though a strength too, the use of new technologies in terms of cost/benefit may prove a trend in such a project.
- There is a need for standard practices regarding provenance information that goes further than the use of what is prescribed in the UNIMARC format. How detailed shall the information be, what kind of former owners are we dealing with (all of them or just the more relevant ones), how best can this information serve the researcher on History of the Book and Reading, are some of the questions that we can anticipate need to be properly answered.

Setting the project in action

Having all these pros and cons in consideration we ventured into the first phase of the Provenance Research Project, starting with the section of History and Geography books. The method consists of the practical examination of each old printed book and the recording of provenance marks, either for the bibliographic database or for further research on the names found. The aim is to enhance the knowledge of former owners of the national collections and make that information available to the users.

All provenance marks were taken in consideration so as not to narrow the information just to the important collectors. Naturally, it is much easier to find information about someone who was important in their day than to identify people whose names are of little or no consequence. The important factor is to record the information available and be aware that in some cases, it may be helpful for some researcher who, on the other hand, can also help us to clarify who the person was.

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Furthermore, the persistence of unknown entities owning very few books might be an indicator of the way the book was owned and of the existence of a number of very small libraries (if we can call them so) in Portugal .

Results of the project's first phase – the History and Geography Section

The choice of the section was topographical (it is the first one ranged in the store building) but it is also a fact that this section can provide an excellent test bed for the project because it is one of the richest, in quantity and quality, in the Library. We examined about 12,000 works of historical, geographical and also biographical content, issued between the sixteenth and the eighteenth century and assisted on the digitisation of a large sample of provenance marks. Maps, atlas and other cartographic materials are not part of this section and form a special one.

The indicators we consider of value to characterize the section, in terms of provenance are the following:

- Only 32.6% of the books displayed provenance marks
- Of these, 3.5% have partially or totally ineligible marks, as a result of poor conditions of the book, vanished ink or damaged pages, intentional destruction of the mark, difficulties in reading and interpreting the calligraphy, etc.
- 557 different individual entities were identified, from a total of 1330 works.
- 143 different corporate bodies were identified, from a total of 1949 works

In trying to establish profiles for the owner of the History and Geography books, the indicators for the individual marks point to:

- 84.5% being owners of just one book
- whenever the information presented by the mark itself and/or by the bibliographical research that took place allowed for an identification of the profession (or rank in society), 57.6% are members of religious orders or congregations
- 79.5% being of Portuguese nationality
- 97% being of masculine gender

Though the majority of the names was only manifested once, there were also relevant signs of large collections in History and Geography. In some cases, the former owners may have collected a library of items pertaining to different subjects following patterns of bibliophily (e.g. sixteenth-century books, illustrated books, classical authors, etc) in other cases we could identify a strong connection between the owner's profession or major occupation and the choice of books. In progressing to other sections and other subjects, we will be able to follow these indicators.

The 'top ten' collections identified had their origins

- 2 in the seventeenth century
- 5 in the eighteenth century
- 2 in the nineteenth century
- I in the early twentieth century

Contrary to the expected profile of small private owners, three of these collectors are members of the nobility and/or diplomats, three are historians or writers and four are high-ranking members of the Church. Some of those books were acquired by them directly in the country but many from outside Portugal and, in some cases, the books display former marks indicating, for example, the habit of purchasing at auctions. Together they represent 83% of the marked books in the section.

As to the integration of these libraries into the National Library, three came through the confiscation of the libraries in 1834, because their former owners had donated them to convents, five were directly donated to the National Library and two were purchased, one of them at auction and just partially, years before the creation of the Royal Public Library.

Regarding the corporate bodies marks, the indicators show:

- 95% had more than ten titles
- 90% belonged to libraries in convents or monasteries
- The 'top ten' institutional collections are, exclusively from these libraries, 9 of them incorporated after 1834 and one after 1910. Together they represent 50% of the works. In terms of religious orders, the total amount of Jesuit institutions forms by far the larger collection.

Provenance marks and provenance information

As is the case in most research libraries, manuscript marks are most commonly found (88.5%). It is usually the name of the owner inscribed on the title page and occurs not only in inscriptions by individuals but also in collective ones. Bookplates and book stamps are more frequent in well-organized individual or institutional collections and for the individual ones there are some very artistic heraldic bookplates. (Figs. 1 and 2).³

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FIGURE I (left) D. José da Silva Pessanha – bookplate

FIGURE 2 (below) Hospitii Regii Scti Joannis Nepomceni Carmelit. Discal. – bookplate

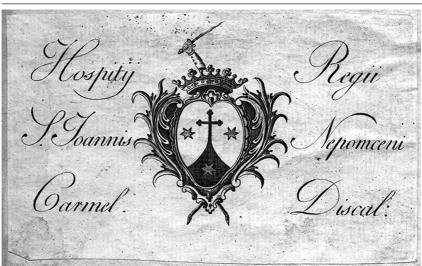




FIGURE 3 The General Inquisitor and the Oratorian's House of the Holy Spirit which inherited the former's library – bookplates

More than one mark was found in around 10% of the books and, logically, they are more frequent in books from modern owners. In some cases, these marks represent former donations to religious libraries. (Fig. 3)

Provenance marks can carry more detailed information about the conditions of acquisition (e.g. if it was a gift and from whom and/or in what circumstances or if it was purchased, to whom and/or the cost), biographical information about the owner, bibliographic relevance data, etc. (Fig. 4)

Marks of censure can be found in numerous sixteenth- and some seventeenth-century books, especially in books belonging to Jesuit libraries. Sometimes even the names of the author and the printer are covered with ink because they were considered heretical.

As well as these censure marks, there is a large number of marginalia, usually reading notes and comments.



FIGURE 4 D. José Barbosa – inscription with detailed provenance information

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FIGURE 5 Bibliographic record from the NLP's database with provenance notes and title page image

IN CONCLUSION

Although we have just touched the edge of the iceberg, we believe that both the results of our findings and the method followed, can provide more solid information about the provenance of the National Library of Portugal's collections and collectors.

Digitisation of provenance marks and their availability via the Internet may prove to be a very relevant method of improving awareness of early printed books ownership thus encouraging research on the History of the Book and Reading. The historical dispersion of ancient libraries that occurred in Portugal can benefit from the use of digital technologies and information for books of the same provenance can be found in many libraries nowadays and this will be the way to virtually reconstruct those former libraries (Fig. 5).

National and international cooperation is, therefore, of vital importance in provenance research and, in this respect, CERL's role is essential in the promotion of guidelines for a good quality provenance information in the Hand Press Book Database.

NOTES

- 1. The more relevant examples are: Mendes, Maria Valentina Sul, Catálogo de incunábulos, Lisboa: Biblioteca Nacional, 1988 and Simões, Maria Alzira Proença, Catálogo de impressos de tipografia portuguesa do século XVI: a colecção da Biblioteca Nacional, Lisboa: Biblioteca Nacional, 1990.
- For example, the published study about the private library of D. José da Silva Pessanha (1717–1775) : Domingos, Manuela D., Livraria de D. José da Silva

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- Pessanha: do coleccionador à Biblioteca Pública, Lisboa: Biblioteca Nacional, 1998.
- 3. All credits for the reproduction of provenance marks and bibliographic record are due to the National Library of Portugal.

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