

M. Libert

THE SEAL CASTS COLLECTION AND THE DIGITISATION OF THE SIGILLOGRAPHIC COLLECTIONS OF THE NATIONAL ARCHIVES OF BELGIUM

The present article draws the history of how the seal casts collection of the National Archives of Belgium (NAB) was created and accumulated in the course of the years and gives a short presentation of the cast production process. This first section is followed by a short overview of the collection as such and how it was digitised and published online from 2009 to 2015. This article will give technical information about casting methods and highlight the process of casting production. We will explain which periods were the most successful for the production of castings and why. Many reasons explain why this campaign of reproduction did not follow the same rhythm over the last 150 years. Explaining our digitalization of the castings is primarily aimed at offering a methodological reflexion for those who want to embark on a similar project. Finally, the seal matrices collection and the 3D-digitisation project that started in January 2015 will be presented. This project is technically innovative as it uses 3D digitalization. We will demonstrate that it leads to interesting findings which could involve other Belgian federal institutions or any institution keeping a collection of matrix seals. Refs 17.

Keywords: sphragistics, The National archives of Belgium, seals, stamps, graphics.

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М. Либер

КОЛЛЕКЦИЯ МУЛЯЖЕЙ ПЕЧАТЕЙ И ОЦИФРОВКА СФРАГИСТИЧЕСКИХ КОЛЛЕКЦИЙ ГЛАВНОГО КОРОЛЕВСКОГО АРХИВА БЕЛЬГИИ

Настоящая статья посвящена истории формирования коллекции муляжей печатей Главного Королевского архива Бельгии, а также краткому описанию процесса изготовления муляжей, что составляет первый раздел статьи. Он продолжается кратким обзором коллекции как таковой и процесса ее оцифровки и публикации в Интернете, проходивших с 2009 по 2015 г. Статья дает техническую информацию о методах создания муляжей и освещает процесс их производства. Автор анализирует, какие периоды были самыми успешными в изготовлении муляжей. Многие причины объясняют, почему изготовление муляжей не подчинилось одному и тому же ритму на протяжении последних 150 лет. Детальный рассказ об оцифровке муляжей печатей Главного Королевского архива Бельгии направлен в первую очередь на то, чтобы поделиться опытом с теми, кто хотел бы организовать аналогичный проект.

Наконец, в статье представлены коллекция матриц печатей и проект по ее 3D-оцифровке, который начался в январе 2015 г. Этот проект является технически инновационным, так как в нем используется трехмерная графика. Мы продемонстрируем, как это приводит к интересным находкам, которые могут привлекать и другие бельгийские федеральные учреждения или любые институты, которые хранят коллекции матриц печатей. Библиогр. 17 назв.

Ключевые слова: сфрагистика, Главный Королевский архив Бельгии, печати, штампы, графика.

Libert Marc — PhD of History, The National Archives of Belgium, 2, str. Ruysbroeck, Brussels, 1000, Belgium, marc.libert@arch.be

Либер Марк — доктор истории, Главный Королевский архив, Бельгия, 1000, Брюссель, ул. Рюйсбрука, 2; marc.libert@arch.be

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History of the seal casts collection

The casting workshop of the National Archives of Belgium (NAB) was set up in 1864 at the Royal Museum for Antiquities, Armour and Artillery (today's Royal Museums of Art and History), and placed under the direction of Alexandre Pinchart, head of section at the NAB [Coppens, Laurent 1996]. Pinchart combed through the archive holdings of the different State Archives repositories and various city archives, ecclesiastical and charitable institutions, in search of seals dating back to the period before 1500 that could be casted [Laurent 1995, p.1]. His work was backed up by François Quantin, who was a trained caster from the Academy of Fine Arts of Brussels¹. When Pinchart passed away in 1884, he had prospected over 100,000 seals and the collection comprised about 20,000 seal casts [Laurent 1995, pp.1, 3]. The vastness of this production is simply remarkable when compared to the output and collection increase of the following century, but also given the conditions in which the work was carried out. The seals intended for casting were indeed conserved at different institutions and the means of communication were not as advanced as today.

It appears that the collection was not stored at the NAB because the premises did not provide enough space. The Museum of Antiquities had to face the same capacity issue in the early 1890s. Moreover, the museum had no expert able to evaluate these seal cast collections. In 1892, the National Archivist Piot managed to obtain the transfer of the collection to the NAB, which was carried out effectively two years later [Brouwers 1937].

The seal casts were made of plaster and protected from humidity by a water-repellent coating made of linseed oil, litharge (lead protoxide), copper and iron sulphate as well as white wax [Baudrimont et alii 1838]. These working substances were probably still used in the course of the twentieth century and later replaced by shellac, which added a glossy aspect to the casts but caused some loss of clarity. The difference in quality between what can be considered as the first lot comprising about 20,000 casts and the subsequent ones is also due to the quality of the seals on which they are based. Indeed, the first lot is almost exclusively composed of casts made from originals in perfect state of conservation while the second batch of casts is based on seals in poorer condition, many of which were only fragments. In this context, the creation and expansion of the collection could indeed rather be considered as a means for conserving an endangered cultural heritage, as its goal was to safeguard the memory of an object whose quality was already deteriorated.

Almost 20,000 seals were cast between 1864 and 1884, but only 18,000 casts were made between 1885 and 1989². That is to say that about 900 seal casts were produced per year in the first twenty years, but only less than 200 per year in the subsequent years.

This significant difference is explained by several factors. The workshop went through a series of slowdowns. For instance, when Pinchart passed away, the workshop remained out of use for about 10 years until it was moved to the NAB. During the Two World Wars and in the years that followed, the shortage of raw materials caused the workshop to shut down temporarily. Personnel was also lacking and work conditions were extremely difficult for the following decades [Scufflaire 1976]. For example, it was not until 1972 that the

¹ Quantin worked until 1883.

² The casting workshop closed for good in 1994, but it actually had already ceased all activities since 1989 [Laurent 2003].

sigillography workshop was given a proper workspace adapted to its needs, like the other workshops of the NAB.

The production of cast copies for commercial purposes also hindered the expansion of the collection. For example, between 1969 and 1985, a total of 2,963 new casts from originals were added to the collection and at the same time, 161,304 cast copies were sold [Archives générales du Royaume 1970, p.48; 1971, p.69; 1972, p.27; 1973, p.27; 1975, p.190; 1976, p.202; 1977, p.194; 1978, p.192; 1980, p.193; 1981, p.210; 1982, p.219; 1983, p.207; 1984, p.220; 1985, p.242; 1986, Algemeen Rijksarchief 1974, p.34]. In this period, the number of new casts created from originals represented less than 2% of all the casts made. However, it would be futile to criticise the production policy of the time. Indeed, demand for such cast copies by the public was high and the institution wanted to increase its funding by self-generated income.

Another explanation of the slow increase in the number of collection items is that in the early 1960s, under the impulse of the National Archivist Sabbe, the institution wanted to have casts made from baked clay for its educational service, and that the Archives built a Centre for Auxiliary Sciences in 1985, under the aegis of René Laurent. The intense efforts that these two developments required partly explain why the collection has only poorly increased in size since the early 1960s. Unfortunately, the trend was not reversed when these two services were disbanded³. On the contrary, their disappearance contributed to the temporary shutdown of the sigillography workshop.

Since 2009, the restoration workshop of the NAB has begun to produce casts again, but only at a slow pace, as the institution does not have enough personnel to carry out the necessary assessments to identify those casts which need to be made most urgently. According to prospective studies, an estimated 10,000 new seal casts could be produced from originals in the cartularies conserved in the different State Archives repositories. But the workshop is understaffed and cannot handle such a volume of work⁴. At the very most, the missing casts of the current collection could be produced. What needs to be kept in mind though, is that the expertise of the NAB in this field remains intact and is safeguarded for another thirty years thanks to the training of two restorers currently employed by the institution.

The reason for dismissing such a larger conservation campaign is not due to the fact that digitisation has supposedly replaced the production of casts as a means for evaluating and preserving originals. In terms of sustainability, digital images are indeed no match for casts: the oldest casts conserved at the NAB were produced about one hundred and fifty years ago and are still in perfect state of conservation. Our intention is not to dismiss the advantages of digitisation either, as the NAB seal casts digitisation project clearly shows, but we are of the opinion that the conservation and valorisation of seals should be implemented in the future through a twofold approach of digital and physical (i.e. casting) reproduction.

The lethargy in which the seal service was plunged for twenty odd years between 1989 and 2005 is mainly due to underfunding and to a clear lack of support by the direc-

³ The Auxiliary Centre only existed for a few years [Laurent 1995, p. 3].

⁴ It is useful to recall that the main tasks of the restorers is to treat the damaged seals and especially the damaged paper and parchment documents sent to them by the different State Archives repositories [Libert 2011a].

torate of the institution. Despite this, two sigillographic projects stand out in this period, which do not directly bear on the seals collection however.

The first project only concerns the field of seals in its larger context. From 1993 to 1995, René Laurent, Daniel Van Overstraeten and Emmanuel Bodart have published the cartulary of the Counts of Namur on videodisk [Van Overstraeten 1995a; Van Overstraeten 1995b; Bodart 2001]. The charters and seals were published on a computer readable disk. But the project was abandoned, as publications could not be spread efficiently, and the quality of the digital images is so poor that it is impossible today to recover the data. The videodisk is no longer accessible at the State Archives⁵. But a new project, funded by the Inbev Baillet-Latour Foundation was started in 2016. It is aimed at restoring and re-packaging the cartulary and at digitising the charters and seals it contains. Upon completion in 2017, the cartulary will only be accessible online via the website of the NAB and no longer handed out in the reading room, so that it can be conserved under the best possible conditions.

The second sigillographic project of the late past century was carried out in 1996 and 1997. René Laurent was authorised to transfer the seal matrices collection of the Royal Library to the NAB where it complemented the existing collection. He published the inventories of both seal collections (Royal Library and NAB) together with Claude Roelandt [Laurent and Roelandt 1997].

The physical conservation conditions of the sigillographic collections were inappropriate between the early 1990s and 2009 [Libert 2011b, pp. 117–126]. In this year, the matrices collection was finally moved to a lockable room. These archival holdings are currently being repackaged and scanned in 3D [Libert, in press]. The collections of casts and detached seals were transferred to an appropriate archives repository in 2014.

State of conservation of the casts collection

The collection comprises 37,862 seal casts, mainly originating from seals of Belgian archive holdings (public and private), but it is also composed of ca. 1,300 casts of original seals conserved in the Grand Duchy of Luxembourg, a little over 300 casts of seals conserved in France and over 2,000 casts of seal matrices [Laurent 1995, pp. 19–20]. The richness of this collection is also due to the fact that it contains casts of originals that no longer exist today, that is to say mainly casts from cartularies of ecclesiastical institutions from the Hainaut region whose originals were destroyed during bombings in May 1940. This concerns an estimated 2,000 items [Laurent 1995]. Furthermore, approximately 10% of the originals of which casts were produced in the 19th century are damaged or have disappeared today [Laurent 1990, t. I/1, p. 6].

The collection also holds 1,756 original matrices and several thousand detached seals and seal wax imprints [Laurent 2002, vol. IV, p. 1107].

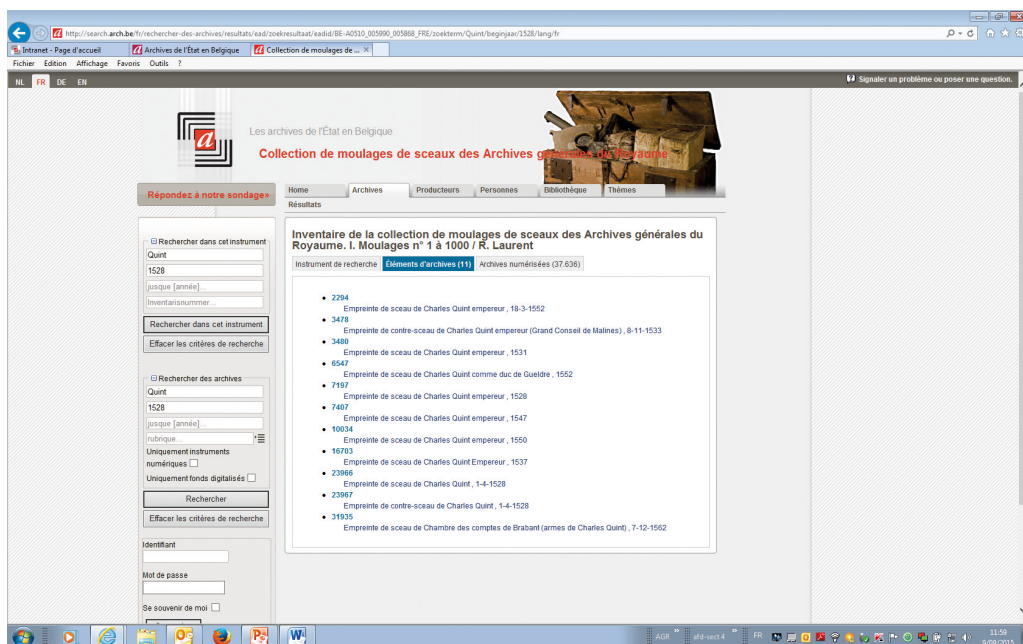
The digitisation of the collection of casts

Since June 2015, the entire collection is digitally available on the website of the State Archives (www.arch.be). Every researcher can find a description containing the name of the owner of the seal, the date of sealing, the repository in which the original document is conserved, and a photo of the cast as well as a mirrored image of the cast [Libert 2011b, pp. 117–126].

⁵ It was only accessible on an old computer in the reading room of the State Archives in Namur until 2010.



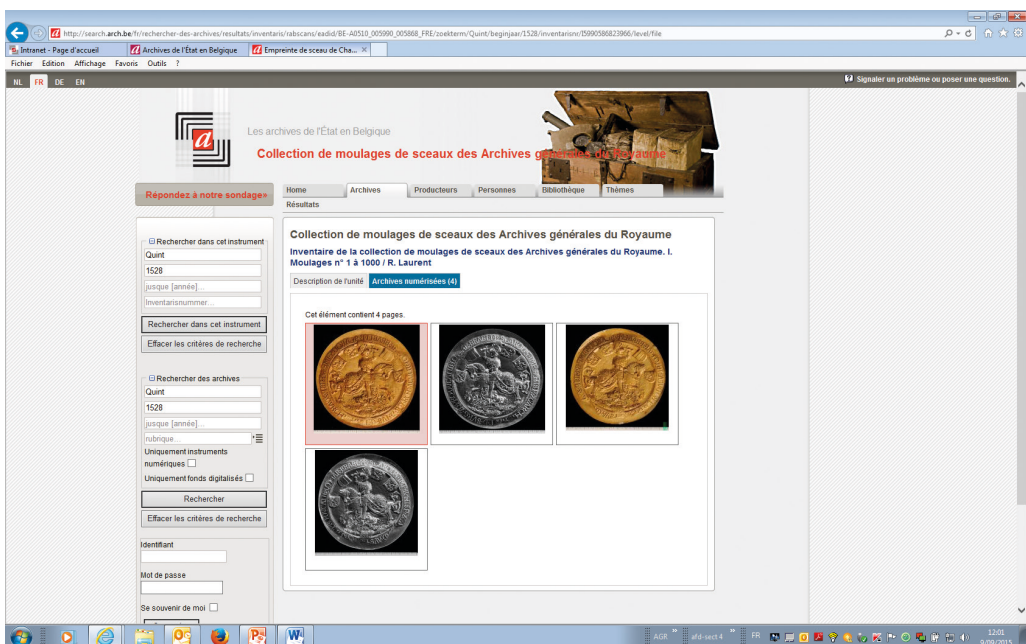
View of the drawer cabinets in which the cast collection of the NAB is conserved



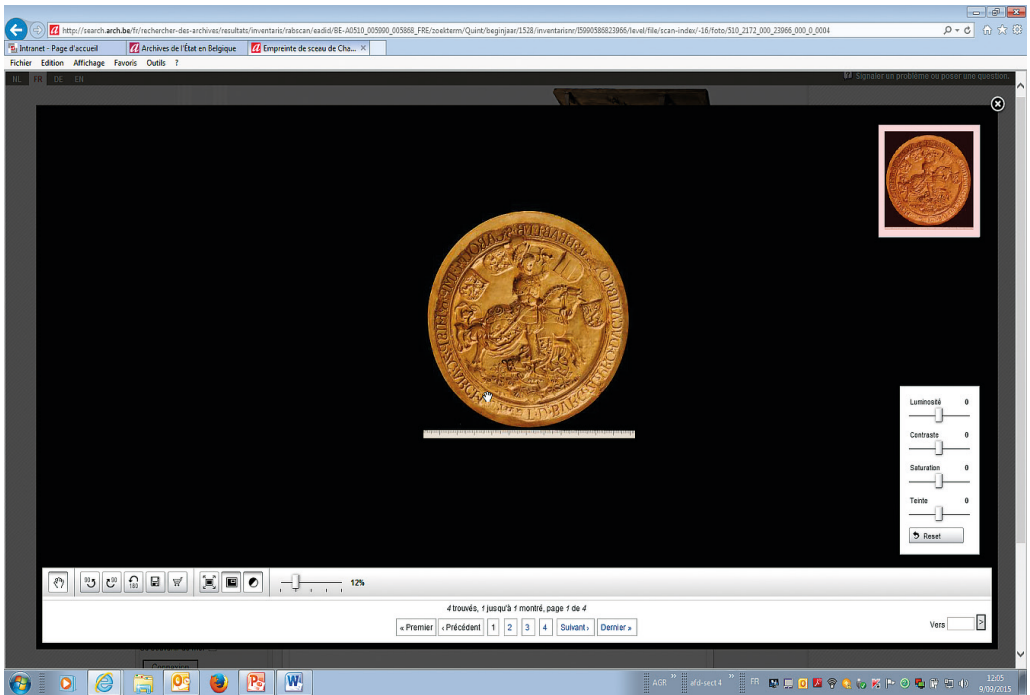
Results of a research on a seal of Charles the Fifth



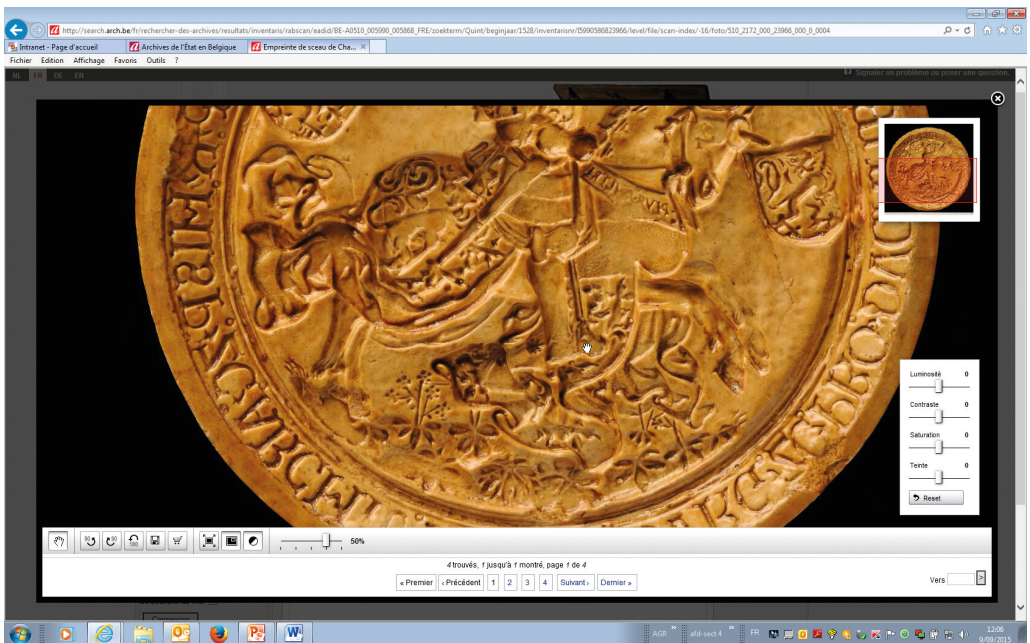
Description of the seal (1528) of Charles the Fifth



Images of the seal of Charles the Fifth (cast in color; mirrored image in black and white)



Selection of the image of the cast of the seal of Charles the Fifth



Zoom off the cast of the seal of Charles the Fifth

Allow me to share a few thoughts in order to help those who wish to start similar digitisation projects. These thoughts will not bear on methodology, as the preparation procedures for a digitisation project are well known. My considerations bear on aspects we do not usually address: the daily business of a project in which non-compliance may result in delays or even in the failure of the whole project.

It is very important to take enough time to carefully prepare the project. By this I mean that one should allow for a preparation phase that might even seem too long (for example by setting up test phases that are sufficiently long in order to provide pertinent results) so that a sound project can emerge that will not undergo major changes in the course of its execution. It is also very important to have one or more evaluation stages throughout the project in order to make adjustments — if and where necessary. Therefore, strict procedures must be followed, which still must be sufficiently flexible, however, to be modifiable without causing the loss of the work already accomplished.

In the present case, it was necessary to modify the database in the course of the project. Initially, we had set up too many descriptive fields and the technicians in charge of feeding the data into the database had difficulties in knowing where to enter the information taken from the handwritten file cards. For example, if the owner of a seal was called Henri de Namur, should the term “Namur” be entered in the “name” field or the “place” field? This was impossible to know merely based on the information from the file cards and it was impossible to check the original records. We decided to modify the data feeding instructions by using only one descriptive field. This decision very much simplified the work of those in charge of entering the data into the system and also increased the data input speed.

Another change was to reduce the number of data input staff from five to two, and later to only one. This allowed us to largely harmonise input of data, which has a beneficial effect on the subsequent phase of data checking and correction. Because all file cards were written in French, we preferred French-speaking data input personnel, who more easily decipher the cards than their Dutch-speaking colleagues of course.

Thorough regular controls carried out by the project leader are also vital in order to prevent any problems arising, which are fortunately very unusual. For instance, we had to end our collaboration with a staff member due to the person’s inefficiency and carried on with a single data input agent. The poor input quality of this former personnel member made six to nine months of work unusable, which was fortunately partly compensated by the speed and work enthusiasm of the remaining data input agent. This issue illustrates the difficulties one has to face with such a long and staff-intensive project, where human issues that are not related to work procedures can influence the project.

Despite all of these adjustments, the project was concluded successfully and largely within the time limit. Finally, it must be stressed that this success was made possible thanks to the commitment of eighteen personnel members from two different departments.

The digitisation of the matrices collection

This collection holds 2,012 matrices from the late 12th to the 19th century. Among the most remarkable archival items are the so-called iron matrices for the manufacture of the golden Bulls of Charles V, engraved in 1521 by the German craftsman Hans von Reutlingen and the silver matrices of the Grand Equestrian Seal of Empress Maria-The-

resa, created by English engraver Jacques Simon in 1753. Our oldest matrix is that of the Abbey of Gembloux, dating back to the late 12th century [Libert, in press]. The personal seals are by far the most numerous (they make up almost 62%). After analysing the creation dates of these matrices, we found that 16,5% (290) date back to the Middle Ages and that most originate from the Early-Modern Period (34%). Matrices produced in the 19th century represent 13,6% (239) of the total and there are 507 matrices without date, which accounts for 28,9% of the collection.

The inventory lists 43 matrices as fake or suspicious, but these figures remain unclear as it is very difficult to determine beyond any doubt if a matrix is a fake. Indeed, two recent discoveries by Clément Blanc from the seals service of the State Archives in Paris with regard to the matrix of the Concordat (16th century) and a matrix of the Clairvaux abbey (14th century) established that the first is a genuine one while it was considered a fake and the second is a fake while it was considered as a genuine one. This means that the percentage of fakes within the collections may also increase or decrease. In the wake of these findings, the number of fake or suspicious matrices rose up to 43.

As the digitisation process of the seal casts can be considered a success, I thought about a similar project for the collection of matrices too. This time, however, it was important to include an additional factor related to the nature of these matrices, that is to say to their three-dimensionality. Bart Boon, our institution's photographer, contacted our colleagues at the Royal Museums of Art and History in order to find out about the software they use for their three-dimensional digitisation projects. At the same time he carried out tests himself with available freeware from the Internet. Eventually, the choice fell on a software developed by Agisoft. It is the same as the one used by the Royal Museums, which enables more inter-operability between the two institutions in case a common project platform should be created for the Belgian federal scientific institutions. In addition to this very hypothetical aspect, a collaboration between the two institutions could even be considered within the framework of the present project. I will talk about this later.

In practice, our photographer took 64 photographs of each seal matrix from different angles and used the software to rebuild a three-dimensional image. This type of digital reconstruction takes a lot of processing; only 4 matrices can be reproduced per day if a computer processes the data over night. For this reason, and because our photographer cannot spend more than half of his work time on this project, it will probably take up to 4 or 5 years before the whole collection is available online. In order to accelerate the process and make the descriptions and images available sooner, we publish them by packages of at least one hundred, which is a working method that has proven effective with the seal casts.

The project started in January 2015 and some procedures already had to be modified. I initially thought of putting a technician in charge of feeding the information of the existing inventory to the data base (by Optical Character Recognition) and to later correct some descriptions (about 300) while adding missing descriptions (about 250). Given the difficulties in adapting the digitised descriptions to the inventory model used by the State Archives, I eventually carried out all of it myself. This adaptation will allow us to harmonise the corrections made and perhaps also gain some time. The end result remains as anticipated: presenting a complete and ISAD (G) standardised tool. It is very likely that the online presentation of the first 1,000 matrices will take place in the second half of 2017 at the latest.

The descriptions and images will be accessible online via our search engine that also allows accessing the inventories and other digital collections, among which the seal casts collection. In addition to the description, a search result will yield three images to the researcher: one front view of the matrix, one mirrored image of this photo, showing the positive of the seal and a three-dimensional image that can be viewed and studied from all angles.

The idea of preventive conservation also plays a key role in this project. The two restorers of the State Archives and one archivist have already started a complete inventory of the collection, the meticulous cleaning of the matrices prior to digitisation and the storing in new metal cabinets. The matrices are put in drawers on a layer of polyethylene foam next to a wax cast and a reference label.

This project could yield some spin-offs, in the form of collaborations with other Belgian institutions that hold matrices collections. In his reply to the enquiry of the Committee on Sigillography in 1991, René Laurent estimated the total number of matrices stored in Belgium at about 4,000 [Laurent, Roelandt 1997, p. XII]. A first collaboration could be established with the Royal Museums of Art and History by digitising the matrices still conserved there and that were not transferred to the State Archives in 2009. Both institutions use the same image processing software, as mentioned earlier, which would allow us to avoid moving the whole collection from one storage facility to another, which always bears a risk of physical damage. If these related projects were indeed realised, we could present digital access to all matrices conserved in Belgium to researchers in a user-friendly and scientifically sound environment.

Conclusion

In conclusion, the National Archives of Belgium already played early a key role in sigillography in Belgium and this expertise is also recognised at European level. The lack of means (personnel at different times, and raw materials after the Two World Wars) and the consequences of decisions taken by the institution's directorate (preferring profitability over scientific advances; or even more dramatically deciding to put a halt to the activities in question) partly explain why this discipline was not always supported equally vigorously over time.

The two digitisation projects combine aspects of propagation, inventorying, appraisal, preventive conservation, team work and fruitful collaborations with many other cultural heritage institutions of Belgium.

One hundred and fifty years after the seal casts collection was initially set up in order to conserve Belgian sigillographic heritage and make it accessible, the most recent digitisation projects remain in line with this principle and are, while technology advances, still relevant.

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