

## 1.2.

## Masterpieces and Pattern Books of Leaded Panels: the Ulixir Manuscript

Liesbeth Langouche

Ph.D. candidate, University of Antwerp

Joost Caen

Flemish Committee of the Belgian Corpus Vitrearum, Emeritus Professor, University of Antwerp

**Chefs-d'œuvre et livres de modèles pour panneaux de vitrerie : le manuscrit d'Ulixir**

Il est remarquable de constater à quel point les chercheurs ont toujours prêté plus d'attention aux vitraux colorés, sachant que l'utilisation du verre blanc a toujours été au moins aussi importante. Non seulement la vitrerie blanche est devenue le standard dans les habitations, mais le verre blanc a aussi été couramment employé dans de nombreux bâtiments importants, y compris les églises, où il a souvent joué un rôle majeur. Cependant, jusqu'à présent, aucune étude approfondie sur la vitrerie blanche aux Pays-Bas a été entreprise. Dans ce contexte, l'évolution de la profession du vitrier et des usages dans les guildes au cours de la période moderne sera également examinée, mais cela ne peut pas être fait sans tenir compte des changements survenus dans l'histoire de la peinture sur verre, car initialement les vitriers fabriquaient des vitres blanches ainsi que des vitraux en couleur.

L'objet principal de cette étude est un curieux manuscrit, vendu aux enchères à Bruxelles en décembre 2019. Il était décrit comme un livre de modèles pour vitrage en verre blanc, probablement originaire de la ville de Tongres et datant de la fin XVII<sup>e</sup>-début du XVIII<sup>e</sup> siècle. Le manuscrit contient 77 dessins de motifs géométriques répétés. Selon deux annotations, ces motifs auraient été dessinés par un certain Severinus Ulixir. Était-il vitrier ? Et qui était Lambrecht Vander Soest, propriétaire du livre en 1691 ? Il est vrai que, parmi les dessins, on trouve plusieurs notes faisant référence à des factures de vitriers. Toutefois, le plus fascinant est que certains des dessins d'Ulixir sont

presque identiques à ceux du livre de modèles des vitriers, conservé aux archives de la ville de Malines. L'ouvrage de Malines date probablement du XVII<sup>e</sup> siècle. D'autres motifs d'Ulixir ont des homologues dans le 'Prentenkabinet' (cabinet des estampes) des Musea Brugge. Plus précisément, dans deux liasses datant de la première moitié du XVIII<sup>e</sup> siècle et contenant 208 dessins de chefs-d'œuvre et de modèles de vitrerie. En outre, un dessin, présenté à la fois dans le livre d'Ulixir et de Malines, est très similaire à celui d'un chef-d'œuvre de Leyde, datant de 1651. Cela suggère que les mêmes motifs ont été utilisés dans une région de grande étendue, peut-être après avoir été importés par des vitriers voyageant ou migrants. Une autre possibilité est que les modèles ont circulé grâce à des publications. Certains des motifs d'Ulixir sont en rapport avec, ou sont des variations des dessins imprimés par Félibien dans son *Des principes de l'architecture, de la sculpture, de la peinture et des autres arts qui en dépendent* (1676) et plusieurs d'entre eux réapparaissent dans des publications, comme *L'art de la peinture sur verre et de la vitrerie de Le Vieil* (1774) et *L'art de faire un vitrail d'Ottin* (1892).

Ces publications montrent que l'on s'est davantage intéressé au vitrail mais, pour rétablir l'équilibre entre vitrail et vitrerie, la découverte du manuscrit d'Ulixir est importante et cette source plutôt rare permet une étude plus approfondie du chef-d'œuvre et des livres de modèles de vitrerie à l'Époque moderne aux Pays-Bas. Elle permet enfin d'approfondir la réflexion sur les guildes et l'origine du chef-d'œuvre, ainsi que sur l'évolution de la vitrerie blanche.

**Masterpieces and pattern books of leaded panels: the Ulixir manuscript**

In a way it is remarkable how much attention scholars have consistently paid to coloured stained glass, while clear windows have always been at least equally important. Not only did they become the standard for domestic windows, but in numerous grand buildings, including churches, unpainted windows have often played a major role. Until now, however, a thorough study of the clear window in the Low Countries has never been undertaken. Within this context, the evolution of the glazier's profession and guild practices during the Early Modern period is also examined. This cannot be seen apart from changes in the history of glass painting, as glaziers initially made clear windows as well as stained glass.

The immediate cause for this research was a curious manuscript, sold at auction in Brussels in December 2019. It was described as a pattern book for clear, leaded windows, probably originating from the city of Tongeren and dating from the late 17th or early 18th

century. It contains 77 drawings of repeated geometrical patterns, which, according to two handwritten entries, were drawn by a certain Severinus Ulixir. Was he a glazier? And what about Lambrecht Vander Loch, who was, according to another inscription, the owner of the book in 1691?

The fact is that, amongst the drawings, several notes are found in the manuscript, referring to glaziers' invoices. But most interesting is that some of the designs are almost identical to the drawings in the glaziers' pattern book kept at the city archives of Malines and which are probably 17th-century. Other patterns in the manuscript are analogous to drawings in the 'Prenten-kabinet' of the Musea Brugge. More specifically in this collection, two books, dating from the first half of the 18th century, preserve 208 drawings of guild masterpieces and leading patterns. One particular drawing, appearing in both the Ulixir and the Malines books, is very similar to a drawing of a Leiden masterpiece, dating from 1651. This suggests that the same patterns were used over a large region,

maybe after they had been imported by travelling and/or immigrating glaziers. Or maybe they also circulated through publications; for example, some of the Ulrix patterns are related to or are variations of drawings that Félibien printed in his *'Des principes de l'architecture, de la sculpture, de la peinture, et des autres arts qui en dependent'* (1676). Also, several of these reappear in publications, such as Le Vieil's *'L'art de la peinture sur verre et de la vitrerie'* (1774) and the more recent *'L'art de faire un vitrail'* by Otin (1892).

These publications again show that there has always been a stronger focus on stained glass among scholars. As this imbalance is put right, the discovery of the Ulrix manuscript is an important addition to a rather rare source type, allowing a further study of the masterpiece and pattern books of leaded panels in the Early Modern period in the Low Countries. At the same time, it is the perfect occasion to dig deeper into the guilds and the origin of the masterpiece, as well as into the evolution of unpainted, leaded glass panels.

## Introduction

In December 2019, a curious manuscript was sold at auction in Brussels.<sup>1</sup> It was described as a pattern book for clear, leaded windows, probably originating from the city of Tongeren and dating from the end of the 17th or the beginning of the 18th century. It contains 77 drawings of repeated geometrical patterns, which, according to two handwritten entries, were drawn by a certain Severinus Ulrix. Was he a glazier? And what about Lambrecht Vander Locht, who was, according to another inscription, the owner of the book in 1691?

The fact is that, amongst the drawings, several notes referring to glaziers' invoices are found in the manuscript. But most interesting is that some of the designs are almost identical to drawings in other known glaziers' pattern books *and* executed masterpieces kept in Bruges, Malines and Leiden. This suggests that the same patterns were used over a large region, maybe after they had been imported by travelling and/or immigrating glaziers. Or maybe they (also) circulated through publications; for example, some of the Ulrix patterns are related to or are variations of drawings printed by Félibien (1676) or Le Vieil (1774).

The discovery of the Ulrix manuscript is an important addition to a rare source type, allowing further study of the masterpiece and pattern books of leaded panels in the Early Modern period in the Low Countries. At the same time, it is the perfect occasion to dig deeper into the guilds and the origin of the masterpiece, as well as into the evolution of unpainted, leaded glass panels.

## Evolution of the clear-glass leaded window

Glazing had long been the prerogative of the nobility and the Church, but this would change in the second half of the 15th century. From then on, the use of window glass spread further, including into the houses of common citizens. In wealthy Flemish and Brabantine cities such as Bruges, Ghent and Antwerp, an urban middle class had emerged, consisting of skilled artisans and merchants. With their higher incomes, they formed a new circle of customers for window glass. Moreover, growing urbanisation led to a building boom with ever more houses and thus more windows. Additionally, with glazing becoming noticeably cheaper from the early 16th century onwards and average temperatures falling during the Little Ice Age (c.1550–1720) – which called for better insulation and thus fenestration – the perfect conditions were created for window glass to change from a luxury product into a commodity.<sup>2</sup>

In paintings, for instance, one can see how window glass was integrated in homes. Assembled with lead comes, a first type of panel was composed of small crown-glass discs (c.10cm in diameter). Several 15th-century Flemish painters depicted this kind of window. But as material evidence of this type of glazing is rare in this region, it is assumed that other patterns were more common here.

The first of these was the lozenge pattern, attested since at least 1370.<sup>3</sup> When cutting crown-glass discs, diamond quarries simply are the most economical way of dividing such plates. Cylinder glass, on the other hand, is just as easily cut into square panes, a pattern which emerged in the second half of the 15th century. Unambiguous references to these squares in archival texts were noted by the *Rekenkamer* of Brabant, which kept a detailed list of all the works done at the ducal palace of the Coudenberg in Brussels.

<sup>1</sup> Arenberg Auctions, Brussels, 13 and 14 December 2019.

<sup>2</sup> Liesbeth LANGOUCHE, upcoming doctoral thesis (2022).

<sup>3</sup> Sophie LAGABRIELLE, "La verrerie du XII<sup>e</sup> à la fin du XV<sup>e</sup> siècle: évolution d'une technique", *Médiévales*, n°39, 2000, p. 73.

At least since the accounting year 1493–94, square pieces (*viercante stucken*) were delivered and placed there.<sup>4</sup> Possibly, Barend van Orley used that same palace as the setting for his portrait of Charles V's secretary; in the background of this painting, a window with a rectangular lead pattern can be seen (fig. 1). Only just visible, part of a roundel can be discerned. Indeed, roundels integrated perfectly into leaded windows. Decorated with heraldic, mythological, allegorical, biblical or other images, stained-glass roundels embellished many interiors. They were produced en masse, with a climax in the 15th-17th centuries.<sup>5</sup>

In the meantime, other lead patterns had become fashionable in the 16th century, such as the so-called Flemish-Renaissance motif, also called *borne en pièces quarrées*. Various developments in the 17th century, however, would undermine the supremacy of the leaded panel and curtail the demand for painted roundels.

Of great consequence was the introduction of a new window design making use of glass panes held between wooden glazing bars. This glazing system no longer needed leaded panels and it existed both in sliding windows and in windows with hinged leaves. Eventually, of this last type, the French window – probably an early 17th-century creation – would turn out to be a success. Characteristic of the French window was its great height – it was often door-high – and the way both wings closed upon each other without a mullion. Consequently, when opening this window, people experienced what was for that time an astonishingly wide and unblocked prospect of the exterior. And when it was glazed with large panes of glass, the view and the light transmission were considered spectacular even through a closed window. Of course, this was the ideal window for Louis XIV's new Versailles palace. And in turn, this royal fashion-maker provided the perfect publicity for the French window with wooden glazing bars. No wonder that in France and beyond, it became the new standard.

Notwithstanding the fact that painted roundels continued to be created, the wooden glazing bars made it more difficult to integrate them into a window. Moreover, by then, the art of stained glass went through hard times. After the iconoclasm and under the impulse of the Counter-Reformation, more churches were glazed with clear glass. This meant a shift in orders for the glass painters: the demand for monumental stained-glass windows had dropped, and the new aesthetics implied a larger share of clear glass. Embedded in panels of colourless glass, roundels and unipartite panels with professional or heraldic motifs proved to be the most perseverant as they were manufactured until the early 19th century.<sup>6</sup> Nevertheless, the same austerity spread in people's homes. "*Regarding decoration of glass windows [...] I prefer no decorative painting on them because this reduces the light*", Simon Stevin (1548–1620) wrote.<sup>7</sup> The Dutch art theorist Wilhelmus Goeree (1635–1711) shared this opinion and even mocked the colourful windows of former times: "*In the past, the use of painted glass was foolish and redundant; most glass windows in churches and houses were so madly smeared that one could barely see heaven's light through*



Fig. 1. Barend van Orley, *Portrait of a Secretary of Charles V*, after 1519; oil on wood, 54.9 × 45.6cm. © Royal Museums of Fine Arts of Belgium, Brussels, inv. no. 2968; photo: Grafisch Buro Lefevre.

<sup>4</sup> State Archives of Belgium, Brussels, I 002 Rekenkamer van Brabant, 4189, f° 60r°.

<sup>5</sup> Yvette VANDEN BEMDEN, "Le fichier international de documentation du rondel", *Revue des archéologues et historiens d'art de Louvain*, XII, 1979, p. 149; C. J. BERSERIK & J. M. A. CAEN, *Silver-Stained Roundels and Unipartite Panels before the French Revolution. Flanders, Vol. 4: Addenda*. Brepols, Turnhout, 2018, pp. XVI-XXXII.

<sup>6</sup> BERSERIK and CAEN 2018, p. XXXV, Joost M. A. CAEN, *The production of stained glass in the county of Flanders and the duchy of Brabant from the XVth to the XVIIIth centuries: materials and techniques*. Brepols, Turnhout, 2009, p. 332; IVO BAKELANTS et al., *Gloed van glas*, ASLK, Brussels, 1986, pp. 98 and 102.

<sup>7</sup> Hendrick STEVIN, *Materia politicae. Burgherlicke stoffen*. Justus Livius, Leiden, 1649, p. 112.

them”.<sup>8</sup> Others, such as André Félibien (1619–1695) applauded the advantage of clear glass in private houses, where one could simply not have enough daylight.<sup>9</sup>

### The guilds and the masterpiece

The rise of the wooden glazing bars and the growing preference for colourless glass had great implications for the glaziers. Moreover, the changes in their clients’ wishes are also visible in the evolution of the glaziers’ guilds.

In the Southern Low Countries, glaziers’ guilds are attested since the 14th century: in Bruges from around 1350 onwards, followed by Ghent beginning in 1355–1356. In Antwerp, the guild of St Luke was established in 1382, welcoming the *glaesemakers* (producers of leaded windows, whether or not painted). Guilds regulated the profession in order to guarantee a certain product quality but primarily in view of controlling economic competition coming from outside the city. To this end, they had two important instruments: the obligatory apprenticeship and the masterpiece which would prove a candidate’s competence. With regard to the glaziers’ craft in the Low Countries, the apprenticeship was initiated in the late Middle Ages. The oldest known references to the masterpiece date from 1480 (Tournai) and 1493 (Antwerp).<sup>10</sup>

*Item, et que tous ceulx qui voront estre franc dudiet mestier de voirie poront eslire de faire leur chief d’oeuvre de paindre sur voire et composer sa peinture et or couleur comme il appartient ou de joindre et enclore une piece d’oeuvre de blancq ouvraige, en tel manière que les doien et jurez dudiet mestier de voirie leur ordonneront.*<sup>11</sup>

Thus was the masterpiece described in the Tournai guild ordinances. Immediately, it demonstrates how the glaziers’ guild incorporated both the glass painters and the producers of clear glass windows. The candidates had to demonstrate their skills in one of two possible disciplines: either they painted an original composition, or they made a panel of unpainted glass according to the instructions of the dean and the jury.

From the 16th century onward, however, it seems that the distinction between these two disciplines was institutionalised to a certain extent. In 1534, the first *ghelaescrijver* (glass painter) was registered in the Antwerp guild of St Luke. Somewhat later, glass painters were also recorded in Louvain and Brussels. And in the same period, heraldic windows – clear glass leaded windows with a coat of arms in the centre – were sometimes a matter for discussion between glaziers and glass painters, the last wanting to delineate their working area. All this indicates an increasing specialisation within the craft.<sup>12</sup>

As previously said, the 17th century saw a shift in orders regarding stained glass, and this to the detriment of the glass painters. Because the masterpiece had to reflect the market’s demands, the changed trends are also illustrated by these practical tests. First of all, over time, references to glass painting were left out of the ordinances, whereas more emphasis was laid on the technical aspects of the job: the glass cutting, the leading and the soldering. Initially, the requested leaded panel had been quite simple. For instance, the glaziers in Ghent had to create a lozenge panel. From 1600 onwards, this had changed to a panel with a diced leading pattern.<sup>13</sup> But as the 17th century progressed, the masterpiece became more complex. An Antwerp notarial protocol of 1660 concerning a masterpiece mentions that this had ‘six right angles’ and a piece of blue ‘holed’ glass. Both elements are indeed difficult to cut without breaking the glass and are recurring characteristics in the masterpieces from then on. The blue holed glass

<sup>8</sup> Wilhelmus GOEREE, *D’Algemeene Bouwkunde, Volgens d’Antyke en hedendaagse manier, door een beknopte Inleiding afgeschetst, en van veel onvoegsame bewindselen en verbasteringen Ontswagteld en Verbeterd*, Amsterdam, 1681, pp. 194-195.

<sup>9</sup> André FELIBIEN, *Des principes de l’architecture, de la sculpture, de la peinture, et des autres arts qui en dépendent : avec un Dictionnaire des termes propres à chacun de ces arts*, J.-B. Coignard, Paris, 1676, p. 260.

<sup>10</sup> J. HELBIG, “The craft of the glass-painter in Belgium from the XIIth to the XVIIIth century”, *Journal of the British Society of Master Glass-Painters* X, no. 3 1949-1950, p. 138; City Archives Antwerp: Ordinances of 1470 and 1472-1488, Boek van privilegiën van de Sint-Lucasgilde (1442-1672),): f° 11v°.

<sup>11</sup> HELBIG 1949-1950, p. 138.

<sup>12</sup> Edmond ROOBAERT, “Artistieke bedrijvigheid in het paleis op de Coudenberg te Brussel bij het bezoek van de koning en de koningin van Bohemen in juli 1556”, *Oud Holland*, 123, 1, 2010: p. 41; Marie Christine LALEMAN & Daniel LIEVOIS, “De 16<sup>de</sup>-eeuwse glasmakersfamilie Lonis”, *Stadsarcheologie*, 17, 3, 1993, p. 30.

<sup>13</sup> City Archives Ghent: Ordonnantie van 18 oktober 1600, Ledenregister 1338-1733, f° 51 v°.

referred most likely to the coat of arms of the St Luke's Guild. Examples are kept in the collection of the cloister of *Onze Lieve Vrouw ter Potterie* in Bruges. And a description can be found in an archival text from 1700 in Aalst:

*The glaziers' test consists of a shield in one piece of glass, and in that same shield three little shields have to be made, without breaking the glass, the whole forming the coat of arms or shield of St Luke.*<sup>14</sup>

Some of the later 18th-century ordinances regarding the glaziers' masterpiece speak of a star-shaped motif (Ghent, 1761) or of unspecified *nunnestricken* (nun's bows) (Courtrai). In Malines, a central decorative element – called 'loof' or 'cieraerd' (jewel) – in blue glass was still mandatory in 1782.

### The Ulrix manuscript and other glaziers' pattern books

Linked to the blue shield of St Luke, this *cieraerd* is more than once depicted in the drawings of masterpieces, represented in a particular type of manuscript: the glaziers' pattern book. In Belgium, four examples are known, consisting of designs for leaded panels, and all dating from the 17–18th centuries. One is kept in the city archives of Malines, the *Musea Brugge* have two in their collection, and in 2019, the so-called Ulrix manuscript from Limbourg was discovered.<sup>15</sup> According to the few notes in it, a certain Severinus Ulrix had made the drawings and the book was owned by a Lambrecht Vander Locht in 1691. Some further entries indicate that the book was used until at least 1730.

Both men were glaziers. Severinus (1633–1680) probably originated from Tongeren but moved to Hasselt where he started a dynasty of glaziers which would stay operative for more than a century. And of Lambrecht it is known that he was member of the smith's craft in Hasselt, to which glaziers also belonged. Most likely, Lambrecht asked Severinus to compose the book for him.<sup>16</sup>

Judging by the calculations, fragments of invoices and references to clients and orders, the book was a working instrument. The designs in it must have served as inspiration for the glazier rather than as a catalogue for his clients. The repetitive patterns make this idea logical. Nevertheless, it is less obvious why this kind of book contained models of masterpieces as well.



Fig. 2. Executed masterpiece, c.63.3 × 61.9cm.  
*Musea Brugge*, inv. no. XXII.0.092. © Joost Caen / *Musea Brugge*.

Even more rare than the glaziers' manuscripts are surviving specimens of masterpieces. The *Musea Brugge* as well as the *Museum M* in Louvain each have a masterpiece executed in the early 18th-century in their collection. The first has the blue shield of St Luke in its centre (fig. 2), while the second incorporates the red shield of the city of Louvain. In The Netherlands, the *Museum De Lakenhal* in Leiden owns an analogous specimen, originating from 1792. Remarkable is the similarity between the panel and a drawing from 1651 in the same museum. This demonstrates that the same patterns were used throughout the era. Furthermore, comparison of the several sources reveals that the same motifs popped up in several cities. To start with, one particular drawing present in both the Malines and the Ulrix manuscripts is a variation on the Leiden masterpiece (fig. 3). Besides this, the

<sup>14</sup> Liesbeth LANGOUCHE, Joost M.A. CAEN and Rombout NIJSSEN, *Een eind-17de-eeuws Limburgs modellenboek voor blank glas-in-lood. Het zogenaamde Ulrix-manuscript*. Limburgse Studies vzw, Wijer, 2021, p. 45.

<sup>15</sup> City Archives Malines: Archief van het metselaars-, glazenmakers- en steenhouwersambacht – V571; *Musea Brugge*, Prentenkabinet: 0000.GRO3110.II and 0000.GRO3109.II.

<sup>16</sup> LANGOUCHE, CAEN and NIJSSEN 2021, pp. 89-90.

motif of the Louvain panel turns up in the pattern books of Malines and Bruges. Other designs in the Bruges manuscripts bear a close resemblance to some of the drawings in the Ulrix manuscript. Also, one of the folios in the Malines book shows a model of a masterpiece containing the shield of Antwerp; the inscription '*prove Antverpia*' confirms that this was a test as dictated in Antwerp. Another drawing in the same book is titled '*prove de Kammereck*', referring to Cambrai. All this proves that these designs migrated from city to city, probably along with travelling glaziers. In this respect it may be telling that in the 18th-century manuscript of Oran, a Parisian glazier, there are many drawings of masterpieces which have much in common with their northern counterparts, although there is no perfect match.

On the other hand and as already mentioned, masterpieces were not the only items inserted in these pattern books. The books also show more 'everyday', repetitive motifs for leaded panels, such as are still visible in many churches and other monuments. Again, these illustrate how the standards for glazing had risen in the 17th century. Compared to the previous limited variety in leadings, of which the Flemish-Renaissance pattern had been the most sophisticated, an endless range of designs was now available.



Fig. 3. Ulrix manuscript, fol. 41v.  
© Eddy Daniëls / Limburgse Studies.



Fig. 4. Ulrix manuscript, fol. 65v.  
© Eddy Daniëls / Limburgse Studies.

Regarding these simpler designs, conformity does exist between the book of Oran and the others. For instance, the motif which Félibien called '*borne en pièces couchées*' recurs in each of the manuscripts studied (fig. 4). But also in the other drawings, overlap can be noticed between the manuscripts. What is more, and what was already hinted at: there is also an overlap with publications. Of these, besides Félibien's *Des principes de l'architecture, de la sculpture, de la peinture, et des autres arts qui en dependent* (1676) or Pierre Le Vieil's *L'art de la peinture sur verre et de la vitrerie* (1774), a much earlier publication with lead patterns is *A book of Sundry Draughtes* (1615) by the Englishman Walter Gedde.<sup>17</sup>

<sup>17</sup> Walter GEDDE, *A Booke of Sundry Draughtes, principaly for Glasiers: And not Impertinent for Plasterers, and Gardiners: be sides sundry other professions; whereunto is annexed the manner how to anniel in Glas: And also the true forme of the Fornace, and the secretes thereof*, London, 1615; FÉLIBIEN 1676; Pierre LE VIEIL, *L'art de la peinture sur verre et de la vitrerie*. s.l., 1774.

Many others would follow. But as the popularity of leaded panels waned in secular buildings, the publications with attention for these patterns changed from manuals into books documenting the history of stained glass and/or leaded panels, such as Edmond Lévy's *Histoire de la peinture sur verre* (1860) or the more recent *Panneaux de Vitres-Vitraux. Mises en plomb*, assembled in 1982 by the French Ministry of Culture (*Direction du Patrimoine*).

## Conclusion

Historical glaziers' pattern books are rare, hence the importance of the recently discovered Ulrix manuscript. This 17–18th-century glaziers' working instrument bears many similarities with the other known glaziers' manuscripts and confirms our knowledge regarding the evolution of the glaziers' guild. The book dates from a period that saw many changes in the market for stained and leaded windows. In the 17th and 18th centuries, churches and especially secular buildings were increasingly glazed with clear leaded panels. Moreover, the variety in lead patterns knew a real boom.

As the clients' wishes changed, the guilds' practices responded to this. With respect to the masterpiece, the emphasis on the decorative aspect (the glass painting) reduced, while the technical aspects of the glazing became the main point of attention.

The complexity of these masterpieces, the enhanced variation in lead patterns and the fact that this manuscript was indeed used by a glazier come beautifully together in the Ulrix manuscript.

## Bibliography and sources

- State Archives of Belgium, Brussels, *I 002 Rekenkamer van Brabant*.
- City Archives Antwerp, *Boek van privilegiën van de Sint-Lucasgilde (1442-1672)*.
- City Archives Ghent, *Ledenregister 1338-1733*.
- City Archives Malines, *Archief van het metselaars-, glazenmakers- en steenhouwersambacht – V571*.
- Musea Brugge, *Prentenkabinet: 0000.GRO3110.II and 0000.GRO3109.II*.
  
- IVO BAKELANTS et al, *Gloed van glas*. ASLK, Brussels, 1986.
- C. J. BERSERIK and J. M. A. CAEN, *Silver-Stained Roundels and Unipartite Panels before the French Revolution. Flanders, Vol. 4: Addenda*. Brepols, Turnhout, 2018.
- Joost M. A. CAEN, *The production of stained glass in the county of Flanders and the duchy of Brabant from the XVth to the XVIIIth centuries: materials and techniques*. Brepols, Turnhout, 2009.
- André FELIBIEN, *Des principes de l'architecture, de la sculpture, de la peinture, et des autres arts qui en dépendent : avec un Dictionnaire des termes propres à chacun de ces arts*, J.-B. Coignard, Paris, 1676.
- Walter GEDDE, *A Booke of Sundry Draughtes, principaly for Glasiers: And not Impertinent for Plasterers, and Gardiners: be sides sundry other professions; whereunto is annexed the manner how to anniel in Glas: And also the true forme of the Furnace, and the secretes thereof*, London, 1615.
- Wilhelmus GOEREE, *D'Algemeene Bouwkunde, Volgens d'Antyke en hedendaagse manier, door een beknopte Inleiding afgeschetst, en van veel onvoegsame bewindselen en verbasteringen Ontswagteld en Verbeterd*, Amsterdam, 1681.
- J. HELBIG, "The craft of the glass-painter in Belgium from the XIIth to the XVIIIth century", *Journal of the British Society of Master Glass-Painters*, X, no. 3, 1949/1950.
- Sophie LAGABRIELLE, "La verrerie du XII<sup>e</sup> à la fin du XV<sup>e</sup> siècle: évolution d'une technique", *Médiévales*, n°39, 2000.
- Marie-Christine LALEMAN and Daniel LIEVOIS, "De 16<sup>de</sup>-eeuwse glasmakersfamilie Lonis", *Stadsarcheologie*, 17, 3, 1993.
- Liesbeth LANGOUCHE, Forthcoming doctoral thesis, 2022.
- Liesbeth LANGOUCHE, Joost M. A. CAEN and Rombout NIJSSEN, *Een eind-17<sup>de</sup>-eeuws Limburgs modellenboek voor blank glas-in-lood. Het zogenaamde Ulrix-manuscript*. Limburgse Studies vzw, Wijer, 2021.
- Pierre LE VIEIL, *L'art de la peinture sur verre et de la vitrerie*. s.l., 1774.
- Edmond ROOBAERT, "Artistieke bedrijvigheid in het paleis op de Coudenberg te Brussel bij het bezoek van de koning en de koningin van Bohemen in juli 1556", *Oud Holland*, 123, 1, 2010.
- Hendrick STEVIN, *Materia politicae. Burgherlicke stoffen*. Justus Livius, Leiden, 1649.
- Yvette VANDEN BEMDEN, "Le fichier international de documentation du rondel", *Revue des archéologues et historiens d'art de Louvain XII*, 1979.

