

# The Medieval Architecture of Cistercian Nunneries in the Low Countries\*

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*Convents were founded, monasteries built, cloisters filled, virgins throng there, widows hasten there and married women, with the husband's consent, renounce the bonds of the flesh to fly to spiritual nuptials.*<sup>1</sup>

This is how Jacques de Vitry described the impressive spiritual impulse of the feminine branch of the Cistercian order in the early thirteenth century. It culminates in the Low Countries and more particularly in the county of Flanders, the duchy of Brabant and the principality of Liège. No less than eighty-five Cistercian nunneries were founded during the Middle Ages in the Low Countries, that is to say on the territory of present-day Belgium, Netherlands, Luxembourg and northern France (fig. 1).

A general history of this movement still needs to be written.<sup>2</sup> The traditional historiography mainly focused on the foundation process of the nunneries, on their patrons and on how the early communities were integrated into the Cistercian order or became beguinages.<sup>3</sup> Apart from the monographs on abbeys and some regional studies,<sup>4</sup> there has also been interest in the spiritual work and life of the Cistercian saints who lived in the Low Countries in the thirteenth century: Beatrice of Nazareth, Ida of Léau, Alice of Schaarbeek, Ida of Louvain, Ida of Nivelles, Julienne of Cornillon, etc. More recent is the interest of scholars in the fifteenth century reform movements that embraced not only the Cistercian nunneries but a large part of the monastic life in the Burgundian Low Countries. A reassertion of the (spiritual) life of women in the Middle Ages, notably by gender-studies, has also aroused interest in nuns and nunneries.<sup>5</sup>

Our aim here is to make more concrete the architectural environment of the medieval Cistercian nuns in the Low Countries, by collecting the scarce remains, organising them typologically and trying to define the evolution from the early thirteenth to the mid sixteenth century.

## A disparate and unrecognized heritage

Except for the remarkable churches of Roermond and La Cambre as well as the refectory and the hospital of the Bijloke, most medieval remains are little known and in a bad state of conservation. During the religious war in the last third of the sixteenth century, which ended by the break-up of the

Low Countries in 1609 into north and south, all the abbeys and nunneries were sacked. In the north, nearly all the monasteries were completely destroyed and the building material was re-used, including the foundations. For this reason, foundation walls have not always been found during excavations but often only traces of them.<sup>6</sup>

In the south, some nunneries didn't feel secure any longer in the countryside and moved to cities rather than restoring the ruins. But most abbeys in the southern Low Countries were rebuilt during the seventeenth and the prosperous eighteenth century. The destruction caused by the French revolution and the dissolution of 1797 was at least as drastic as in the northern Low Countries two centuries earlier. All the abbeys were sold and the monastic buildings were destroyed but not the farm buildings within the precinct. Most of those large eighteenth-century farmsteads are preserved — notably at Argenton, Aywières, Herkenrode, Hocht, Oplinter, La Paix-Dieu, La Ramée, Solières, Valduc, Val-Notre-Dame, Vrouwenpark, etc. — and some are still in use today.<sup>7</sup>

In the nineteenth century, nuns of the Cistercian family were only able to reoccupy the ancient sites of Bijloke and Soleilmont, the former serving as a hospital and the latter as a school. Since then both communities have moved to other sites. The present-day Trappist nunneries of Clairefontaine and Nazareth, using names of old abbeys, are recent foundations on new sites. Today, Cistercian nuns do not occupy any of the sites of the eighty-five medieval Cistercian nunneries.<sup>8</sup> In this devastated landscape it is thus not surprising that most medieval buildings have disappeared on such a large scale. Even those that remained have not all survived. A fire at Christmas 1963 destroyed Soleilmont, which was the most complete late medieval nunnery. In other cases, the surviving buildings were often severely restored once or twice, with serious consequences as their authenticity and their interpretation today.

Studies of the architecture of Cistercian nunneries in the Low Countries in general and of their medieval buildings in particular are not numerous, especially when compared to those devoted to the architecture of Cistercian monks' abbeys. For the Netherlands the useful inventory of Cistercian architecture made by Marga Jetten in 1986 remains unpublished.<sup>9</sup>

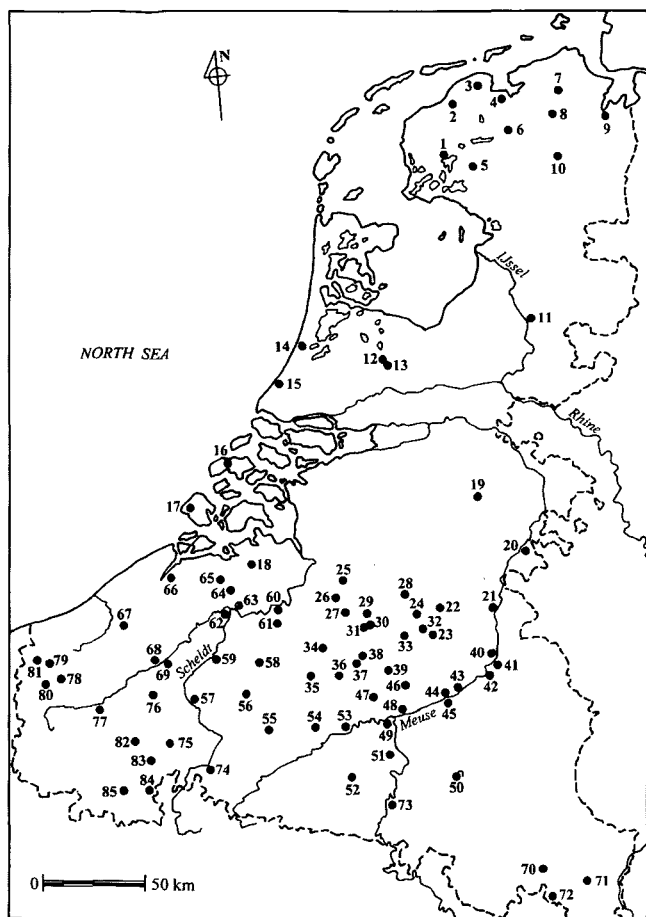


Fig. 1. Map of the Low Countries with the location of the medieval Cistercian nunneries (THOC 2000).

**The Netherlands:** 1. Aula Dei / Godshol (Scharnegoutum, Wijnbriteradeel, Friesland); 2. Genezareth / Nazareth (Hallum, Ferwerderadeel, Friesland); 3. Sion / O.-L.-Vrouw ten Daele (Hartwerd, Oostdongeradeel, Friesland); 4. Galilea / Vrouwenklooster (Borum, Kollumerland, Friesland); 5. Mariënbosch (Luijjeberd, Heerenveen, Friesland); 6. Trimunt (Marum, Groningen); 7. Klein Aduard / Sint-Anna (Sint Annen, Ten Boer, Groningen); 8. Jesse (Essen, Haren, Groningen); 9. Grijzenvrouwenklooster (Midwolda, Groningen); 10. Mariënkamp (Assen, Drenthe); 11. Mariënhorst / Ter Hunnepe (Colmschate, Deventer, Overijssel); 12. Mariëndaal (Zuilen, Utrecht); 13. Sint-Servaes (Utrecht); 14. Leeuwenhorst / Ter Lee (Noordwijkerhout, Zuid-Holland); 15. Loosduinen ('s-Gravenhage, Zuid-Holland); 16. Bethlehem (Elkerzee, Middenschouwen, Zeeland); 17. Waterlooswerve / O.-L.-Vrouw Kamer (Aagtekerke, Marekerke); 18. Ter Hagen (Zuiddorpe, Axel, Zeeland); 19. Binderen / Keizerinnenplaats (Helmond, Noord-Brabant); [Nieuw-Mariëndaal (Ethen, Heesbeen, Noord-Brabant)]; 20. Munsterabdij (Roermond, Limburg).

**Belgium:** 21. Hocht (Lanaken, Limburg); 22. Herkenrode (Kuringen, Hasselt, Limburg); 23. Ter Beek (Metsteren, Sint-Truiden); 24. Rotem (Halen, Limburg); [Hemelsdale (Ophoven, Maaseik, Limburg) move ca 1250 > Dalheim, Germany]; 25. Nazareth (Lier, Antwerp); 26. Rozendaal (Sint-Katelijne-Waver, Antwerp); 27. Muizen (Mechelen, Antwerp); 28. Sint-Bernardsdal (Diest, Vlaams-Brabant); 29. Vrouwenpark (Rotselaar, Vlaams-Brabant); 30. O.-L.-Vrouw ter Wijngaard (Leuven, Vlaams-Brabant); 31. Ter Bank (Leuven, Vlaams-Brabant); 32. Orienten (Rummen, Geetbets, Vlaams-Brabant – first settled Oeteren, Limburg); 33. Maagdendaal (Oplinter, Tienen, Vlaams-Brabant); 34. Ter Kameren / La Cambre (Elsene / Ixelles, Brussels); 35. Wauthier-Braine (Braine-le-Château, Brabant wallon); 36. Ayvières (Couture-Saint-Germain, Lasne, Brabant wallon); 37. Florival (Archevignes, Grez-Doiceau, Brabant wallon); 38. Valduc (Hamme-Mille, Beauvechain, Brabant wallon); 39. La Ramée (Jauchelette, Jodoigne, Brabant



Fig. 2. Map of present Netherlands, Belgium, Luxembourg and north France with the location of the architectural remains (A) and the significant excavations (B) (THOC, 2000)

wallon); 40. Vivegnis (Oupeye, Liège); 41. Robermont (Liège); 42. Val-Benoît (Liège); 43. La Paix-Dieu (Jehay-Bodegnée, Amay, Liège); 44. Val-Notre-Dame (Antheit, Huy, Liège); 45. Solières (Ben-Ahin, Huy, Liège); 46. Boneffe, until 1461 (Éghezée, Namur); 47. Argenton (Lonzée, Gembloux, Namur); 48. Marche-les-Dames / Vivier Notre-Dame (Namur); 49. Salzinnes (Namur); 50. Saint-Remy, until 1464 (Rochefort, Namur); 51. Moulins, until 1414 (Warnant, Anhée, Namur); 52. Jardinet, until 1430 (Walcourt, Namur); 53. Soleilmont (Fleurus and Gilly, Charleroi, Hainaut); 54. L'Olive (La Louvière, Hainaut); 55. Épinlieu (Mons, Hainaut); 56. Saulchoir (Kain, Hainaut); 57. Refuge / Abbiette (Ath, Hainaut); 58. Beaupré (Grimminge, Gerardsbergen, Oost-Vlaanderen); 59. Maagdendale (Pamele / Oudenaarde, Oost-Vlaanderen); 60. Zwijveke (Dendermonde, Oost-Vlaanderen); 61. Ten Roose, (Aalst, Oost-Vlaanderen); 62. Bijloke (Gent, Oost-Vlaanderen); 63. Nieuwenbos (Heusden, Destelbergen, Oost-Vlaanderen); 64. Doornzele / Aurea Cella (Evergem, Oost-Vlaanderen); 65. Oosteklo (Eeklo, Oost-Vlaanderen); 66. Spermalie (Sijsele, Damme, West-Vlaanderen); 67. Hemelsdale (Werken, Kortemark, West-Vlaanderen); 68. Guldenberg (Wevelgem, West-Vlaanderen); 69. Groeninge (Kortrijk, West-Vlaanderen); 70. Clairefontaine (Auelbas, Arlon, Luxembourg).

**Great-Duchy of Luxembourg:** 71. Bonnevoie; 72. Differdingen.

**France:** 73. Félipré (Givet, Ardennes); 74. Fontenelles (Maing, Nord); 75. Flines (Râches, Nord); 76. Marquette (Marquette-lez-Lille, Nord); 77. Beaupré-sur-la-Lys (La Gorgue, Merville, Nord); 78. Woestine (Renescur, Hazebrouck-Nord, Nord); 79. Ravensberghe (Merckeghem, Wormhoudt, Nord); 80. Blandecques (Saint-Omer, Pas-de-Calais); 81. Bonham (Sainte-Marie-Kercque, Audruicq, Pas-de-Calais); 82. La Brayelle (Annay, Pas-de-Calais); 83. Notre-Dame-des-Prés (Douai, Pas-de-Calais); 84. Le Verger (Oisy-le-Verger, Pas-de-Calais); 85. Le Vivier (Wancourt, Pas-de-Calais).

The dissertation that Gerrit Vermeer defended in 1999 on monastic brick architecture before 1300 contains a chapter on Cistercian nunneries.<sup>10</sup> In the Belgian area, the few attempts at a synthesis are all inspired by the work of the late J.-J. Bolly on Cistercian nunneries but are restricted to the county of Namur.<sup>11</sup> From 1967 until the present day Bolly and other scholars have perpetuated the idea of a so-called "model plan" for medieval nunneries.<sup>12</sup> This sterile theory is contradicted by the material evidence, both architectural and archaeological. As we will see, a great variety of architectural designs and building types exist from the thirteenth to the sixteenth century and make the subject much more subtle and fascinating.

Besides architectural analysis, excavations have brought to light very interesting and useful information, but far from all has been published. Some important and relevant excavations will be cited in this work, notably Mariëndaal, Grijzenvrouwenklooster, Mariënkamp, Loosduinen and Mariënhorst/Ter Hunnepe in the Netherlands, Beaupré-sur-la-Lys in northern France, Clairefontaine, Vrouwenpark and La Paix-Dieu in Belgium (fig. 2). In a recent inventory of all excavations on Belgian Cistercian sites, no less than eighteen nunneries are mentioned.<sup>13</sup> In the future, new excavations will be the most helpful method to obtain new knowledge regarding medieval Cistercian nunneries. Nearly all the sites are identified. Because they are mostly rural, many of them remain intact underground and can survive in this way for many centuries.

## Churches

The general literature on the medieval architecture of Cistercian nunneries in Europe focuses mainly on their churches. Defining a typology of plans has been the main area of research in different countries. Following the work of Marcel Aubert,<sup>14</sup> Anselme Dimier, after having collected his famous series of plans of Cistercian churches,<sup>15</sup> in 1974 proposed a classification of nunneries' churches.<sup>16</sup> According to the author himself, this pioneering work is an essay based on very incomplete documentation. For the Low Countries, the collection contains the plans of only eight of the eighty-five medieval churches of nunneries: four in Belgium, three in northern France and one in the Netherlands.<sup>17</sup> The dating is very approximate and there is no building chronology. But the greatest limitation when only working with plans is to negate aspects as fundamental as space, structure, volume, light and decoration. So, for example, everybody has interpreted the still existing church of La Cambre as having a transept, whereas it in fact has no crossing but a later built north chapel (fig. 13).

Since Dimier, new classifications were made notably for the German and French churches.<sup>18</sup> But the most remarkable is without any doubt the work of Hans Rudolf Sennhauser and his team on the twenty-one Swiss nunneries published in 1990.<sup>19</sup> From meticulous archaeological analysis of the architectural remains to a synthesis including the evolution of liturgy and the location of the nuns' choir within the church,

the study of Sennhauser must be considered as exemplary both for its method and for its results.

Nevertheless, it is at present impossible to undertake such a work as regards the Low Countries. The very few surviving churches — Roermond, Loosduinen, La Cambre and Maagdendale — as well as the significant remains or ruins — Marche-les-Dames, Soleilmont, Hocht and Mariënkamp — are almost always superficially analysed. Good measurements are still missing and some places are not accessible.<sup>20</sup> In the following pages, we will try to sketch an evolution not only from the eight aforementioned medieval churches but also with the help of the results of some relevant excavations.

## Great funerary churches

The Munsterkerk, or Minster, at Roermond, one of the finest medieval churches in the Netherlands, is both a fascinating and a problematic building (fig. 3). It underwent a very radical restoration between 1844 and 1891 by P.J.H. Cuypers who made the building more medieval than it ever was, notably by adding towers, re-painting and re-furnishing the whole inside, etc. The motivations of the architect and the meaning of his Neo-Gothic restoration are analysed in numerous works<sup>21</sup> but a study of the medieval church still has to be done.<sup>22</sup> Nevertheless, we could summarise by saying that the Munsterkerk was less of a Cistercian church than a funerary monument framed by a Cistercian community. Since 1240, the tomb of the founders<sup>23</sup> occupies the crossing of the 'trefoil-shaped' choir, which is dominated by a high dome (fig. 4). Count Gerard IV of Gelre and his wife Margaret of Brabant founded the Munster in 1218. Gerard's mother, Richardis, became the first abbess of a community of forty noble nuns. The work started with the three radiating chapels of the east apse dedicated in 1220, then continued to the west despite the early death of Gerard in 1229 and both his wife and his mother in 1231. In all likelihood the church was completed in the third quarter of the thirteenth century.

Three separate parts compose the church (fig. 5): the trefoil choir flanked by two east towers and crowned by a dome, a short basilical nave of two double bays with tribunes, and a monumental westwork, or *Westbau*, with a western pseudo-transept and a high gallery. The Munsterkerk has a length of only 58 m. It is thus not very large but the visitor is immediately struck by the refined proportions and the architectonic decoration that structures the walls, inside and outside. The church is entirely vaulted with rib vaults that in each part are progressively higher. This feature and the evolution of the rich architectonic decoration, from late Romanesque to early Gothic forms, suggest three successive changes in the architectural concept. All three belong to the architecture of the lower Rhine area, and in particular that of Cologne, in accordance with the architectural evolution there during the first half of the thirteenth century.

The nuns only had access to the first floor of the church. Their choir was on the gallery of the westwork from where they could reach the galleries above the aisles that probably



Fig. 3. Church of the Munsterabdei at Roermond: view from the east (photo: RDMZ, May 1894).



*Fig. 4. Church of the Munsterabtei at Roermond: view to the crossing and the choir (photo: RDMZ, November 1974).*

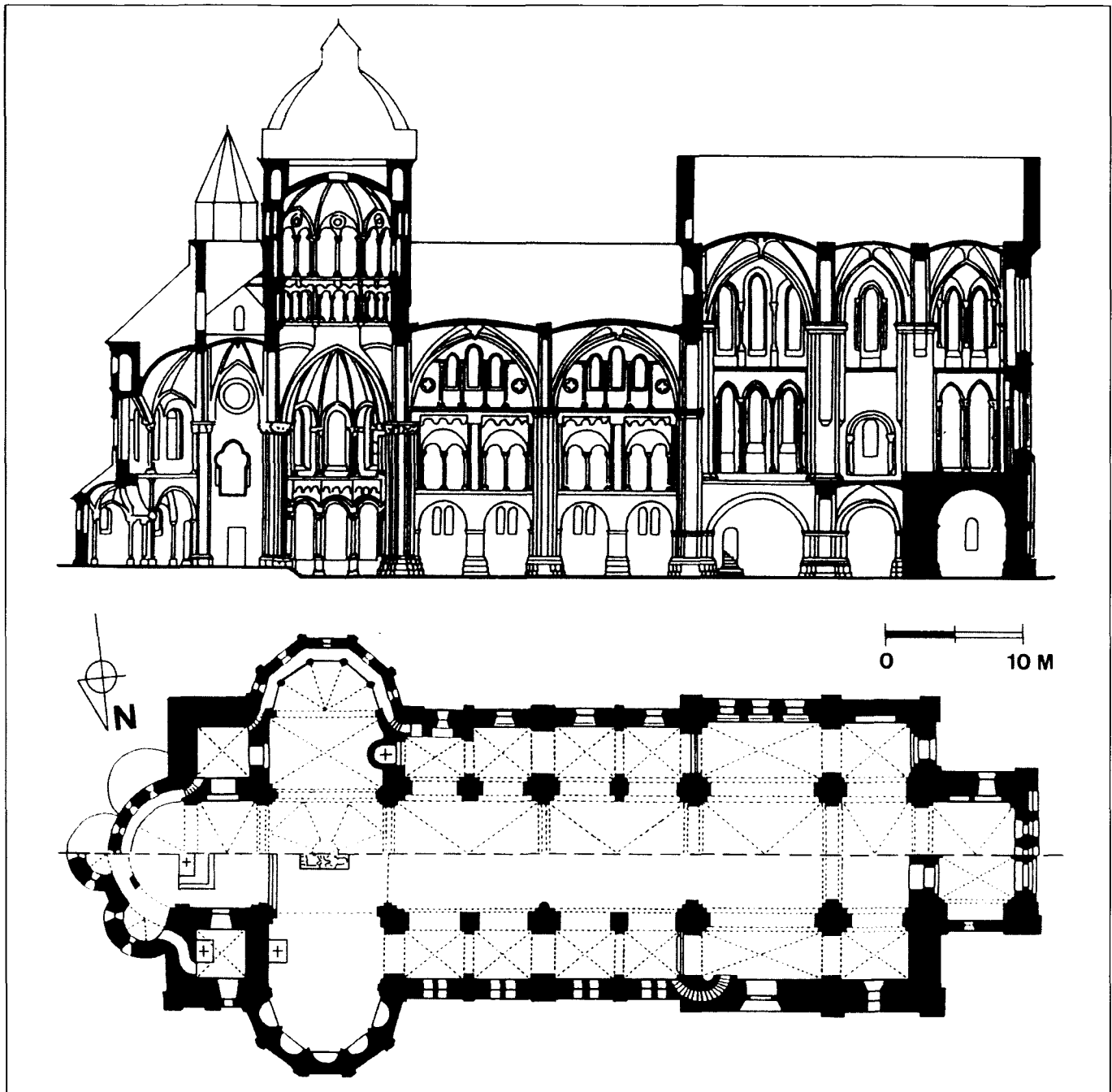


Fig. 5. Church of the Munsterabdei at Roermond: section and plans of the ground level and the gallery, reconstruction of the original state (drawing: THOC after P.J.H. Cuypers).

had been used as choir before the completion of the westwork. At the eastern end of those galleries, small apses with altars are connected with the great apses of the transept, facing the count's tomb. There is no doubt that it was the will of the patron to build a burial church with explicit imperial references rather than a church only for Cistercian nuns. The case of the abbey church of Flines is identical but with

the difference that it refers to the French royal Gothic style. This Cistercian nunnery was founded in 1234 by Margaret, the daughter of the Latin emperor of Constantinople Baldwin IX. After the death of her sister Johanna in 1244, she became countess of Flanders and Hainault, and transferred the abbey to its final site in 1253. Johanna was buried in the choir of Flines in 1280. Completed in 1285, the church, which was

unfortunately destroyed during the French revolution, is known from a painting and a late ground plan.<sup>24</sup> According to this source, it had a cathedral shape, that is to say: a choir with ambulatory and five radiating chapels, a transept with eastern chapels and a square crossing, a nave of eight bays with aisles. There were no towers at the western front and the total inner length of the church was about 66 m.

From these two exceptional cases we cannot conclude that all the funerary churches of princes were not in accordance with what we expect a Cistercian church should be. Despite some speculations,<sup>25</sup> we do not know, for example, what the church of Marquette looked like. Johanna of Constantinople who was buried there with her husband Ferrand of Portugal had founded it in 1226. Nevertheless, we may not ignore the phenomenon of the funerary churches and we cannot fail to note that the General Chapter was not able to refuse to associate Cistercian communities with such projects. Kings and princes were too important as patrons, protectors and benefactors. The same is particularly true as regards Louis IX's cathedral-shaped church of Royaumont as well as the westwork of the church of Villers-en-Brabant where the duke Henri II of Brabant and his second wife Sophia of Thüringen, the daughter of St. Elizabeth of Hungary, was buried.<sup>26</sup>



Fig. 6. Church of Loosduinen: south side of the nave and west tower (photo: RDMZ, May 1975).

### *The different designs of the thirteenth-century churches*

There are sufficient remains of thirteenth-century churches to illustrate the variety of designs in use: single-nave churches with a right chevet or with an apse, churches with a transept, churches with aisles. One of the main questions is the location of the nuns' choir in the church, on the ground floor or on a gallery. Beside the Munsterkerk of Roermond, already mentioned, two other Cistercian nuns' churches of the thirteenth century survive, Loosduinen and Maagdendaal. Furthermore, significant remains may be seen at Marche-les-Dames and Mariënkamp as well as the ruins of Hocht. Others were brought to light notably in the excavations of Olive, Ter Hunnepe, Mariëndaal, Grijzenvrouwenklooster, Vrouwenpark, La Ramée or Clairefontaine.

The nunnery of Loosduinen (fig. 6) was founded by count Floris IV of Holland and his wife Machteld of Brabant. She was a sister of both Henri II of Brabant and Margareth of Gelre who had a great love for the Cistercians. The site in the dunes close to The Hague belonged to a former villa of the counts and had been given to Machteld as dowry. It was founded before 1230 and the community was incorporated in 1233. Not only Machteld, who died in 1267, but also many women and children of the count's family and of the local nobility were buried at Loosduinen during the thirteenth century. Margreth, countess of Henneberg, one of Machteld's daughters, was buried in 1277 together with her legendary 364 children, who made Loosduinen world-famous in the sixteenth and seventeenth century.<sup>27</sup> Nevertheless, Loosduinen never became a funerary church of the counts themselves. The nave and a western tower of the church, which is now used as a Protestant parish church, are still preserved<sup>28</sup> (fig. 7), but the choir was destroyed together with the other abbey buildings in 1573-1575. Despite professional excavations, no evidence was found as regards the shape of the eastern end. It was probably part of the first building phase of the nave completed around 1240. The three east bays offer an interesting elevation that belongs to the first brick architecture in Flanders, having been developed by the Cistercian monks of Ten Duinen and Ter Doest. Typical is the clerestory with an intramural passageway at the level of the lancet windows.<sup>29</sup> The nave has an inner width of 9.20 m and a height of 13.2 m, now covered by a new ceiling that replaces a wooden barrel vault built after the sack of the church in 1573-1575. We don't know how the roof looked originally but there is evidence of vaulting. Only in the three oldest bays, great arches on the lateral walls reveal that the builders intended to cover the nave with brick rib vaults.

Before the end of the thirteenth century, a second building campaign added two more bays to the west and a tower probably completed in the very early fourteenth century. The two bays have single high windows with traceries and no more intramural passageway. There are no traces of vaults on the walls. We think this extension could be related to a change of location of the nuns' choir to a gallery at the west side, rea-

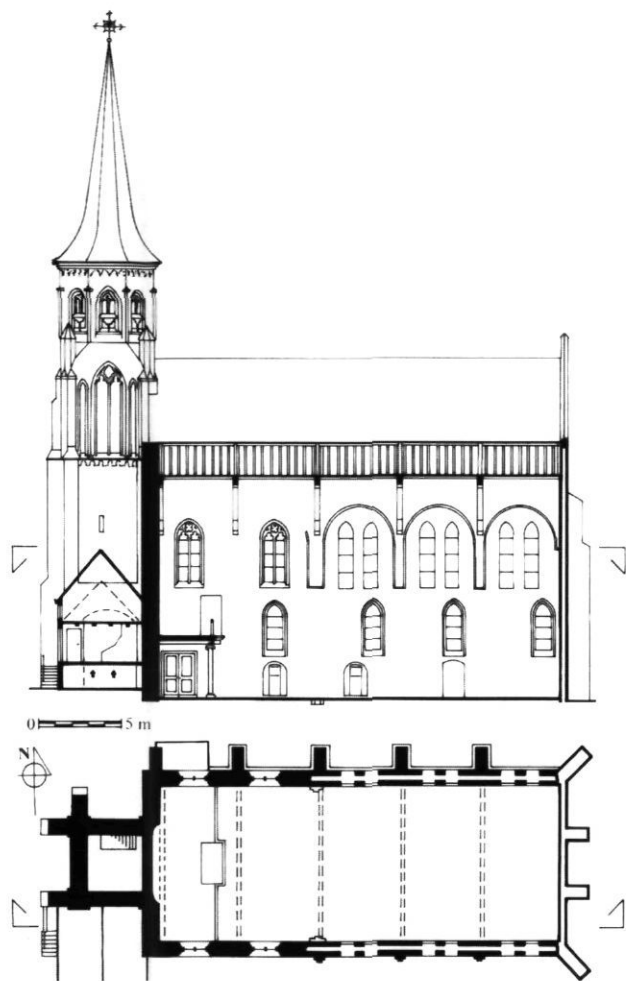


Fig. 7. Church of Loosduinen: section and plan of the present state (drawing: THOC after A. Mulder and P. Bolt).

chable through the first floor of the tower that was connected to an adjacent building forming the western range of the cloister. Not only the openings in the tower and the superposition of two levels of windows, but also the bases of two pilasters found against the nave's walls<sup>30</sup> and placed there to support the gallery provide evidence of a two storeys design. The western gallery and the richly decorated octagonal brick tower are undoubtedly linked with the patronage of the court of Holland. The decoration of the tower refers to the main front of the Great Hall of the counts of Holland — of whom one, Willem II, a son of Machteld, had become king of the Romans in 1247 — at The Hague, built in the last quarter of the thirteenth century and located less than 10 km from Loosduinen.<sup>31</sup>

The concept of the church of Maagdendale at Pamele (Oudenaarde) is completely different. It lies on the imperial bank of the Scheldt, which was the boundary between France and the empire for centuries. A good archaeological study of this

building is still missing.<sup>32</sup> From 1835 to 1966 it was used as a barracks for the army. Today it is part of the new administration centre of Oudenaarde, which is partially built on the site of the cloister.

The church of Maagdendale was a basilica, with an apse, a transept and a nave flanked with aisles (fig. 8). Unfortunately, the east chapels of the transept and the aisles were destroyed in the eighteenth century, but the traces of the blocked out arches provide evidence for the general design. The sanctuary with its 3/8 apse and the transept belong to a first building campaign, which started immediately after the foundation in 1233. The transept has short arms and the fronts were pierced by a great oculus at the south and a large lancet at the north, both blocked out today. This part of the church is built with grey stone of Tournai, the quarries of which are only about 40 km upstream along the Scheldt. The nave of five bays is entirely built in brick and dates to the second half of the thirteenth century. The small buttresses on the angles of the apse and of the transept, indicate that a timber barrel vault covered the building, as was usual in the smaller churches as well as churches of beguinages and mendicants at that time. A very late Gothic rib and panel vault was placed in the whole church in 1638. The beautiful design of the ribs may be admired from close by since a floor divided the church into two storeys for military use: the lower to house the horses and the upper as dormitory for the privates.

We think that the Cistercian type was used in this case to stress the monastic function of the church. At the same time, the patron, Baron Arnulf IV of Pamele, built a new parish church a few dozen meters eastwards, certainly by craftsmen from the same workshop. It is the famous church of Our Lady of Pamele designed by the architect Arnold of Binche in 1234. The concept of this building — with an ambulatory, a 5/10 apse, an octagonal tower on the crossing, threelight windows, stone rib vaults and a fine decorated triforium — is totally different from the Cistercian one. Both churches are on the right bank of the Scheldt, which was a boundary for



Fig. 8. Church of Maagdendale at Oudenaarde: apse and transept from the north (photo: THOG, May 2004).



centuries, on the 'imperial' side and in the diocese of Cambrai. On the left bank, which was in Flanders and in the diocese of Tournai, St. Walburge, the other parish church, also received a new choir during the second quarter of the thirteenth century. Once more, the design is totally different. It is a 'hall' choir, considered as the oldest in Flanders. This short sketch of the situation in Audenarde during the thirteenth century illustrates how a Cistercian nunnery could be integrated into one of the most industrial cities in Flanders, near one of the busiest rivers in Europe.

There are at least three other thirteenth-century nuns' churches with transepts: Vrouwenpark, Hocht and Salzennes. The northern half of the church of Vrouwenpark, nearly 50 m long, is known from two excavations, in 1955 and 1997-'99. The former brought to light a 5/10 apse and a splendid keystone of the rib vault of the apse, decorated with a foliage mask, and an image of the Coronation of the Virgin was discovered.<sup>33</sup> The second excavation cleared the northern wall of the nave and a chapel that could be the north arm of a transept.<sup>34</sup> As in Maagdendale, the nave was built in two stages: local dark brown iron sandstone was used in the eastern part and in the transept arm which dates from around 1270, whilst the western part of the nave is built in brick.

Along the Meuse, in the neighbourhood of Maastricht, a part of the abbey church of Hocht survives.<sup>35</sup> After the dissolution, it was artificially ruined and became a folly in a romantic park. The result is surprising. The stone walls of the choir made of two right bays and a 5/10 apse are preserved to a height of about 5 m, the windows are blocked out on the same height and the inner side of the choir is filled up with earth. In this way the apse and its buttresses are used as a supporting wall for a high terrace or belvedere with a view on the Meuse valley. On the north side, the sacristy is still roofed. Traces of shafts, corbels and ribs can be seen on its walls facing the church. This tells us both that the church was covered with rib vaults and that it had a transept. These remains are probably of the late thirteenth century, after the initial monks' community had moved to Val-Dieu and was replaced by nuns in 1218.

The abbey of Salzennes (Val-Saint-Georges) on the banks of the Sambre a few kilometres upriver from Namur is now completely gone, but it is possible to define the design of the church thanks to archive and iconographic sources.<sup>36</sup> It was a single-nave church with a large transept with two chapels in each arm. A 3/8 apse replaced the right chevet around 1725. The short nave of four bays was covered by a timber barrel vault and received light from a high clerestory that suggests the presence of a nuns' gallery. Once more the historical context of the foundation and the role of the patrons could explain an 'unusual' concept for a nuns' church, here characterised by the transept with four chapels. Philippe count of Namur, the aunt and tutor of Johanna and Margaret of Flanders, founded the abbey in 1203. Johanna later became a generous benefactor by giving notably both money and relics for the foundation of chapels in 1238.

Besides these churches with transepts, smaller single-nave churches coexisted, that is to say churches without aisles. We have already discussed the church of Loosduinen but some thirteenth-century fragments can be seen at Mariënkamp and Marche-les-Dames, or were excavated notably at Clairefontaine I, La Ramée, Olive, Grijzenvrouwenklooster I, Ter Hunnepe and Mariëndaal.

Of medieval Mariënkamp – today in the centre of Assen – the only thing which survives is a part of the southern wall of the church, close to the cloister<sup>37</sup> (fig. 9). This wall, 1.80 m wide, is built with the famous so-called 'monks bricks' (the Dutch *kloostermoppen*, or Flemish *moeffen*) that each measure about 35/30 x 17/15 x 10/8 cm and are typical of the early brick architecture from Flanders to Friesland. In the late thirteenth century the size of bricks generally evolve to smaller and handier dimensions. The wall of Mariënkamp is blind except for two doorways, one on the ground floor and the other on a higher level. The former has brick mouldings and linked the church with the north-west corner of the cloister. The latter is oblique and has three steps in the thickness of the wall. It was the access to a wooden nuns' gallery of which traces in the



Fig. 9. Church of Mariënkamp at Assen: remains of the south wall (photo: THOC, November 1999).

wall are visible. Excavations and analysis of the foundations of the surrounding buildings made it possible to ascertain the general inner dimensions of the church: about 41 m on 9.40 m (fig. 17). The shape of the chevet remains unknown but the screen could be located nearly halfway the total length. Four masonry dies were found in the middle of the church. They are the foundations of the posts of a square wooden bell tower, which is already mentioned in 1418.

The excavations of Clairefontaine, in progress since 1997, have brought to light the bases of an interesting structure belonging to the vaulted undercroft of the nuns' gallery.<sup>38</sup> Church I has an inner width of 10.50 m. The western part or nave was divided into a lower vaulted ground floor composed of three naves and six bays of a length of 14.50 m, and a high gallery above. The nuns' choir had thus a surface of around 150 m<sup>2</sup>. Further to the east, the sanctuary is reduced to a width of 6 m and is on the same level as the undercroft. Count Henri II of Luxembourg founded Clairefontaine in 1247, in honour of a vow of his mother countess Ermesinde, who was buried in the church.<sup>39</sup> During the fifteenth century, the gallery was destroyed and the eastern part of the church enlarged. This type of single-nave church with a western gallery above a vaulted undercroft, which was used as a burial place and sometimes wrongly called "crypt", can still be seen in several German nunneries of the thirteenth century. The churches of St. Thomas an der Kyll and Rosental, both in the Eifel region close to Luxembourg, as well as the churches of Frauental and Heydau are well preserved examples of the typology of the "Nonnenchöre über westlichen Krypten oder Unterkirchen".<sup>40</sup> A similar design was excavated at Ter Hunnepe (fig. 20) and could have existed in the nunnery of St. Servaas at Utrecht where the founder, bishop Wilbrand of Utrecht, was buried in 1233.<sup>41</sup>

Turning to Marche-les-Dames, we find a simple single-nave church with flat eastern end and an inner area of 215 m<sup>2</sup> (26.75 x 8 m).<sup>42</sup> The drastic restoration of 1904-05 makes possible only to appreciate the general dimensions of this small thirteenth-century church which was almost certainly covered by a simple wooden barrel vault. The three lancets of the chevet are a credible reconstruction of the original windows. It is impossible to locate the nuns' choir. A similar rectangular shaped plan was excavated in 1897 at the nunnery of L'Olive.<sup>43</sup> Heavy buttresses, which suggest that the presbytery was covered by stone vaults, strengthened the flat eastern end. According to Dimier's plans,<sup>44</sup> the church of Blandecques was also a single-nave church with flat eastern end, but its inner surface area of 400 m<sup>2</sup> (40 x 10 m) was nearly twice as large as that of Marche-les-Dames.

Three single-nave Cistercian churches were excavated in the Netherlands: Grijzenvrouwenklooster I in the Groningen area in 1943, Mariëndaal near Utrecht in 1956-'57 and Ter Hunnepe near Deventer in 1967-'96. All three were brick buildings of small dimensions, built during the second half of the thirteenth century. Grijzenvrouwenklooster I had an inner surface of about 115 m<sup>2</sup> (23 x 5 m) terminating in the east with a half round apse<sup>45</sup> (fig. 10). The single-nave church of Mariën-

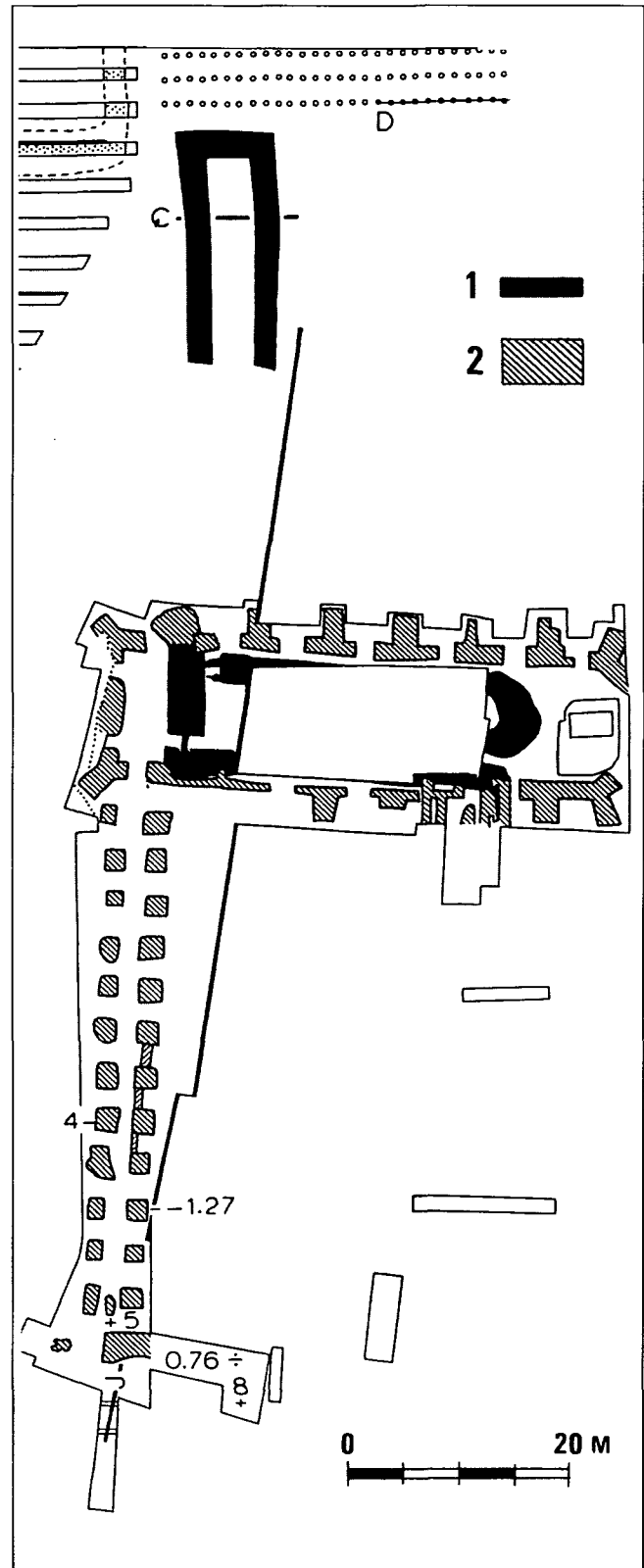


Fig. 10. Plan of the excavations of Grijzenvrouwenklooster at Midwolda. 1. church I; 2. church II (drawing: BAI Groningen, 1944).

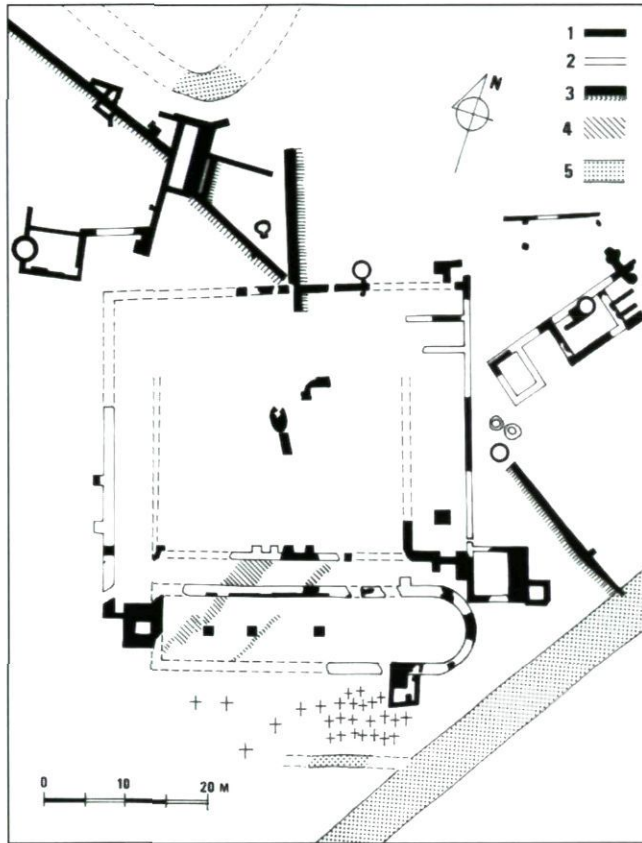


Fig. 11. Plan of the excavations of Mariëndaal at Zuilen. 1. brick foundations; 2. traces of foundations; 3. main drain; 4. traces of previous buildings; 5. ditch (drawing: THOC after C.L. Temminck Groll, 1958).

daal<sup>46</sup> also terminated in a round apse and had an axial tower behind the west front (fig. 11). The inner area was about 270 m<sup>2</sup> (38 x 7.10 m) and the shape of the foundations suggests that the apse was vaulted. Three foundation dies, placed in the axis of the building, locate the posts on which the timber floor of the nuns' choir rested. This upper floor covered the two western thirds of the inner space. The same design with three axial foundation dies was brought to light at Ter Hunnepe (fig. 20).<sup>47</sup> But here the gallery was on a vaulted undercroft of three bays and two naves, according to the foundations of pilasters found along the walls and a sketch of the ruin from about 1690.<sup>48</sup> Completed in the year 1270, the church of Ter Hunnepe had initially a rectangular inner surface of 273 m<sup>2</sup> (26 x 10.5 m) terminating in a flat chevet that was replaced by an apse in 1386.

From the combination of old plans, remains of the western façade and two archaeological trenches in the choir, we can admit that La Ramée was a single-nave church ending in a 3/8 apse. The total length was about 55 m and the inner width about 8.5/9 m. At the north side, there was a side chapel looking like a transept arm. Fragments of typical thirteenth-century wall paintings allow dating the church of La Ramée from that time.<sup>49</sup>



Fig. 12. Church of La Cambre: north side and front of the north chapel (photo: THOC, June 1997).

### Late medieval single-nave churches

Despite the serious alterations and the restorations of the 1930's, the church of La Cambre at Brussels is the best-preserved and most significant church of a Cistercian nunnery in the Low Countries<sup>50</sup> (fig. 12). After having been part of the military school, it is now in use as a parish church. Founded around 1200, the noble abbey of La Cambre was one of the favourite nunneries of the dukes of Brabant, who were generous benefactors and protectors. Today La Cambre is within Brussels, but in the Middle Ages it was on the edge of the *Forêt de Soignes*, once the hunting territory of the dukes. The building of the present church started with the west front around 1340 and was completed with the west front around 1400. In a letter of 1362 abbot Jean of Clairvaux "heartily wished to see the church completed in one's lifetime".<sup>51</sup> In 1395 the abbey sold a quarry in the neighbourhood of Brussels which could mean that there was no more need of stone and that the masonry of the church had been completed.

La Cambre is a single-nave church ending in an apse, flanked by an oratory on the south side and by a chapel on the north side. Looking at the ground plan, the oratory and the chapel give the impression of forming a transept (fig. 13). This is wrong, there is no crossing, the oratory is the remain of a thirteenth-century building (church?) and the north chapel is a later addition from the fifteenth century. Those two lateral rooms were separate from the nuns' choir and had specific liturgical functions. The oratory was reserved for the nuns' private devotion and located on the corner of the cloister, whilst the north chapel was not part of the enclosure and was open to the public through a walk along the north side of the nave.

The church has a total inner surface of 594 m<sup>2</sup> (54 x 11 m) and is divided into two parts by a great triumphal arch. To the east was the sanctuary with the high altar, preceded by some steps; at the west were the choirs for the nuns and the lay sisters, now the nave.<sup>52</sup> As a sacred place for the liturgy, stone vaults covered the sanctuary of which buttresses strengthened

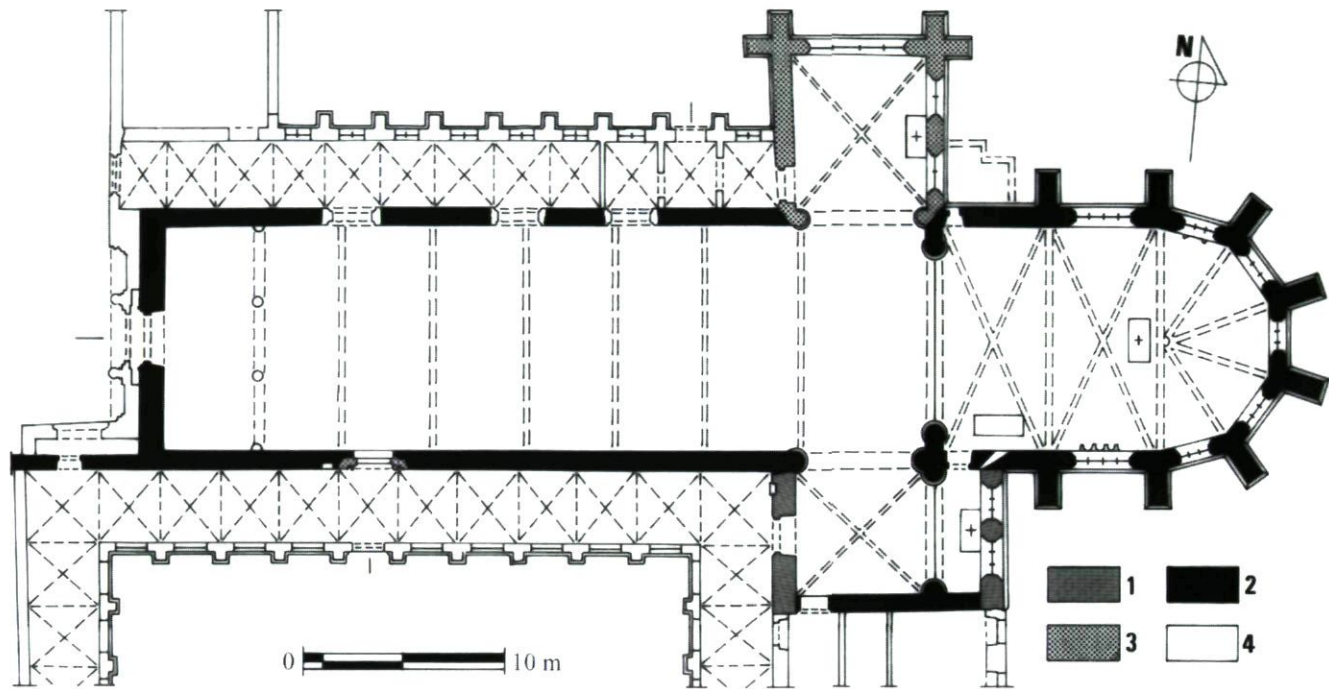


Fig. 13. Church of La Cambre: plan with chronological indications. 1. thirteenth century; 2. fourteenth century; 3. fifteenth century; 4. later (drawing: THOC after M. Thibaut de Maisières, 1948).

the 5/10 apse, while the nave had a timber barrel vault and no buttresses. Both burned down during the sack of 1581 and were first replaced with a ceiling. In 1657 the sanctuary received a new Baroque vault, more in keeping with the increasing cult of St. Boniface's relics that were preserved there. Boniface had been bishop of Lausanne and after his resignation in 1247 he returned to Brussels, his native town, and entered La Cambre as confessor up to his death in 1261. In the fourteenth century, his body was placed in a high tomb against the south wall of the sanctuary near the sedilia, that is to say the seat of the priest. Traces of the medieval furniture can still be seen on the walls of the apse. Besides the sedilia, there was a tabernacle, a lavabo and a recess.

In the eastern bays of the nave was the nuns' choir, followed by the choir of the lay sisters to the west. The former could be reached from the cloister through the oratory; the latter by a doorway in the south wall. There is no evidence of a nuns' gallery. The western front has a beautiful and refined design (fig. 14). Above the axial doorway, which is hidden behind an eighteenth-century porch, a large window with reconstructed tracery pierces the centre of the façade. Remarkable is the decoration of the gable consisting of four trefoil niches with statues of the Virgin, St. Bernard, St. Mary Magdalene (?) and St. John the Baptist.<sup>53</sup> Both the statues and the architectonic decoration, which is carved in pale honey-coloured limestone, belong to the late Gothic style of Brabant. As far as we know, the presence of statues on the façade of a Cistercian nunnery is an exceptional feature. In the oratory and in the somewhat



Fig. 14. Church of La Cambre: west front with sculptures and eighteenth-century porch (photo: THOC, June 1997).

later north chapel, the ribs of the vault rest on carved corbels with allegoric animals on top of human heads, also typical of fifteenth-century Brabantine sculpture.

Before the fire of 1963 when the abbey of Soleilmont was nearly completely destroyed, the design of the church was of particular interest on account of at least three different medieval building phases.<sup>54</sup> It was a small single-nave church of about 30 m length, terminating at the east side by an apse and flanked by two chapels. Parts of the lateral walls of the nave dated from the thirteenth century and determined once and for all the width of the nave to 7.25 m. In the late fifteenth century, the original right chevet was replaced by a 3/8 apse which received light from large tracery windows. A few decades later, in the early sixteenth century, the western part of the nave was rebuilt and opened by high lancet windows to the north and the west. These changes could have been connected with a move of the choir from a gallery to the ground level. The new windows made it impossible to have a gallery.



Fig. 15. Church of Soleilmont: choir and wooden barrel vault, fifteenth-century (photo: IRPA-KIK, before the fire of 1963).

A wooden barrel vault with apparent tie-beams and king posts covered the nave (fig. 15). On the north side, the St. Anne's chapel had the only doorway to the outside and was thus the only place accessible to lay people. To the south, a narrow oratory was extended to the west by a kind of service aisle where was there the doorway to the cloister.

Soleilmont illustrates the practice of partial additions and changes to a thirteenth-century nucleus. Most spectacular certainly was the replacement of the flat chevet by an apse with tracery windows. By bringing more light and redefining both the space and the liturgy, it must have "transfigured" the sanctuary on which the nuns focused during a long part of the day. The sacral dimension of the sanctuary was stressed by the fact that only the apse was vaulted. At Ter Hunnepe, the excavations revealed a replacement of the flat chevet by a 5/8 apse (fig. 20), and archives mention a new consecration of the altar in 1386. This practice probably was more common than we think — with some compromise, the nuns could still use the church during the building work — and will surely be confirmed in the future by new excavations. In the late Middle Ages, coloured stained glass windows became more and more common in nunneries. Accounts, when preserved, often mention gifts of benefactors for windows in the church and particularly in the apse. As far as we know, the only remains of medieval glass from nunneries in the Low Countries come from the church of Herkenrode (1534-1539).<sup>55</sup>

Contrary to Soleilmont the church at La Cambre was a completely newly planned. The same was the case at Grijzenvrouwenklooster II where a new single-nave church of seven bays and a 5/8 apse was literally built around the thirteenth-century church<sup>56</sup> (fig. 10). As indicated by the buttresses this new fifteenth-century church was entirely vaulted and had an inner space of about 372 m<sup>2</sup> (40 m x 9.3 m). The place of the nun's choir is not located.

It is important to link the fifteenth-century architectural and liturgical changes with the reforms that occurred in nunneries at that time. As part of the enclosure, the location of the nuns' choir in a gallery or on the ground floor had repercussions on the movement of the nuns in the monastery, of the priest in the church and of lay people from outside. The latter could have access to the area under the gallery or, when there was no gallery, to a lateral chapel as at La Cambre, La Ramée (?) or the late Soleilmont. The excavations of Clairefontaine have revealed another example of a change in the location of the choir. The thirteenth-century gallery on a vaulted undercroft, described earlier, was destroyed during the fifteenth century and the church lengthened to the east by a new choir. In other cases, accounts mention work made on galleries, for example at Vrouwenpark and at Leeuwenhorst during the fifteenth century. The accounts of Leeuwenhorst mention continuous transformations of the church from the late fifteenth century to the early 1520's, including a new *cruiswerc* (transept?), a *toern* (tower or turret) and a *voorkerk* (nave?).<sup>57</sup>

This illustrates the great variety both of liturgical organisation inside of the church and of the scale, design and concept of

the buildings. As indicated, our information remains very scarce or is nearly non-existent for some aspects as crucial as for example furniture, sepultures and decoration.

### Cloisters and lavabos

There is no cloister preserved with its complete medieval structure with galleries, bays, decoration and lavabo. Only the cloisters of Soleilmont, La Cambre (fig. 16), Bijloke and Marche-les-Dames are still surrounded by four galleries. They are all post-medieval but it is likely that they reproduce the shape of the original configuration. In other cases, excavations have revealed the dimensions. The known cloisters are mostly rectangular, seldom square or trapezoid. If we examine the total surface area, including the galleries, we can distinguish large cloisters of nearly 1350-1400 m<sup>2</sup> from small cloisters of 750-850 m<sup>2</sup>. Bijloke, La Cambre and Mariënkamp belong to the first group; Ter Hunnepe, Marche-les-Dames, Soleilmont, Beaulieu-sur-la-Lys, Clairefontaine and Mariëndaal to the second.<sup>59</sup>

As far as we know, the galleries were mainly covered by wooden structures that made them particularly vulnerable both to bad weather — the junctions of the roofs with the surrounding buildings, especially in the corners, and windows with traceries are always fragile spots — and to alterations to comply with new fashions and styles. The existence of thirteenth-century stone or brick vaulted galleries can only be



Fig. 16. Cloister of La Cambre: Dutch Trappist nuns and monks from the abbeys of Koningsoord and Koningshoeven visiting the garth at the south side of the church (photo: THOC, July 1999).

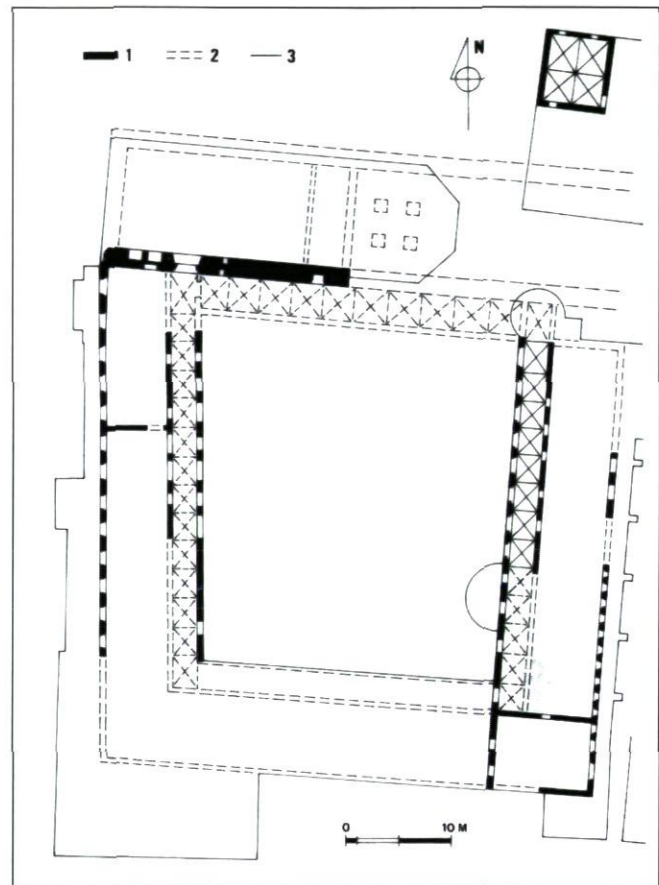


Fig. 17. Reconstruction plan of Mariënkamp at Assen. 1. surviving or documented mediaeval walls; 2. mediaeval walls inferred; 3. present buildings of the Drents Museum (drawing: THOC after Bureau Monumentenzorg, 1986).

shown with any degree of certainty at Roermond and at Mariënkamp (fig. 17).<sup>60</sup>

A well-documented but sad example is the cloister of Soleilmont.<sup>61</sup> The thirteenth-century configuration is unknown, but two rare dedication stones with French inscriptions are reminders of the reconstruction of the cloister in the late fifteenth century: the western and southern galleries in 1476, followed in 1496 by the eastern and northern ones.<sup>62</sup> The latter had benches or seats for the *collatio*. This cloister was first restored after the religious wars in the late sixteenth century and redecorated with stuccowork in the eighteenth century. The discovery of two blocked bays in the chapter with late medieval tracery led to the complete reconstruction in the years 1937-39 of a “homogeneous” Neo-Gothic cloister that reproduced the chapter bays — and thus the destruction of all traces of the older galleries. Finally, this new cloister burned down in the fire at Christmas 1963.

Also interesting is the cloister of the Bijloke at Ghent, rebuilt in the seventeenth century and covered by fine stucco vaults (1662) after having been destroyed by the Calvinists. This new brick cloister re-uses the stone foundations of the medie-

val one. The chronicle gives the succession of the building phases by relating them with abbeys: eastern gallery between 1384 and 1423, southern gallery between 1423 and 1433, and western gallery between 1433 and 1465. According to this precise literary source the eastern gallery windows were glazed: *In de Oostzyde heeft sij den pand ghemaect metten glaesveynsters*.<sup>63</sup> In the central bay of the southern gallery, which is not in front of the entry of the refectory, the fountain house is built out into the cloister garth.

At La Cambre, the cloister is a reconstruction made in the years 1932-34 of how it was in the eighteenth century (fig. 16), but an attractive mural *lavatorium* of the second half of the thirteenth century is still preserved, flanking the east side of the refectory doorway. Two great recesses in the wall frame two high stone benches where upper basins were placed. Through spouts water fell down into the lower basins on the level of the pavement. The upper and lower basins are not preserved but the plumbing was still visible before the restoration.<sup>64</sup> Such a rectangular upper basin, originally in front of the refectory entrance, is known at Soleilmont.<sup>65</sup> It is nearly two meters long and has three gargoyles with fantastic heads alternating with heraldic shields, which dates the basin to the first half of the sixteenth century.

The gallery at the north side of the church of Loosduinen has recently been reconstructed in order to provide a service communication to new facilities. In spite of its new aspect, this gallery allowed the re-opening of the two original doorways to the church, one flanked by a fine niche for a candle, and correctly evokes the general volume of the initial gallery. The same may be said as regards the east gallery of Mariënkamp at Assen, which was nearly completely rebuilt in the late nineteenth century (fig. 18).

Although we can assert that all the late medieval nunneries



Fig. 18. Cloister of Mariënkamp at Assen: east gallery (photo: RDMZ, October 1961).

had a central cloister in the same way as the monks' abbeys, we know little about the first plans of the thirteenth century nunneries. Did they all have a cloister with galleries or did they use other systems in order to define an effective enclosure according to *statuta* 7 of 1225 and 16 of 1228?<sup>66</sup> Trying to answer this question is impossible at the present time because the few excavations of nunneries concentrate on their churches rather than their cloisters.

### The east range

Despite the destruction of nearly all the medieval chapter houses of Cistercian nunneries in the Low Countries, there is plenty of evidence as regards the identification of the east range. A "classical" example was recently brought to light at Beaupré-sur-la-Lys.<sup>67</sup> The building measures 41 on 12.5 m and is dated 1220-30. The ground floor consists of a sequence of four rooms, from the church, from north to south: the sacristy, the staircase to the dormitory, the chapter house and the nuns' common room the last bay of which is disturbed by a later addition. According to the location of the abbey close to the river Lys, a reredorter must have existed in the neighbourhood of the building. The foundations of buttresses at the east side and of a central row of two columns in the chapter house and four columns in the common room prove that all the rooms were vaulted, as were the contemporaneous French nuns' buildings of Maubuisson, Fontaine-Guérard, etc.<sup>68</sup>

Parts of original walls survive at La Cambre. The common wall with the aforementioned oratory near the church belongs to the first half of the thirteenth century and is considered the oldest wall of the abbey.<sup>69</sup> In this section, a doorway links the north-east corner of the cloister to the choir via the oratory. Above the door, a cornice resting on roughly carved corbels ends the wall, which indicates the position of the primitive roof. A more interesting detail is the square window, now blocked up, at the first level of the dormitory's front. Through this opening, the sacristan had a view into the church from her cell in the dormitory.

The east range of Bijloke at Ghent<sup>70</sup> is a large brick building, erected in the early fourteenth century according to a testament of 1316 made by the abbey's confessor who bequeathed money "to contribute to the construction of the new dormitory" (*in auxilium novi dormitorii*).<sup>71</sup> It occupied the entire upper floor, and had a surface area of around 485 m<sup>2</sup> (50 x 9.70 m). A serious alteration took place at the end of the sixteenth century, following the destruction of the old church by the Calvinists in 1579. Rather than re-building a new church on the site of the former, the nuns decided to convert two-thirds of the east range into the new church, preserving the outer walls and the frame but destroying the inner walls and floors. In this way the chapter house and the main part of the dormitory disappeared. Only the southern bays of the range are intact but sufficient to disclose the original layout. The dormitory received light from a repetitive rhythm of small rectangular windows piercing the long sides and corresponding to the individual beds. The arches on the inner side of



Fig. 19. Chapter house of Soleilmont: inside to the west, 1496 (photo: KIK-IRPA, before the fire of 1963).

the walls correspond to the tie-beams of the timberwork. A wooden barrel vault, which still has traces of coloured decoration, covered the entire dormitory. The southern front of the east range has a splendid trefoiled gable reproducing in brick the form of contemporaneous wooden house gables. A large buttress in the axis corresponds to the chimney of the common room or warming house whilst its flue passes between the two high windows of the dormitory's south end. The stairs to the dormitory occupy the first bay of the adjacent south range which is part of the same re-building campaign of the abbey.<sup>72</sup> Some borings in the east wall has made it possible to locate the doorway of the chapter house and another staircase in the centre of the east range.<sup>73</sup> This staircase leads to the common room that was located on a mezzanine floor between the dormitory and a succession of small and low storage rooms on the ground floor. North of the staircase, the chapter house occupied the height corresponding to both the mezzanine floor and the ground floor. This complex design is confirmed by the traces of windows on the east wall.

Besides the exceptional monastic building of Bijloke, only two other eastern ranges survive, at Soleilmont and Marche-les-Dames.<sup>74</sup> Despite the ruin of the former by the fire of 1963 and the thorough alteration of the latter by a heavy restoration in 1875, it is possible to appreciate the general design of these similar late medieval buildings. The chapter house of Soleilmont was nearly square, vaulted by three barrel vaults, with three windows at the eastern side (the central of which

was somewhat wider and higher) facing three apertures to the east gallery of the cloister (fig. 19). Two pointed-arch windows, divided into two by trefoiled tracery, flanked the doorway. This chapter house was built in 1496 together with the east gallery. An exceptional desk made for the new chapter room of Soleilmont around 1500 is still conserved in the abbey.<sup>75</sup> South of the chapter house a refectory of about 80 m<sup>2</sup> (11.8 x 6.7 m) was followed by a pantry and a kitchen. The whole ground floor rested on a basement divided into a vault for the abbesses under the chapter house, and there are cellars under the refectory and the kitchen with a well. The only stairway to the dormitory, which occupied the entire upper storey and was covered by a timber barrel vault, was between the chapter house and the church. The excavations at Ter Hunnepe brought to light a succession of four cellars which had once been vaulted and a cesspit at the southern end<sup>76</sup> (fig. 20). This fifteenth-century east range thus had a basement, but it is impossible to reconstruct the design of the ground floor.

At Marche-les-Dames, two levels of cross-windows indicate that the stone east range is from the first half of the sixteenth century. The most important components of the east range are a square chapter house and a large room of about 142 m<sup>2</sup> (18.2 x 7.8 m) which can be identified as a refectory on account of the presence of a pulpit. The latter is an oriel with three lancets around a small platform reachable by four lateral steps.<sup>77</sup> The dormitory on the upper floor still has its



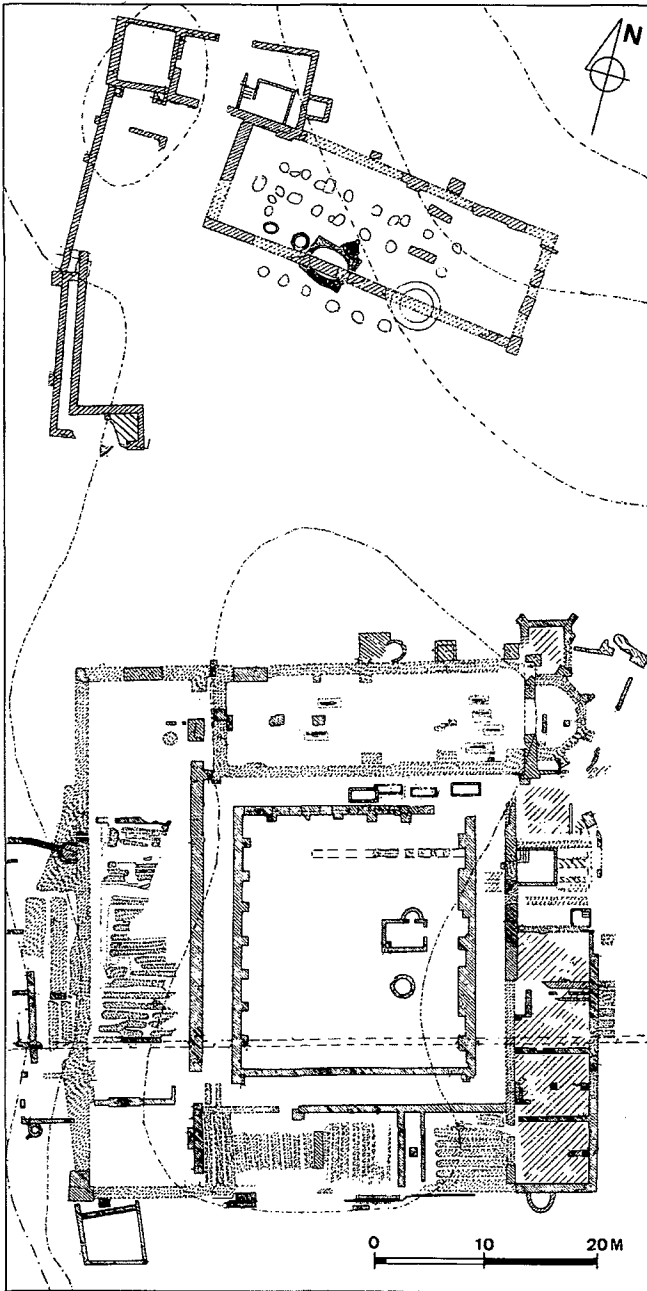


Fig. 20. Plan of the excavations of Mariënhorst / Ter Hunnepe at Deventer (drawing: J. de Vries, AWN, 1998).

wooden barrel vault, and a latrine block was in all likelihood located at the north end of the range.

Both Soleilmont and Marche-les-Dames combine in the same building a chapter house, a refectory and a dormitory. This original and late medieval design could be related to a reform movement among Cistercian nunneries in the fifteenth and early sixteenth centuries, initiated at Marche-les-Dames in 1406 and followed by Soleilmont in 1415.<sup>78</sup> By concentrating all monastic functions in only one building adjacent to the

church, great stress was placed on strict enclosure. Unfortunately nearly all architectural information on the eighteen other nunneries that joined the reform is missing as well as on the four nunneries which were converted into abbeys for men.<sup>79</sup> Consequently, it is not possible to generalise from the two remaining examples, all the more since the iconographic and archival documents we have for all the nunneries are mostly later than the destructions caused by the religious wars.

### The refectory range

The monastic building opposite the church traditionally housed the refectory and the kitchen. One of the main reasons for this location was the need for a supply of water, which naturally came from the lowest point of the valley, while the church required deeper and stable foundations and was thus settled at the opposite side of the cloister.

The south range of Bijloke at Ghent is undoubtedly the finest medieval refectory of a Cistercian nunnery in all Europe.<sup>80</sup> It was built just after the dormitory wing and can be dated to 1325-30. The building is parallel to the southern gallery and houses two cellars, a passage and the kitchen at the ground floor, whilst a huge refectory occupies the whole upper floor. In the eastern bay of the building, at the junction of the south and east ranges, a staircase is located which leads both to the refectory and to the dormitory. The western end of the building is closed by a free front, which is a masterpiece of Gothic brick architecture in the Low Countries (fig. 21). The gable is decorated by a great inscribed trefoil enclosing a composition of geometric forms, two rose windows and simulated pointed arch windows with brick traceries. We do not know the reason for this exceptional decoration or its iconographical meaning. In contrast to house facades, we see here buttresses and an axial chimney corresponding to the fireplaces of the kitchen and the refectory placed on the top of the other.

Inside, the refectory is a large single nave hall with an area of 310 m<sup>2</sup> (31 x 10 m), covered with a wooden barrel vault (fig. 26). Wooden ribs resting on inbedded stone shafts ended by corbels carved with rich foliage decoration, among which two foliage masks, rhythm the space and divide it into eight bays. Each bay received light on both sides from a pointed arch window with gothic tracery. Because of the location of the room on the first floor, large windows could also be opened on the cloister side, above the pentise of the gallery. The fifth bay of the south side is a little different and forms a recess marked outside by a small gable. This was the place of the lectern. During a thorough restoration in 1924 the entire refectory was decorated in a Neo-Gothic style in order to highlight the original figurative scenes, notably a beautiful representation of the Last Supper, still preserved on the two small sides.<sup>81</sup> The two rose windows and a large fireplace mark the small side at the reverse of the famous brick gable. To the left of it is a recess which was part of an ingenious vertical hatch to the kitchen underneath.

According to monastic tradition, the common location of the refectories was parallel to the cloister, on the ground floor or at higher level. At Ghent one still can visit the refectories of the famous Benedictine abbeys of St. Bavo and St. Peter, which are of the same type as the one at Byloke. The former is of the late twelfth century; the latter was rebuilt on a first floor in the early fifteenth century after having been on the ground floor since the twelfth century or earlier.<sup>82</sup> This illustrates both the survival of a building type during the whole Middle Ages, and the considerable changes that could occur. It also makes it difficult to interpret the foundation and define the function of excavated ground plans.

Previous authors have attempted to identify the southern range as being the building of the lay sisters, whilst siting the



Fig. 21. Refectory of the Bijloke at Ghent: west front, 1325-30 (photo: KIK-IRPA, shortly after the restoration of 1924).

refectory in the eastern range, in continuation of the chapter house.<sup>83</sup> This theory is based on the two aforementioned late medieval east ranges of Soleilmont and Marche-les-Dames that were built in the context of the monastic reform in the county of Namur. In any rate, this design does not apply in a general way to all the medieval Cistercian nunneries. Often the presence of a refectory in the eastern wing is a result of the decision taken in 1666 by Pope Alexander III who prescribed two separate refectories, one used for the common and silent meals, called the winter refectory, and another for the feast days, called the summer refectory. The latter remained the spacious old one, and the former had to occupy a smaller room close by, for example the common room.<sup>84</sup> At Bijloke a new refectory with fine baroque stuccowork was built in 1715 within the medieval one, but on the level of the cloister gallery, as a result of which there was not only a change of level, but also caused serious damage to the building.<sup>85</sup>

It is our considered opinion that the range opposite the church was the refectory wing, with a kitchen and possibly cellars when the refectory is on a first floor. The excavations at Beupré-sur-la-Lys have brought to light the plan of a mid-thirteenth-century north range, which consists of a succession of four square rooms with buttresses. According to the aforementioned theory, the range was identified as being the lay sisters' wing,<sup>86</sup> whilst we think it is the vaulted undercroft of the refectory.<sup>87</sup>

Two more thirteenth-century refectories can be located in the south range. We have already seen the lavabo recesses in the south gallery at La Cambre next to the door of the refectory which is all that remains of the building. During the destruction works of the south range of Roermond in 1924 parts of the original structure of the refectory suddenly re-appeared. These were hidden behind later masonry. Because of the very bad condition of the remains, the Dutch Service for Heritage decided to record them before completing the destruction.<sup>88</sup> The walls were decorated with blind round arches resting on painted shafts and high quality late Romanesque capitals with carved foliage. This quite uncommon decoration have led some authors to postulate that the room was the chapter house,<sup>89</sup> or part of a hall of the counts of Gelre, destroyed by the emperor Otto IV in 1213, shortly before the foundation of the abbey on the same site.<sup>90</sup>

### The west range

The questions surrounding the western range are even more problematic than for the other claustral buildings. Was it the site of the cellar and the lodging of the lay sisters, in the same way as in the monks' abbeys? Or was there no building behind the western gallery of the cloister as suggested in some studies?<sup>91</sup> The architectural and archaeological evidence is almost completely non-existent.

An impressive vaulted room survives only at Vrouwenpark. In all likelihood it was a cellar or a storage place. Now completely isolated, the cellar touched the south-west corner of the church and probably was part of a longer and higher build-

ding. It is a rectangular room with a surface of some 85 m<sup>2</sup> (12.70 x 6.68 m) covered by six groin vaults supported on two columns. The windows are very small, and two doors give access to the room: a small one leading to the cloister on the east side, and a large one opening to the north side, behind the facade of the church. The masonry of the building consists of three different varieties of stones. The walls and part of the vaults are of the local dark brown "iron sandstone". Carved limestone from Tournai is used for the two columns and the moulded bases as well as for the capitals with carved graphical leaves characteristic of early gothic foliage. Finally, yellow sandstone from the Brussels area was only used for the upper part of the vaults. The great regularity of the construction and the carefully cut ashlar masonry prove that the so-called secondary buildings were also the work of skilled craftsmen. Because of the absence of brick, the use of groin vaults and the design of the capitals, this cellar can be dated to the middle of the thirteenth century, that is to say one generation earlier than the first building phase of the stone church. Here mention must be made of the excavations in 1943 by the University of Groningen of Grijzenvrouwenklooster at Midwolda. On the north-west side of the thirteenth-century church a part of the foundation of a long rectangular building was found, while at the south-west side of the fifteenth-century church the foundations of a 46 m long gallery were discovered, perfectly aligned with the front of the church (fig. 10). This means that buildings existed at the western part of the abbey, on both sides of the church. Further interpretation of this excavation is hazardous.<sup>92</sup>

At Bijloke an upper floor seems to have existed above the western cloister walk. This is where the dormitory of the lay sisters should have been. An account from the second quarter of the sixteenth century mentions the replacement of the black cloth curtains between the beds of the lay sisters by wooden partitions.<sup>93</sup>

Because of the location of the nuns' choir on a gallery in the western part of the church, a staircase to the cloister or a communication with the first level of the west range was necessary. Such an opening was visible on the south wall of the western block of the church of Roermond, after the destruction of the west range and before the restoration of the church's facings. At Loosduinen there is also evidence of a communication through the first level of the western tower to a building on the north side of the tower (fig. 7).<sup>94</sup> Such a communication also existed at Clairefontaine.

Therefore, it is not impossible that in some abbeys a nuns' dormitory could have been located on a first floor of the west range. This hypothesis is based only on necessity and convenience for the night prayers in those houses which had a nuns' gallery. Further research on this is necessary.

### The abbesses's lodging

Abbesses depended on an abbot and on the confessor for the spiritual side of the community's life, but for secular business and the material administration, they had a large degree of

autonomy. The abbess's status evolved in a parallel way to that of abbots. Abbesses of noble abbeys with great estates were of course a special case. In the late Middle Ages, many abbesses had coats of arms, had a personal seal, had servants, lived in their own lodging with their own kitchen, and were buried in fine carved tombs. The case of the abbesses of Leeuwenhorst is well documented and research has analysed in depth the details of their daily life.<sup>95</sup>

A part of the lodging built by Mechtilde de Lechy, abbess from 1519 to 1548, survives at Herkenrode.<sup>96</sup> It was a comfortable residence, planned around a courtyard and located about a hundred meters eastwards of the cloister with which it was linked by a long covered gallery. In 1974, the Regular Canonesses of the Holy Sepulchre opened a retreat house and completed the ruined buildings by contemporaneous additions and an attractive modern chapel. The most significant old rooms are at the south-east of the court and serve today as parlour (fig. 22). Both have a fine lierne vault, a fireplace, two cross-windows with window seats, and exceptional late gothic painted decoration. The complete basement of the east range, consisting of four cellars covered by flat rib vaults supported on stone columns, has been preserved. In the middle of the west side, a square staircase is built out into the courtyard. The lower flights of stairs are still covered by late gothic vaults, of which the panels are in brick, and the stone nerves rest on delicate figurative corbels. This large and refined staircase indicates that the east range of the lodging certainly was the most important, which is confirmed by the gothic pedestal of an oriel window on the opposite side. It was part of the abbess's private chapel which, as we know from the archives, was dedicated in 1538. The abbess's kitchen, where a huge mural fireplace may still be seen, was at the north of the east range.

More modest, and more in accord with Cistercian sobriety, was the late medieval abbesses' lodging of Soleilmont, built around 1500 and unfortunately destroyed by the fire of 1963.<sup>97</sup> It was at the north-west side of the cloister, at the continuation of the church, and was known as the *domus abbatis et confessoris*. The double lodging, in fact two parlours, was separated by a transverse passage which was the only link from the cloister to the inner court, close to the church entrance. Here the abbess lived with her community around the cloister, controlled the entrance of the enclosure, and could conveniently welcome the guests coming to the church. This configuration and location on the edge of the enclosure and in continuation of the church seems to be more "typological" if we refer to buildings reproducing it late in the eighteenth century. Examples include in particular Marche-les-Dames, Argenton, La Cambre, La Ramée and Soleilmont, which was extended in 1732.

### Gatehouses, mills and other buildings

The nunneries were enclosed by a precinct wall, which defined an area in all likelihood subdivided by other walls in an inner and an outer court, in the same way as for monks'



Fig. 22. Abbesses' lodging of Herkenrode: vaulted room with fine painted decoration, 1519-1548 (photo: Oswald Pauwels, Ministerie van de Vlaamse Gemeenschap, Monumenten en Landschappen, 1993).



Fig. 23. Gatehouse of Herkenrode: outer front, 1531 (photo: THOC, May 1992).

abbeys. Owing to the destruction of the religious wars, the reorganisation that followed and the dissolution of 1796, the medieval organisation of the inner space is no more recognisable. Parts of the outer walls, some gatehouses, agricultural buildings and mills are still preserved in those cases where nunneries became farmsteads after the dissolution. Some significant groups of buildings of the seventeenth and eighteenth centuries survive in Belgium, notably at Argenton, Aywières, Herkenrode, Hocht, Oplinter, La Paix-Dieu, La Ramée, Solières, Valduc, Val-Notre-Dame, Vrouwenpark, etc.<sup>98</sup> Those buildings illustrate the richness of the restored rural economy after the religious troubles. At Herkenrode, we can read on the front of the barn, under the arms of an abbess, the inscription: *LABONDANCE DE DIEU* (the abundance of God) which gives the date 1656.

The late gothic gatehouse erected by Mechtilde de Lechy in 1531 still stands a few dozen meters to the west (fig. 23). This solid but elegant reception building, symbolically crowned by four brick step gables and a central spire, is visible from afar. It marks the entrance to the great abbey of the noble Cistercian sisters of Herkenrode, at that time the most illustrious and prestigious nunnery of the prince-bishopric of Liège. Since 1317, miraculous hosts were kept in the church of Herkenrode which had become a celebrated pilgrimage place, confirmed by the famous indulgence letter given by the pope in 1363.<sup>99</sup> Pilgrims entered the abbey through the vaulted entrance portal, which has two passageways, a small one for pedestrians and a large one for carts and processions. Between the two there was a niche with a statue of the Virgin on a pedestal with the arms of the prince-bishop of Liège, celebrating the two protectors of the abbey. We think that the great room on the first floor was used as a reception hall and for secular business.

Gatehouses with double passageways can be seen on many drawings and etchings of the sixteenth and seventeenth centuries, but except for the one at Herkenrode, no other medieval gatehouse of a Cistercian nunnery survives. Here one should mention the excavations of the medieval gatehouse of Ter Hunnepe (fig. 20 above) and the double passageway at Salzannes, both destroyed in the 1910's.<sup>100</sup> The eighteenth-century gatehouse at Soleilmont integrates older walls according to the date 1490 written with black bricks in the masonry.<sup>101</sup> Some surviving sections of the precinct are linked with the gatehouse and include a low round flanking tower of the fifteenth century.

According to the rule of St. Benedict (66, 6-7), the workshops and the water-driven mills had to be located inside the precinct, in what we now call the outer court. This was the case at Herkenrode, Val-Notre-Dame, Soleilmont, La Paix-Dieu, Valduc, La Ramée, etc. where post-medieval mills survive, in all probability rebuilt on sites of which the dams, leats and falls belong to medieval layouts.<sup>102</sup> The corn mill of Salzannes, the last domestic medieval mill of a Cistercian nunnery, disappeared a long time ago, before 1860.<sup>103</sup> Sometimes old pictures of abbeys show very impressive mill complexes and illustrate the pre-industrial activities close even to a nuns' cloister. A view of Blandecques from around 1460, shows no less than five water mills situated on the river Aa.<sup>104</sup> The mill of Vrouwenpark has been recently located by excavations, some 600 m to the south of the cloister.<sup>105</sup>

The last excavations of Ter Hunnepe in 1993-95 have brought to light the plan of a medieval brick grange within the precinct<sup>106</sup> (fig. 20). With an inner surface of 255 m<sup>2</sup> (28.10 x 9.10 m), this home grange was nearly as large as the church. The post holes of an earlier timber aisled building were found underneath the level of the brick grange. The foundations of three circular ovens in the middle of the timber workshop made it possible to identify it as the abbey's bakery, which had been destroyed by a fire in the early fourteenth century.

### The Bijloke hospital

Even though, strictly speaking, it is not a monastic building, the hospital of Bijloke at Ghent must be mentioned in a work on Cistercian nunneries. The great hall of the hospital with its unique trefoiled timberwork is rightly considered as one of the finest medieval buildings of European hospital architecture.

Also unique is the link between a hospital and a Cistercian nunnery, both settled at the edge of Ghent, which was one of the largest towns in medieval northern Europe. The transfer of an existing hospital from the city centre to a place called *Biloke* on the bank of the river Lys upstream, and the foundation of a Cistercian community to minister to it, are due to the count of Flanders, Ferrand of Portugal and his wife Johanna of Constantinople. It took place in 1228-34. The double vocation, both contemplative and active,<sup>107</sup> led to many problems notably as regards strict enclosure. Theoretically, only the lay sisters and servants were allowed to work in the hospital and



Fig. 24. Hospital of the Bijloke at Ghent: inner view of the great hall to the west and trussed rafter roof of 1251-1255 (photo: THOC, September 1992).

to have contact with lay people, whilst the nuns lived in the cloister and worked in the pharmacy to prepare medicines. Different precincts enclosed the hospital and the convent. Three buildings of the medieval hospital are still preserved,<sup>108</sup> all rectangular and oriented east-west. First, the great hall of an area of 867 m<sup>2</sup> (55.10 x 15.75 m) is the main building of the complex (fig. 24). Shortly after its completion it was flanked on the south by a chapel of some 100 m<sup>2</sup> (14.10 x 7.35 m). Later, a second infirmary hall of an area of 250 m<sup>2</sup> (25 x 10 m) was erected a dozen meters to the east in the axis of the great hall. The buildings, surrounded by Neo-Gothic extensions in the nineteenth century, kept their medical function until 1982 and were still served by Cistercian nuns.<sup>109</sup> A complete restoration occurred in the 1990's when the great hall became a concert hall. Before and during this, an exemplary multidisciplinary archaeological study revealed much new information regarding the building<sup>110</sup> and its timber roof. The great hall has been dated 1251-1255 through dendrochronological analysis.<sup>111</sup> This exceptional trussed rafter roof culminates at a height of 18 m and has a trefoiled shape, which makes a span of nearly 16 m possible. There is no panelled barrel vault and it is not certain that once there was one. At regular intervals, ten principal rafters, having an additional

tie-beam under the upper arch, rhythmically divided the hall into eleven bays. In their axis, buttresses strengthen the lateral walls. The iron anchors were placed in the seventeenth century to give greater stability.

The walls of the great hall are made of an interesting mixed masonry of Tournai stone outside with large bricks for the inner facing. Analysis has made it possible to reconstruct how the lateral windows looked originally and how they provided both lighting and airiness to the huge room. They were divided into two lancets surmounted by a quadrilobe. The latter and the upper part of the lights were glazed, whilst the bottom was only shuttered. The eastern front is pierced by three large pointed arch windows, which have lost their traceries. The height of the central window corresponds to the upper arch of the trefoiled roof. Underneath, traces of an axial wooden gallery and niches could be identified with the location of a high altar that was the focus point of the hall. This altar was the so-called "St. Anna's attic" (*Sint-Annazolder*) mentioned by late medieval sources. In one of the small niches a lavabo was found which confirms the liturgical use of the gallery.<sup>112</sup> The monumental western front with central doorway offers a beautiful but barely restored design of windows, oculus and arcades decoration.



Fig. 25. Hospital of the Bijloke at Ghent: inner view of the 'Craekhuys', 1509 (photo: THOC, March 2002).

The chapel on the south side of the hall is an addition of the third quarter of the thirteenth century. It has three bays and was originally covered by a wooden roof that is now hidden by later added vaults. The chapel receive light from high windows, among which the eastern and the western ones, later blocked up by brick masonry, still retain medieval traceries. A meticulous analysis of the plaster fragments on the walls brought to light remains of seriously altered medieval wall paintings.<sup>113</sup> Only some medallions with apostles' figures could be identified.

The second infirmary hall is separate from the great hall and is known as the "house of the sick" (*Craekhuys*)<sup>114</sup> (fig. 25). Later it was intended for the dying people. This brick hall is covered by a timber panelled barrel vault that has been dated 1509 through dendrochronological analysis.<sup>115</sup>

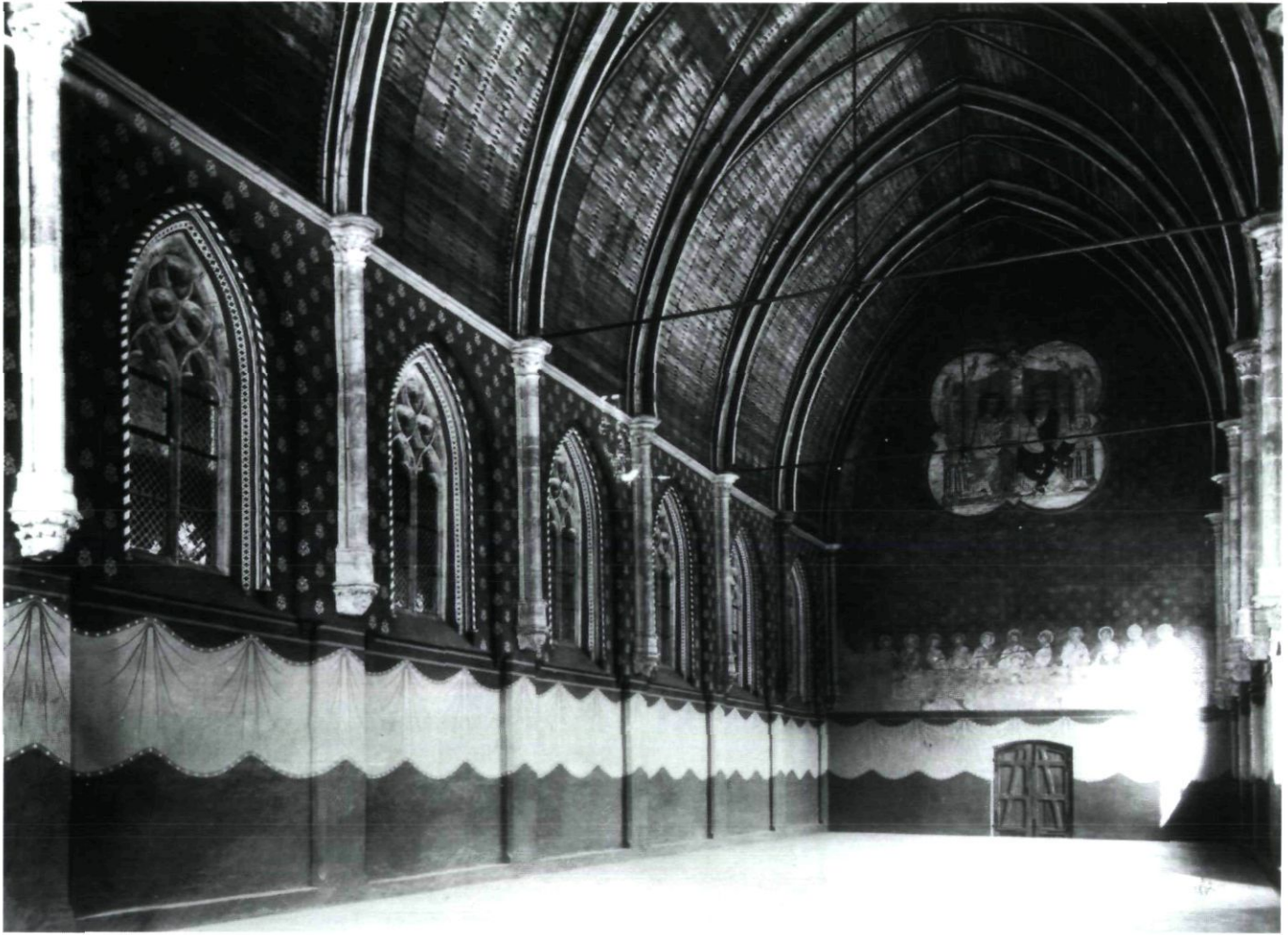
### Coloured interiors

Anyone who today visits successively the church of La Cambre and the refectory of Bijloke will be confronted with two

completely different interiors. The former has a nave covered by a wooden barrel vault contrasting with the choir where the bare stone masonry, the white painted vaulting and the coloured tile pavement receive light from darkly coloured figurative Art Deco stained-glass windows. The latter is colourful, from the red walls decorated with stencilled motives, simulated hangings and great figurative scenes on the two short sides, to the two-coloured labyrinth composition of the pavement and the dark red and white ribs (fig. 26). The windows have simple white glass but the toric jambs are strongly underlined by coloured stripes and chevrons. Both interiors are the result of radical restoration undertaken at the same time but representing two diametrically opposed schools of thought.<sup>116</sup> La Cambre is an interesting mixture of taste for plain materials, a false idea of Cistercian "decorative poverty" and Art Deco, whilst Bijloke is a radical Neo-Gothic reconstruction of some authentic remains. Both are excessive interpretations and teach us above all what restorers thought a medieval interior was like, all the more so as the original furniture has completely disappeared.

New interest in medieval wall paintings has had the effect that we are now better informed.<sup>117</sup> The discoveries are accompanied with great regard for authentic remains and more respectful restoration. In the context of this study on medieval Cistercian nunneries, the best example is the restoration at Herkenrode in 1984 of the abbesses' quarters.<sup>118</sup> Fine and very well-preserved late Gothic polychromy was discovered under many later coats in the two vaulted rooms (fig. 22). The ochre-yellow ribs run across the white walls and vaults, which are locally decorated by fine foliage, especially around the sculpted bosses. There are small shields with colourful heraldic motifs on the corbels which tell us that they are from the second quarter of the sixteenth century. At Bijloke, only the figurative wall paintings of the refectory are original and date from the middle of the fourteenth century.<sup>119</sup> On the west side, the monumental standing figures of St. John Baptist and St. Christopher are painted on both sides of the hood of the fireplace. On the east side, in a huge quadrilobe, we can see Christ blessing the Virgin and sitting with her on a Gothic bench. A depiction of the Last Supper is painted lower down, a reminder to the nuns at every mealtime. This figurative decoration was quite usual in monastic refectories, including Cistercian ones.<sup>120</sup> Still at Bijloke, the chronicle mentions that "the dormitory was so richly decorated and painted that it seemed like a palace" (*Sy heeft den dormter soo eerbaerlick doen maken met al dat er aen cleeft ende doen scilderen soo dat den dormter scheen een paleys te wesen*).<sup>121</sup> Remains of wall paintings were also found in the chapel of the hospital.<sup>122</sup>

Churches were also entirely painted inside but the few that remain have been heavily restored. We have already seen how the Munsterkerk at Roermond was drastically restored during the second half of the nineteenth century.<sup>123</sup> The interior was completely re-painted, re-paved and re-furnished in 1850, and in the view of the restorator P.J.H. Cuypers, had become a homogeneous interior. Between 1959 and 1966, at a time



*Fig. 26. Refectory of the Bijloke at Ghent: inner view to the east of the restored wall paintings and the Last Supper above the doorway, around 1325-1330 (photo: KIK-IRPA, 1925).*

when Neo-Gothic was no longer appreciated and had not yet become fashionable again, the main part of the inner decoration was taken away (fig. 4). In the choir, the restorers were surprised when, underneath the Neo-Gothic decoration, they exposed fragments of the original decoration. It consists of a white coat with red lines stressing the structure of the chapels and of the apse. The fine carved capitals and corbels had almost certainly also been painted. Some figurative paintings in red were found on the arches of the radiating chapels and in the crossing, providing evidence of a completely decorated thirteenth-century church interior.

The recent excavation of the church at Vrouwenpark brought to light many fragments of the original wall decoration, an imitation of regular masonry made by false joints painted on a monochrome mauve background.<sup>124</sup> The splendid keystone of the apse decorated with a foliage mask and a Coronation of the Virgin still retains its fine thirteenth-century polychrome.<sup>125</sup> Excavations at La Ramée also have brought to light fragments of thirteenth-century wall decoration.<sup>126</sup>

Colour was not confined to the walls as the floor was tiled

with mosaic pavements. Medieval tiles are found at all the excavation sites of Cistercian nunneries in the Low Countries. They are mostly monochrome and sometimes decorated with geometric forms or inlaid motifs like rosettes, fleurs de lis, lions, heraldic emblems or even figures. Up to now, the finest medieval decorated tiles in Cistercian nunneries are those at Mariëndaal and Beaupré-sur-la-Lys.<sup>127</sup> We have no indication about medieval coloured stained-glass and furniture except for the windows of Herkenrode and the desk of Soleilmont already mentioned,<sup>184</sup> and the remarkable burial effigies of Gerard III of Gelre and his wife Margareth of Brabant placed in the crossing at Roermond in 1240. Some medieval altars are preserved at Roermond and altar stones were found during excavation. Some fine pieces of medieval goldsmith's work providing from Cistercian nunneries are conserved in museums. Mention must also be made of the medieval sculpted tombs of abbesses from chapter houses or churches, notably those at Soleilmont, Leeuwenhorst, Florival, Vrouwenpark, Beaupré-sur-la-Lys, etc.



## Conclusion

Whoever travels on the national road between Aarschot and Louvain today can see a lovely little mushroom-shaped folly with a thatched roof and dark brown stone masonry (fig. 27). This early nineteenth-century Neo-Gothic tea house on the edge of a Romantic landscape garden is built on the site of the former Cistercian nunnery of Vrouwenpark. Thirteenth century capitals, corbels, ribs and shafts are easily recognisable in the masonry. Re-used as rough building material, these *spolia* are also medieval architectural remains!

But of the once eighty-five medieval nunneries in the Low Countries the most significant medieval buildings to visit today are at Roermond, the Bijloke, La Cambre and Herkenrode. Nevertheless the medieval remains we have gathered together give an interesting overview of the great variety that characterise nunnery architecture. There are not only differences in size, in building material and in sites, but the organisation of the different monastic functions around the cloi-



Fig. 27. Park of Vrouwenpark at Rotselaar: early nineteenth-century folly entirely built with material from the ruined medieval church (photo: THOC, February 1997).

ster seems to have varied much more than is the case in abbeys for men. This makes any attempt to define a medieval “model plan” illusory.<sup>129</sup> We have seen that some rooms, as for instance the refectory or the common room, were sometimes located at a first floor. When excavations bring to light the foundations of undercrofts, it is difficult to hazard a guess as to what happened above.

The greatest diversity surely is to be found in church types. This also means that liturgy was adapted to each material situation. The most spectacular of course is the location of the nuns’ choir that seems to have been quite systematically on a gallery. Investigations in the narrative and the archive sources would almost certainly provide new information on this important point as well as on the move of the location of the choir into the church.

We have also stressed the role of the founders and patrons of the nunneries. Considering the link between the patron and the choice of meaningful architectural concept, we would suggest that one ought to differentiate ‘Cistercian architecture’ from ‘architecture for Cistercians’. The latter seems to be more in accordance both with the remains we have examined — which include the church of Roermond and the hospital of Bijloke — and with the only instruction of the General Chapter, that is to say strict enclosure as defined in *statuta* 7 of 1225 and 16 of 1228.<sup>130</sup>

Many architectural aspects and functions of a medieval Cistercian nunnery have not been discussed in this overview: the place of the lay sisters and the novices both in the church and in the monastery, the lodgings of the secular administrator and the priest, the health and sanitation facilities, the water supplies and networks, etc. We must humbly admit that our knowledge of those aspects is at the present time nearly nonexistent. Only new excavations would provide further information.

## Notes

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1. *Fundabatur coenobia, aedificabantur monasteria, replebantur claustra, confluebant virgines, currebant uiduae et mulieres conjugatae, de consensu maritorum suorum, carnale matrimonium in spi-*

- rituale commutabant. In Acta sanctorum octobris*, 13, Paris 1883, 101. English translation in: J.C. Bouton, 'The Life of the Twelfth and Thirteenth Century Nuns of Cîteaux', *Hidden Springs Cistercian Monastic Women*, ed. J.A. Nichols and L.Th. Shank (*Cistercian Studies* 113), Kalamazoo 1991, vol. 1, 21.
2. There is only a very helpful and systematic series for Belgium: *Monasticon belge*, begun by U. Berlière and completed by the Centre national de recherches d'histoire religieuse, 8 vol., Bruges-Liège 1890-1993. The quality of the Dutch *Monasticon* is really poor; Cistercians are included in: M. Schoengen, *Monasticon Batavum*, 3: *De Benedictijnsche orden benevens de Carmelieten en de Jesuiten (Verhandelingen der Nederlandsche Akademie van Wetenschappen, Afdeling Letterkunde 45)*, Amsterdam 1942.
  3. For example: Th. Luycx, 'Gravin Johanna van Constantinopel en de godsdienstige vrouwenbeweging in Vlaanderen gedurende de eerste helft der XIIIe eeuw', *Ons geestelijk erf*, 17 (1943), 5-30; R. De Ganck, 'The Integration of Nuns in the Cistercian Order, Particularly in Belgium', *Cîteaux, commentarii cistercienses*, 35 (1984), 235-247; G.J. van Bussel, 'Het stichtings- en incorporatieproces van de Cisterciënzerinnenabdij *Locus imperatricis* (Binderen) bij Helmont, 1237-1246', *Cîteaux, commentarii cistercienses*, 38 (1987), 165-190; G. Berings, 'Cinq abbayes cisterciennes en Flandre française: fondation et histoire des premières décennies', *Cîteaux, commentarii cistercienses*, 45 (1994), 63-87; R. De Ganck, *Beatrice of Nazareth in her Context*, 3 parts (*Cistercian Studies* 121-122), Kalamazoo 1991; E. Jordan, 'Patronage, Prayers and Polders: Assessing Cistercian Foundations in Thirteenth-Century Flanders and Hainaut', *Cîteaux, commentarii cistercienses*, 53 (2002), 99-125.
  4. Recent examples: M.-É. Henneau, *Filles de Cîteaux au Pays mosan*, Huy, 1990; D. Verhelst and E. Van Ermen, 'De cisterciënzerinnen in het hertogdom Brabant', *Bernardus en de Cisterciënzerfamilie in België 1090-1990*, ed. M. Sabbe, M. Lamberigts and F. Gistelincx (*Documenta Libraria* 11), Leuven 1990, 271-293; C. Tromp, *Groninger kloosters (Groninger historische reeks 5)*, Assen-Maastricht 1989, 27-44; J.-B. Lefèvre, 'Histoire et institutions des abbayes cisterciennes (XII<sup>e</sup>-XVII<sup>e</sup> siècles)', *Monastères bénédictins et cisterciens dans les Albums de Croÿ, 1596-1611*, Brussels 1990, 109-186; *Les cisterciens en Namurois, XIII<sup>e</sup>-XVIII<sup>e</sup> siècles*, ed. J. Toussaint (*Musée des arts anciens du Namurois* 12), Namur, 1998; M. Pieteraerens, L. Robijns and G. Van Bockstaele, *Van Beaupré tot Zwijveke: Cisterciënzers in Oost-Vlaanderen (1200-1999)*, Ghent 1999. Only three monographs of Cistercian nunneries including serious contributions on architecture and archaeology were recently published: N. Herweijer, H. Lubberding and J. de Vries, *Zusters tussen twee beken. Graven naar klooster Ter Hunnepe (Archeologische Werkgemeenschap voor Nederland 1)*, Amsterdam 1998; Th. Coomans (dir.), *La Ramée. Abbaye cistercienne en Brabant wallon*, Brussels 2002; B. Chauvin, *Marquette-lez-Lille, à la redécouverte de l'abbaye de la comtesse Jeanne*, Marquette-lez-Lille 2002.
  5. A first european meeting on *Cîteaux et les femmes* took place at Royaumont on 12-13 november 1998. Proceedings: B. Barrière and M.-É. Henneau (dir.), *Cîteaux et les femmes (Rencontres à Royaumont)*, Paris 2001. A standard work for the archaeology of nunneries is: R. Gilchrist, *Gender and Material Culture. The Archaeology of Religious Women*, London-New York 1994.
  6. E. den Hartog, 'The Site of the Former Abbey Church of Leeuwenhorst near Noordwijkerhout in the Netherlands', *Cîteaux, commentarii cistercienses*, 50 (1999), 187-195.
  7. Th. Coomans, 'Le patrimoine rural cistercien en Belgique', *L'Espace cistercien*, ed. L. Pressouyre (*Mémoires de la section d'archéologie et d'histoire de l'art* 5), Paris 1999, 281-293.
  8. Some sites are occupied by other communities: Marche-les-Dames (Petites Sœurs de Bethléem); Val-Notre-Dame (Sœurs de l'Assomption, school); Vrouwenpark (Monfortains, school); Saint-Remy (Cistercian monks, since 1464).
  9. M. Jetten, *De architectuur van de Cisterciënser- en Cisterciënserinnenkloosters in Nederland*, unpublished M.A., University of Nijmegen 1986. An abstract of it can be found in: *Zusters tussen twee beken*, op. cit. (note 4), 17-24.
  10. G. Vermeer, *Kloosters van baksteen. De architectuur van de hervormingsorden in Nederland tot omstreeks 1300*, unpublished Ph.D., University of Amsterdam 1999, 124-129 and 168-192.
  11. J.-J. Bolly, *L'architecture des abbayes de moniales cisterciennes dans l'ancien comté de Namur*, unpublished M.A., Catholic University of Louvain 1966.
  12. J.-J. Bolly [and J.-B. Lefèvre], 'Architecture, cadre de vie et environnement des abbayes cisterciennes', *Monastères bénédictins et cisterciens dans les Albums de Croÿ (1596-1611)*, Brussels 1990, 187-238 (215-227); literally reproduced in: *Les Cisterciens en Namurois*, op. cit. (note 4), 150-158.
  13. Bijloke, La Cambre, Clairefontaine, Groeninge, Hemelsdåle, Herkenrode, La Ramée, Maagdendale (Oudenaarde and Flobecq), Muizen, Nazareth (Lier), Nieuwenbos, Olive, Paix-Dieu, Rozendaal, Valduc, Vrouwenpark and Zwijveke. See: M. Brion, *Cisterciënzerarcheologie in België*, unpublished M.A., University of Ghent 1999.
  14. M. Aubert [and M.J. de Maillé], *L'architecture cistercienne en France*, 2, Paris 1943, 173-205.
  15. A. Dimier, *Recueil de plans d'églises cisterciennes*, 4 vol. (*Commission d'histoire de l'ordre de Cîteaux* 1 & 6), Grignan-Paris 1949-1967.
  16. A. Dimier, 'L'architecture des églises de moniales cisterciennes. Essai de classement des différents types de plans', *Cîteaux, commentarii cistercienses*, 25 (1974), 8-23.
  17. Medieval churches of La Cambre (I.61), Flines (I.114), Roermond (I.255), Blandecques (II.33), Marche-les-Dames (II.175), Marquette (II.190), Olive (II.224), Soleilmont (II.296). Some plans of Belgian churches from the sixteenth to the eighteenth century: Bijloke (I.37), Clairefontaine (II.64), Doornzele (II.78), Groeninge (II.115), Refuge (II.246) and Ter Hagen (II.312).
  18. E. Coester, 'Die Cistercienserinnenkirchen des 12. bis 14. Jahrhunderts', *Die Cistercienser: Geschichte, Geist, Kunst*, ed. A. Schneider, A. Wienand, W. Bickel and E. Coester, Cologne 1977, 363-428; E. Coester, *Die einschiffigen Cistercienserinnenkirchen West- und Süddeutschlands von 1200 bis 1350 (Quellen und Abhandlungen zur mittelhochdeutschen Kirchengeschichte 48)*, Mainz 1984; M. Desmarchelier, 'L'architecture des églises de moniales cisterciennes, essai de classement des différents types de plans', *Mélanges à la mémoire du père Anselme Dimier*, ed. B. Chauvin, vol. 5, Arbois 1982, 79-121.
  19. H.R. Sennhauser (dir.), *Zisterzienserbauten in der Schweiz. Neue Forschungsergebnisse zur Archäologie und Kunstgeschichte 1: Frauenklöster, (Veröffentlichungen des Instituts für Denkmalpflege*

- an der Eidgenössischen Technischen Hochschule Zürich 10.1), Zurich 1990.
20. Hocht is a private property and is completely closed; Marche-les-Dames is a monastery with an enclosure.
  21. For example: A.J.C. van Leeuwen, *De maakbaarheid van het verleden*, P.J.H. Cuypers als restauratiearchitect, Zwolle-Zeist 1995, 50-63; J.J.F.W. van Agt, 'Roermonds Munsterkerk voor en na Cuypers', *Opus Musivum: een bundel studies aangeboden aan Professor Doctor M.D. Ozinga*, Assen 1964, 85-113.
  22. References can be found in: H.E. Kubach and A. Verbeek, *Romanische Baukunst an Rhein und Maas: Katalog der vorromanischen und romanischen Denkmäler*, 2, Berlin 1976, 965-970. See also the booklet: F.P.J. Slenders and M.K.J. Smeets, *Waar het koepeldragend Munster rijst. Historisch overzicht betreffende de Onze Lieve Vrouwe Munsterkerk*, Roermond 1984.
  23. G.H.A. Venner, *De grafmonumenten van de graven van Gelder*, Venlo 1989, 29-54.
  24. A. Dimier, *op. cit.* (note 15), 1, 114; *Monastères bénédictins et cisterciens dans les Albums de Croÿ, 1596-1611*, Brussels 1990, 378-380; B. Chauvin, 'À travers les sources illustrées de quatre abbayes cisterciennes féminines de Flandre française', *Cîteaux et les femmes (Rencontres à Royaumont)*, dir. B. Barrière and M.-É. Henneau, Paris 2001, 99-120 (116).
  25. B. Chauvin, *op. cit.* (note 4). Excavations started in 2004.
  26. Th. Coomans, *L'abbaye de Villers-en-Brabant: construction, composition et signification d'une abbaye cistercienne gothique (Cîteaux, studia et documenta 11)*, Brussels 2000, 201-223.
  27. J. Bondeson and A. Molenkamp, *Eens door Europa vermaard. Gravin Margaretha van Henneberg en haar 365 kinderen; een Loosduinse legende van lang geleden*, The Hague 1995.
  28. W.E. den Hertog, *De Abdij van Loosduinen, Cisterciënzerinnenklooster van 1229-1572*, The Hague 1997, 87-125; G. Vermeer, *op. cit.* (note 10), 124-129; E. den Hartog, *De oudste kerken van Holland. Van kerstening tot 1300*, Utrecht 2002, 140-141, 153-159.
  29. A similar design can be seen in the choir and the transept of the church at Lissewege (first half of the thirteenth century) near Ter Doest, in the neighbourhood of Bruges.
  30. On the excavations: H. Halbertsma, 'Loosduinen', *Nieuwsbulletin van de Koninklijke Nederlandse Oudheidkundige Bond* (1971), 43-45.
  31. A.J.J. Mekking, 'Die Aula Palatii in Den Haag', *Zeitschrift für Kunstgeschichte*, 60 (1997), 308-333.
  32. Only a short note in the inventory: 'Abdij van Maagdendale', *Bouwen door de eeuwen heen. Inventaris van het cultuurbezit in België, Architectuur 15n1: Provincie Oost-Vlaanderen, stad Oudenaarde*, Turnhout 1996, 122-128.
  33. F. Van Molle, 'Een gewelfsleutel uit de abdijkerk van Vrouwenpark bij Leuven', *Bulletin van de Koninklijke Commissie voor Monumenten en Landschappen*, 6 (1955), 71-84.
  34. W. Caes, 'Archeologische site Vrouwenpark te Rotselaar. Beschrijving van de belangrijkste structurele resten uit de eerste opgravingscampagne 1997', *Haachts Oudheid- en Geschiedkundig Tijdschrift*, 12 (1997), 287-300; B. Minnen, W. Caes and P. Hoof, 'Het archeologisch onderzoek van de kerk en het kerkhof van de cisterciënzerinnenabdij Vrouwenpark (Rotselaar, België) 1997-1999', *Cîteaux, commentarii cistercienses*, 51 (2000), 167-183.
  35. J. Coenen, 'Het koor der abdijkerk van Hocht', *Verzamelde opstellen uitgegeven door den Geschied- en Oudheidkundige Studiekring te Hasselt*, 4 (1928), 32-43; J. Coenen, 'Het kasteel en de ruïne van Hocht', *Limburg: Maandschrift gewijd aan geschiedenis, oudheidkunde, kunst, folklore en letterkunde*, 26 (1946-1947), 147-158.
  36. J.-J. Bolly, 'Salzines', *Les cisterciens en Namurois, op. cit.* (note 4), 170-173.
  37. A.J.M. den Teuling, 'Van klooster tot gouvernementsgebouw. Het complex van de abdij van Assen, 1260-1980, en het 'Gouvernementsgebouw' tou 1883', in A.J.M. den Teuling and K. van der Ploeg, *Van klooster tot museum. De geschiedenis van het gebouwencomplex van het Drents Museum*, Assen 1986, 9-57 (19-23).
  38. J. De Meulemeester and Th. Coomans, 'Arlon/Autelbas: l'abbaye cistercienne de Clairefontaine', *Chronique de l'Archéologie en Wallonie*, 8 (2000), 177-181; Th. Coomans, J. De Meulemeester, J.-M. Poisson and K. Van Iseghem, 'Arlon/Autelbas: L'abbaye cistercienne de moniales de Clairefontaine', *Chronique de l'Archéologie wallonne*, 9 (2001), 175-179; J. De Meulemeester, R. Budd, W. Dhaese, J.-M. Poisson and M. Siebrand, 'Arlon/Autelbas: L'abbaye cistercienne de moniales de Clairefontaine', *Chronique de l'Archéologie wallonne*, 10 (2002), 204-209.
  39. C. Joset, *L'abbaye noble de Notre-Dame de Clairefontaine, 1216-1796*, Brussels 1935, 59-71.
  40. E. Coester, 'Die Cistercienserinnenkirchen...', *op. cit.* (note 18), 384-393 and 403-407.
  41. Debatable hypothesis of G. Vermeer, *op. cit.* (note 10), 176-178, only founded on the placement of the buttresses of the church, as drawn on a seventeenth century plan. The single-nave church has a 5/10 apse.
  42. 'Marche-les-Dames, ancienne abbaye Notre-Dame du Vivier', *Le patrimoine monumental de la Belgique 5/1: Province de Namur, arrondissement de Namur, Liège 1975*, 405-410; *Les cisterciens en Namurois, op. cit.* (note 4), 164-166.
  43. A. Dimier, *op. cit.* (note 15), 2, 224.
  44. A. Dimier, *op. cit.* (note 15), 2, 33.
  45. Unpublished excavations cited by M. Jetten, *op. cit.* (note 9) and G. Vermeer, *op. cit.* (note 10), 181-182.
  46. C.L. Temminck Groll, 'De opgraving van het cisterciënserklooster Mariëndaël bij Utrecht', *Jaarboekje van Oud-Utrecht*, Utrecht 1958, 61-72; W. Stooker, 'Het Cisterciënserklooster Maria Ten Daele', *De Timmerwerf*, 38 (1957), 3-6; W. Stooker and C.L. Temminck Groll, 'De opgraving van Mariëndaël in Zuilen', *De Timmerwerf*, 43 (1958), 3-6.
  47. J. de Vries, 'Het archeologisch onderzoek van het cisterciënser vrouwenklooster Mariënhorst - Ter Hunnepe - bij Deventer (Nederland)', *Cîteaux, commentarii cistercienses*, 41 (1990), 294-309; *Zusters tussen twee beken, op. cit.* (note 9).
  48. G. Vermeer, *op. cit.* (note 10), 185-189.
  49. V. Van Oeteren, 'Sondages archéologiques à l'emplacement de l'église abbatiale', *La Ramée. Abbaye cistercienne en Brabant wallon*, dir. Th. Coomans, Brussels 2002, 60-66.
  50. Baron de Ryckman<sup>o</sup> de Betz, M. de Thibaut de Maisières and G. Dansaert, *L'abbaye cistercienne de La Cambre, étude d'histoire et d'archéologie*, Antwerp 1948, 284-303.
  51. *Toto cordis desiderio dictam ecclesiam nostris temporibus feliciter consumari*. Cited in *L'abbaye cistercienne de La Cambre, op. cit.*

- (note 50), 296, n. 2.
52. The layout of the Neo-Gothic stalls now in the sanctuary is completely wrong.
  53. J. de Borchgrave d'Altena, 'Les sculptures du pignon de l'église Notre-Dame de La Cambre', *Annales de la Société royale d'Archéologie de Bruxelles*, 40 (1936), 226-229.
  54. P. Buxant, 'Les bâtiments conventuels de l'ancienne abbaye Notre-Dame de Soleilmont', *Revue des Archéologues et Historiens d'Art de Louvain*, 19 (1986), 115-119; *Le patrimoine monumental de la Belgique*. Wallonie, 20: *Province de Hainaut, arrondissement de Charleroi*, Liège 1994, 111-117.
  55. Now in the cathedral of Lichfield. Recently a window preserved in an English private collection was given back to Herkenrode. See: Y. Vanden Bemden and J. Kerr, 'The Glass of Herkenrode Abbey', *Archaeologia*, 108 (1986), 189-226. The exhibition *Lichfield 2003* with fac-similes of the windows took place in the restored barn of the abbey in 2003.
  56. See note 45.
  57. G. Vermeer, *op. cit.* (note 10), 182; B. Minnen, W. Caes and P. Hooft, *op. cit.* (note 34), 176.
  58. G. de Moor and G. Vermeer, 'De kerk van het cisterciënzerinnenklooster Leeuwenhorst (1261-1574) bij Noordwijkerhout', *Bulletin van de Stichting Oude Hollandse Kerken*, 38 (1994), 3-19.
  59. Dimensions, including the galleries (east-west x north-south). Bijloke: 37 x 37.7 = 1395 m<sup>2</sup>; Mariënkamp: 39.3 (?) x 35 = 1375 m<sup>2</sup>; La Cambre: 36.7 x 37.3 = 1368 m<sup>2</sup>; Roermond (irregular because of the transept's apse): 36 x 30 = 1080 m<sup>2</sup>; Soleilmont: 29.8 x 28.7 = 855 m<sup>2</sup>; Beaupré-sur-la-Lys: 26.6 x 30.9 = 822 m<sup>2</sup>; Marche-les-Dames: 25.5 x 30.9 = 788 m<sup>2</sup>; Ter Hunnepe: 26.6 x 29.5 = 784 m<sup>2</sup>; Mariëndaal: 30 x 25 = 750 m<sup>2</sup>; Clairefontaine: 20 x 25 = 500 m<sup>2</sup>.
  60. Roermond: traces of the south gallery on the refectory wall, destroyed in 1924: J. Kalf, *De sloping van het oud-klooster te Roermond*, Utrecht 1924. Mariënkamp: traces of two different brick vaults (thirteenth and fifteenth century) of north gallery on the church wall; see A.J.M. den Teuling, *op. cit.* (note 37), 24-25.
  61. P. Buxant, *op. cit.* (note 54), 118-120.
  62. I. Van Spilbeeck, 'Les cloîtres de Soleilmont, pierres commémoratives, découverte archéologique', *Documents et rapports de la Société paléontologique et archéologique de Charleroi*, 19 (1893), 267-271. New edition in: Th. Coomans, 'Le pupitre de la salle du chapitre de Soleilmont et l'abbesse Jeanne de Trazegnies (vers 1500)', *Cîteaux, commentarii cistercienses*, 52 (2001), 367-384 (368-369).
  63. Cited in: L. Van Puyvelde, *Un hôpital du moyen âge et une abbaye y annexée: La Biloke de Gand, étude archéologique*, Ghent-Paris 1925, 77.
  64. *L'abbaye cistercienne de La Cambre*, *op. cit.* (note 50), 280-282.
  65. I. Van Spilbeeck, 'Lavabos du XV<sup>e</sup> siècle', *Documents et rapports de la Société paléontologique et archéologique de Charleroi*, 17 (1891), 523-526.
  66. *Statuta Capitulum Generalium Ordinis Cisterciensis: ab anno 1116 ad annum 1786 (Bibliothèque de la Revue d'Histoire ecclésiastique, 10)*, ed. J.-M. Canivez, vol. 2, Louvain 1934, 36.
  67. N. Vanbrugghe, 'Beaupré-sur-la-Lys, quand une abbaye ressurgit', *Les Dossiers d'Archéologie*, 229 (1997), 98-101; N. Vanbrugghe, 'Les fouilles de Beaupré-sur-la-Lys (1992)', *Actes du Congrès Anselme Dimier. Abbaye de Noirlac. Fouilles cisterciennes européennes, bilans nationaux: 1. France*, ed. B. Chauvin, Arbois 2000, 11-42.
  68. M. Aubert, *op. cit.* (note 14), 2, 196-205.
  69. *L'abbaye cistercienne de La Cambre*, *op. cit.* (note 50), 277-279.
  70. L. Van Puyvelde, *op. cit.* (note 63), 55-62; F. Van Hove, 'Étude de reconstruction de l'état primitif des bâtiments existants de l'ancienne abbaye de la Byloke à Gand', *Bulletin de la société d'histoire et d'archéologie*, 39 (1931), 5-25 (6).
  71. *Insuper, do, lego domine abbatisse et conventui de Byloka in auxilium novi dormitorii sui faciendi centum aureos magnos...* Cited by L. Van Puyvelde, *op. cit.* (note 63), 118.
  72. See next chapter.
  73. On this point, the reconstruction of F. Van Hove, *op. cit.* (note 70), 6-15, is more credible than the one by L. Van Puyvelde, *op. cit.* (note 63), 55-61.
  74. *Les Cisterciens en Namurois*, *op. cit.* (note 4), 164-169 and 174-176; 'Marche-les-Dames', *op. cit.* (note 42), 405-410; P. Buxant, *op. cit.* (note 54), 120-123.
  75. Th. Coomans, 'Le pupitre de la salle du chapitre de Soleilmont et l'abbesse Jeanne de Trazegnies (vers 1500)', *Cîteaux, commentarii cistercienses*, 52 (2001), 367-384.
  76. *Zusters tussen twee beken*, *op. cit.* (note 47), 84-86.
  77. A similar pulpit, dated 1554, can be seen in the refectory of the former Crosier convent of Ter Apel (Groningen).
  78. J.-M. Canivez, *L'ordre de Cîteaux en Belgique des origines (1132) au XX<sup>e</sup> siècle*, Forges-lez-Chimay 1926, 24-31; J.-B. Lefèvre, *op. cit.* (note 4), 156-174, repeated in *Les Cisterciens en Namurois*, *op. cit.* (note 4), 47-54.
  79. Moulins (1414), Jardinnet (1441), Boneffe (1462), St. Remy (1467). Only the abbey of Félipré became a nunnery (1467).
  80. L. Van Puyvelde, *op. cit.* (note 63), 63-75; F. Van Hove, *op. cit.* (note 70), 15-17; 'Bijlokehospitaal en Bijlokeklooster van cisterciënzerinnen', *Bouwen door de eeuwen heen. Inventaris van het cultuurbezit in België, Architectuur 4nb: Stad Gent, zuid-west*, Ghent 1981, 133-134.
  81. See following chapter on coloured interiors.
  82. We refer here to the studies of the archaeological service of Ghent, led by Marie-Christine Laleman, and regularly published in the review *Stadsarcheologie: bodem en monument in Gent*. See notes 110 to 115.
  83. See note 12.
  84. The same happened in mens' abbeys, notably at Villers-en-Brabant.
  85. During the restoration of 1924, the stuccowork of 1715 was removed to another room in order to reconstruct the fourteenth century refectory.
  86. N. Vanbrugghe, *op. cit.* (note 67), 96-101. The author simply omits to consider the question of the refectory.
  87. As were also the thirteenth-century refectories of Parc-aux-Dames, l'Eau, etc. See M. Aubert, *op. cit.* (note 14), 2, 202.
  88. J. Kalf, *De sloping van het oud-klooster te Roermond*, Utrecht 1924.
  89. On some measurements of 1924: 'aanzicht van den westelijken muur met blindbogen van de kapittelzaal' (RDMZ. 62716).
  90. A.J.J. Mekking, 'De Munsterabdij te Roermond en haar zogenaamde refectorium tot omstreeks 1500', *De Maasgouw, tijdschrift voor Limburgse geschiedenis en oudheidkunde*, 93 (1974), col. 97-114.

91. J.-J. Bolly [and J.-B. Lefèvre], *op. cit.* (note 12), 215-219.
92. Unpublished report of Herrius Halbertsma (ROB Amersfoort 1943) cited by M. Jetten, *op. cit.* (note 9).
93. Cited by F. Van Hove, *op. cit.* (note 70), 20.
94. Under the roof of the house close to the tower, an arch and traces of an earlier roof can still be seen.
95. G. de Moor, *Verborgen en geborgen. Het cisterciënzerinnenklooster Leeuwenhorst in de Noordwijkse regio (1261-1574) (Middeleeuwse studies en bronnen 42)*, Hilversum 1994.
96. 'Kuringen, voormalige abdij Herkenrode', *Bouwen door de eeuwen heen. Inventaris van het cultuurbezit in België, Architectuur 6n1: Provincie Limburg, arrondissement Hasselt*, Ghent 1981, 434-453.
97. P. Buxant, *op. cit.* (note 54), 131-134.
98. Th. Coomans, *op. cit.* (note 7).
99. Hasselt, Provinciaal Documentatiecentrum. See: *Filles de Cîteaux au Pays mosan*, *op. cit.* (note 4), 73; and *Saint Bernard et le monde cistercien*, ed. L. Pressouyre and T.N. Kinder, Paris 1990, 170 and 224.
100. *Zusters tussen twee beken*, *op. cit.* (note 47), 64 and 79-80; *Les Cisterciens en Namurois*, *op. cit.* (note 4), 173.
101. *Le patrimoine monumental de la Belgique. Wallonie, 20: Province de Hainaut, arrondissement de Charleroi*, Liège 1994, 247-248.
102. Two contributions in the book: *Abdijmolens tussen Rijn en Schelde / Moulins abbaticaux entre Rhin et Escaut / Abteimühlen zwischen Rhein und Schelde*, ed. Th. Coomans (*Clavis kunsthistorische monografieën* 19), Utrecht 2003; E. Vinck, Nederlandse abdijmolens ten zuiden van de Rijn', 25-64; L. Vandenheede and Th. Coomans, 'Les moulins à eau de l'enclos monastique entre Ardenne et Flandre', 69-100.
103. A. Becquet, 'Le moulin de Salzennes', *Annales de la Société archéologique de Namur*, 5 (1857-1858), 175-178; *Les Cisterciens en Namurois*, *op. cit.* (note 4), 193-194.
104. Saint-Omer, Bibliothèque municipale, ms 1489. See: *Saint Bernard et le monde cistercien*, *op. cit.* (note 99), 240-241.
105. Excavations led by the 'Instituut voor Archeologisch Patrimonium' in 1998; unpublished.
106. H. Lubberding, 'Onderzoek naar het noordelijke bijgebouw', *Zusters tussen twee beken*, *op. cit.* (note 47), 90-99.
107. (...) *prefatum monasterium gandavense pro conservatione specialiter et regimine hospitalis*. Charter of 1229, cited in L. Van Puyvelde, *op. cit.* (note 63), 17.
108. L. Van Puyvelde, *op. cit.* (note 63), 11-52; A. De Schryver, 'L'abbaye et l'hôpital de la Bijloke à Gand', *Congrès archéologique de France, 120<sup>e</sup> session, 1962, Flandre*, Paris 1962, 116-128; 'Bijlokehospitaal en Bijlokeklooster van cisterciënzerinnen', *op. cit.* (note 80), 124-128.
109. Because of their specific work, quite incompatible with claustral life, they became an independent congregation in 1870.
110. P. Hoffsummer, M.-C. Laleman and P. Raveschot, 'Bijlokekaai, Ziekenzaal', *Stadsarcheologie. Bodem en monument in Gent*, 15/1 (1991), 56-57; M.-C. Laleman and P. Raveschot, 'Renovatie en onderzoek in Gent: de ziekenzaal van de Bijloke', *Toerisme in Oost-Vlaanderen*, 41/3 (1992), 76-80; M.-C. Laleman and P. Raveschot, 'L'hôpital de la Bijloke à Gent: premier bilan de la recherche archéologique', *Actes du 51<sup>e</sup> congrès de la Fédération des cercles d'archéologie et d'histoire de Belgique*, 2, Liège 1994, 129-135.
111. P. Hoffsummer, 'La charpente de la salle des malades de l'hôpital de la Biloque à Gand', *Actes du 51<sup>e</sup> congrès de la Fédération des cercles d'archéologie et d'histoire de Belgique*, 1, Liège 1992, 94-95; P. Hoffsummer, *Les charpentes de toiture en Wallonie: typologie et dendrochronologie (XI<sup>e</sup>-XIX<sup>e</sup> siècle) (Études et documents, monuments et sites 1)*, Namur 1995, 88-89, 125-127; P. Hoffsummer (dir.), *Les charpentes du XI<sup>e</sup> au XIX<sup>e</sup> siècle. Typologie et évolution en France du Nord et en Belgique (Cahiers du patrimoine 62)*, Paris 2002, 59-270 (passim).
112. H. Vandenborre, 'De oude ziekenzaal van de Bijloke. Onderzoek en behandeling van nissen', *Stadsarcheologie. Bodem en monument in Gent*, 19/1 (1995), 34-39.
113. G. Everaert and M.-C. Laleman, 'Vondstmeldingen', *Stadsarcheologie. Bodem en monument in Gent*, 18/2 (1994), 51-54; L. De Clercq, 'De kapel van het Bijlokehospitaal: onderzoek naar de binnenafwerking', *Stadsarcheologie. Bodem en monument in Gent*, 19/2 (1995), 10-18.
114. G. Everaert, M.-C. Laleman and D. Lievois, 'De tweede ziekenzaal van de Bijloke', *Stadsarcheologie. Bodem en monument in Gent*, 17/4 (1993), 5-23.
115. P. Hoffsummer and D. Houbrechts, 'Het Craeckhuys van de Bijloke in Gent: denrochronologische analyse van houtmonsters', *Stadsarcheologie. Bodem en monument in Gent*, 17/4 (1993), 24-29.
116. La Cambre in 1926-28 and Bijloke in 1924.
117. A. Bergmans, *Middeleeuwse muurschilderingen in de 19de eeuw. Studie en inventaris van middeleeuwse muurschilderingen in Belgische kerken (KADOC Artes 2)*, Louvain 1998; M. Buyle, 'De kleurige afwerking van de gotische architectuur', in: M. Buyle, Th. Coomans, J. Esther and L.F. Genicot, *Gotische architectuur in België*, Tielt 1997, 205-233.
118. M. Buyle and A. Bergmans, *Middeleeuwse muurschilderingen in Vlaanderen (M&L Cahier 2)*, Brussels 1994, 132-133.
119. *Ibid.*, 110-111.
120. There was another medieval Last Supper in Ghent, painted about 1375 in the refectory of the Dominicans ("Het Pand").
121. Cited by L. Van Puyvelde, *op. cit.* (note 63), 88.
122. See note 112.
123. See note 21.
124. B. Minnen, W. Caes and P. Hoof, *op. cit.* (note 33).
125. F. Van Molle, *op. cit.* (note 32).
126. V. Van Oeteren, *op. cit.* (note 49).
127. C.L. Temminck Groll, *op. cit.* (note 46), 68; N. Vanbrugge, *op. cit.* (note 67), 96-101.
128. See notes 55 and 75.
129. For a more interesting essay see: C. Kosch, 'Organisation spatiale des monastères de Cisterciennes et de Prémontrées en Allemagne et dans les pays germanophones au Moyen Âge. Églises conventuelles et bâtiments claustraux', *Cîteaux et les femmes (Rencontres à Roy-aumont)*, dir. B. Barrière and M.-É. Henneau, Paris 2001, 19-39.
130. See note 66.