



'A SUBSTANTIAL WALL SET BETWEEN TWO SLENDER TOWERS'

THE ORIGINAL DESIGN OF THE WEST ELEVATION OF THE RIDDERZAAL

PAULA VAN DER HEIDEN EN
HEIN HUNDERTMARK

- ▲ 1. The front facade of the Great Hall (photo H. Hundertmark, 2020)
- ▶ 2. The Great Hall with the largely built-in west front. The gable shoulders are visible between gable and towers. The original side wings are visible left and right of the gable and towers, with the ridge line of the roof at right angles to the Great Hall. The left wing is taller than the right one and has been largely built-in by later additions. Pen and ink drawing, maker unknown, c. 1670 (The Hague City Archives)



The front facade of the Great Hall (Ridderzaal) is the icon of the Binnenhof (fig. 1). The facade appears with great regularity on the nation's television screens whenever political matters feature in the news broadcasts, thereby making it possibly the best-known facade in the country: a readily recognizable and also imposing image made up of a triangular gable between two distinctive towers or, as Arnold Ising put it in 1879, 'a substantial wall set between two slender towers'.¹

That impressive image was precisely what its late thirteenth-century founder had in mind. In around 1295 Floris V commissioned a monumental hall that in terms of size and design was unlike anything previously seen in Holland. Its front elevation, a veritable *Schauseite* or 'best side', was recently studied in more detail as part of a wider investigation into the building history of the Counts' Chambers (Grafelijke Zalen).²

The study concerned the two towers, the age and design of which have frequently been called into question in the literature.³ It was found that the design of the gable had been modified on several occasions as a consequence of alterations to the roof of the hall in the second half of the nineteenth century.

THE CONSTRUCTION OF THE GREAT HALL

The construction of the Great Hall is usually dated to the final quarter of the thirteenth century and therefore attributed to Floris V. The dates, which range from 1275 to 1295, are based on a variety of arguments. These include the construction of the basements below the Great Hall, and the person of Gerard van Leyden, who is regarded as the architect and as financially responsible for the construction.⁴ Since Van Leyden died in 1289, construction would have to have

occurred before then.⁵ Other factors influencing the dating are Floris V's renunciation of the Scottish throne and comparisons with contemporary English architecture.⁶ Floris had a claim to the Scottish throne through his great-great-grandmother, the Scottish princess Ada. When the throne fell vacant in 1291, he put himself forward as the thirteenth pretender. Initially Floris thought he stood a good chance because of his friendship with the English king, Edward I, but the latter had a clear preference for another claimant. Floris subsequently withdrew his claim in 1292, reportedly in return for financial compensation.⁷ At the beginning of the fifteenth century a chronicle penned by a 'Clerk from the Low Countries' reported that Floris had used this sum of money to fund the construction of the Great Hall and a chapel: 'and had made, by means of the payment he received from the Kingdom of Scotland, that tall hall and that chapel in die Hage'.⁸

Because of his English travels and good relations with King Edward I, it is assumed that Floris v was familiar with Westminster Hall in London and took it as a model for his own Great Hall.⁹ Another possible source of inspiration for the hall's open timber roof

structure, are the halls of English castles, which Floris would undoubtedly have visited during his travels. Halls with such single-span roof structures existed in England in the final quarter of the thirteenth century. The most striking example is the Baron's Hall at Penshurst Place, whose roof structure is similar to that of the Great Hall. Although this particular hall dates from the beginning of the fourteenth century, it is regarded as an example of a roof construction type introduced in the late thirteenth century.¹⁰ At the same time, similar large, undivided spaces with open roof structures were also being built in the Low Countries, such as the central infirmary of St John's Hospital in Bruges (1234 +/- 6 years) and the Bijloke Hospital in Ghent (1251-1255).¹¹

ALTERATIONS TO THE GABLE

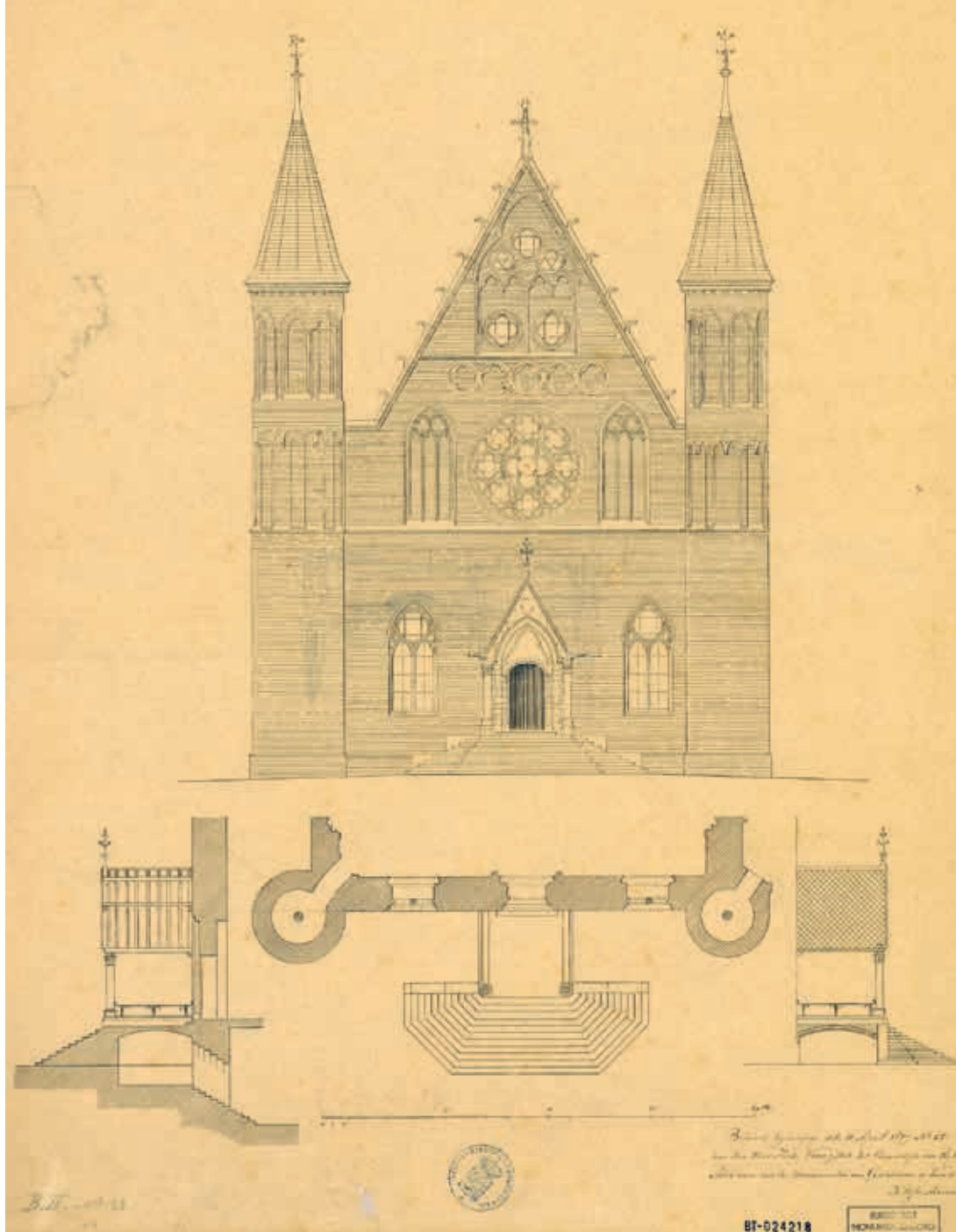
The monumentality of the Great Hall is expressed not only in the dimensions of the undivided hall with its magnificent roof construction, but also in the front facade that with its two towers is reminiscent of a 'westwork'.¹² Stylistically, the niche architecture in the gable and towers, the rose window, and the original pointed arch windows flanking the entrance are



3A. The west front of the Great Hall in 1860, showing the tracery of lead-covered wood inserted in the two pointed-arch windows in 1814, and the rose window. The gable displays the original steep wall line that is aligned with the original roof construction. Only the gable shoulders have been raised (The Hague City Archives)



3B. The gable in 1865, following the replacement of the 1295 timber roof structure with a cast iron structure by government architect W.N. Rose in 1861. Because this new roof structure had a different pitch, the gable was adjusted by means of new masonry in a different brick that was fairly crudely toothed into the original medieval brickwork (The Hague City Archives)



4. Drawing of the restoration proposal for the Great Hall west front from 1877. The towers acquire new terminals and the entrance an entrance porch with a flight of steps. The rose window and two pointed-arch windows acquire stone tracery as do the pointed-arch niches left and right of the rose window (Cultural Heritage Agency)

suggestive of a church facade. Although the interior displays clear kinship with English halls and Flemish hospital wards, the secular façade of the Great Hall with its westwork-like appearance seems unique. The facade has largely retained its original period character, but there have been a few changes as a result of nineteenth-century alterations to the roof of the hall. The replacement, in 1861, of the original roof construction with a cast iron frame and zinc roof by government architect W.N. Rose (1801-1877) had far-reaching consequences for the west facade. Photographs dating from before the intervention show an almost perfectly preserved gable; all that is missing is the stone moulding with crockets.¹³ At that point the facade was closely aligned with the slate roof. Over time the junction between the facade and the towers

was raised, resulting in shoulder pieces that are visible in seventeenth-century paintings (fig. 2). When the roof was renewed, the masonry of the side elevations was raised by around five metres (from eleven to c. sixteen metres), which altered the roof line. Because of the shallower roof slope, the masonry of the front (and rear) facade needed to be adjusted to the new roof line. The new brickwork was rather crudely toothed into the existing masonry. Towards the underside of the gable the new brickwork increases in width resulting in considerably narrower shoulder pieces between gable and towers. The width of the shoulder piece at the southwest tower is practically zero. After this major intervention the west elevation made a rather battered impression that appears, on the evidence of photographs, to have persisted until the restoration of the facade in 1877-1880 (fig. 3).

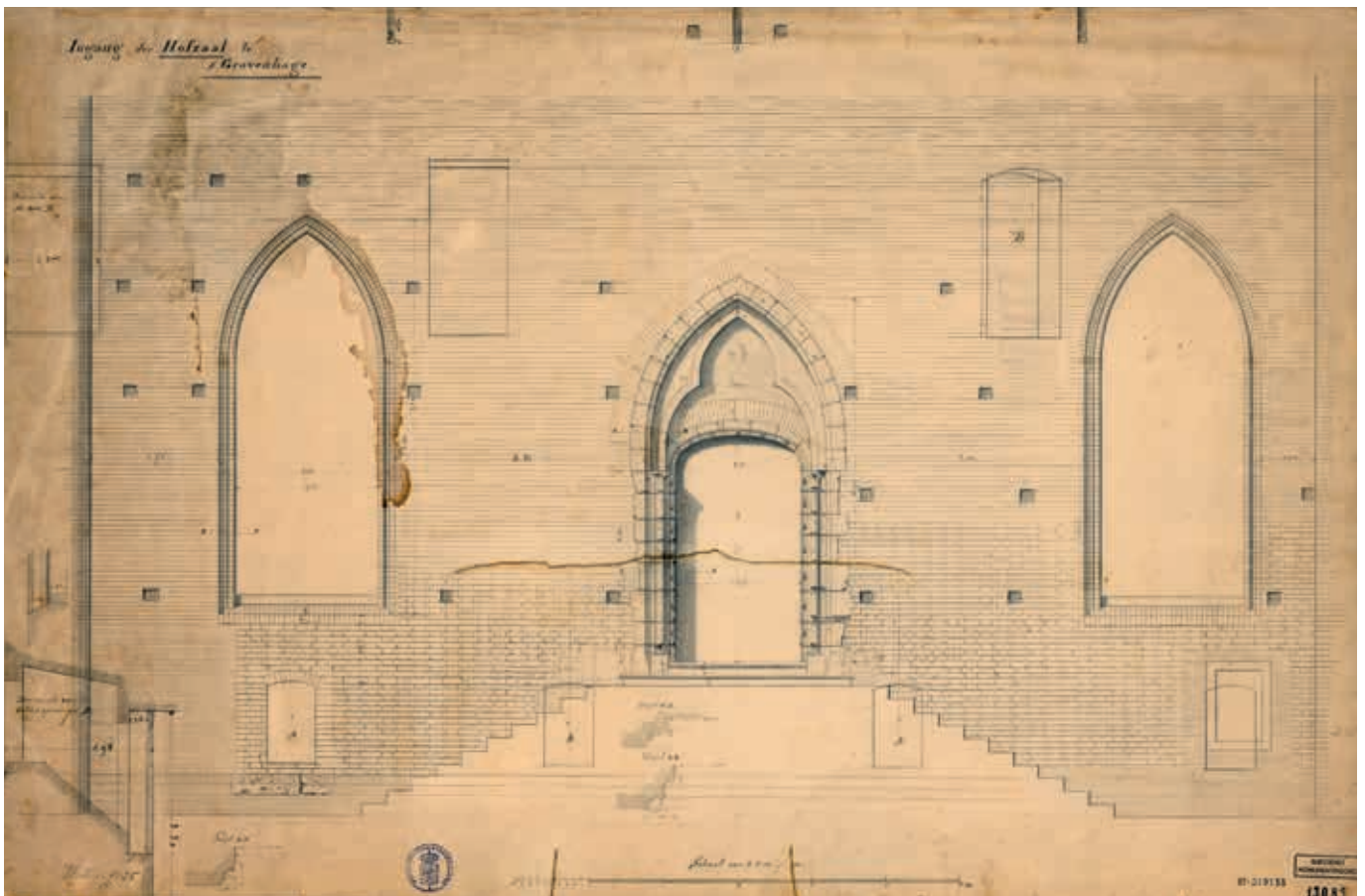
A drawing from 1877 depicts the planned restoration works for the west elevation in broad outline (fig. 4). The idea was to enhance the medieval appearance by replacing the 1861 brickwork using bricks of medieval dimensions and to finish the gable with a moulding with crockets, crowned by a double finial. However, owing to the shallower roof slope introduced in 1861 the gable was more massive than its medieval predecessor, making it impossible to reinstate the shoulder pieces at the original height.

The five round niches at the top of the gable were to be decorated with trefoils and quatrefoils inset with leaded lights. As indicated in the drawing, stone tracery, which had never been there originally, was added to the pointed arch niches. Likewise, the rose window acquired its present stone tracery at this time. In the lower part of the facade, new tracery was introduced into the pointed arch windows and the original Douai stone surround of the entrance was completely renewed and embellished with a portico with steps leading up to the entrance (fig. 5).

Lastly, the towers were restored, involving the replacement of the sixteenth-century terminals (fig. 6). The new spires are identical in the design drawing, but for some reason differed from one another in execution: the northwest tower retained its octagonal structure with eight-sided spire, while the southwest tower was given a round spire.¹⁴

Following the completion of the restoration of the west facade it took another twenty years for the entire complex of the Count's Chambers to be restored. The reconstruction of the original roof of the Great Hall, made possible by a survey conducted in 1859, had repercussions for the restoration of the west facade in 1880, as the architects had no choice but to connect it to the new, shallower roof pitch of 1861. In 1900, however, a cosmetic approach was chosen with alterations limited to a minor correction of the cornice to make it more in keeping with the steep roof slope of the reconstructed medieval roof construction. The left (northern) cornice was altered by bringing the gable line slightly forward at the top, allowing the existing shoul-

5. Documentation drawing of the entrance area of the west front of the Great Hall from c. 1875. It shows the 1295 entrance in Douai stone, flanked by pointed-arch windows. These were designed in 1814 by the architect for government buildings, A. Noordendorp, after Louis Napoleon had ordered the removal of previous additions to the west front. The profiled reveals of these windows are in a smaller brick than the original Flemish bond brickwork (Cultural Heritage Agency)



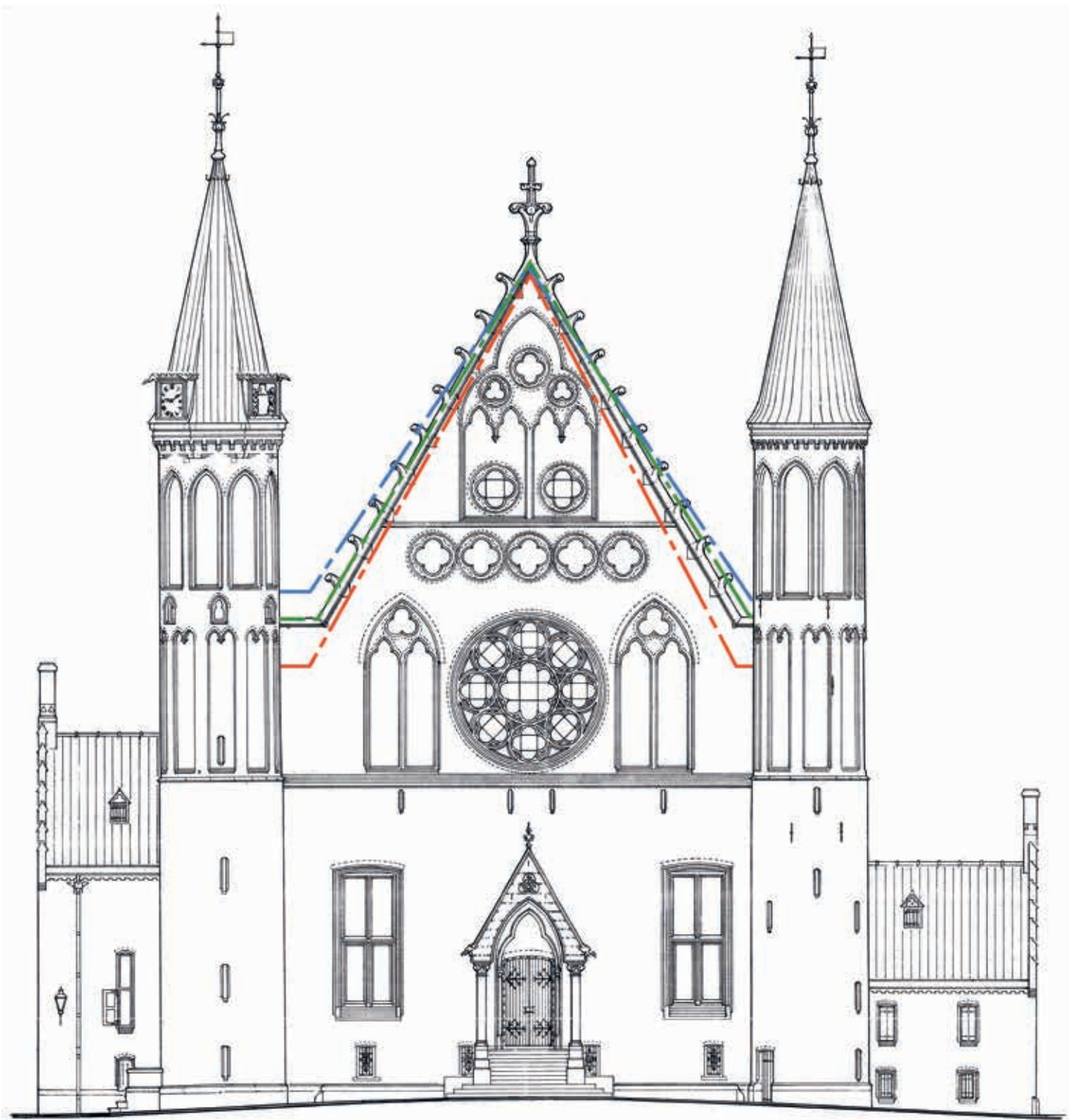


6. The west front of the Knights' Hall during final restoration works in 1880. The reinstated 'medieval' gable emulates the roof line of the 1861 cast iron roof structure. As a result the gable has a larger building mass and the gable wall line a shallower pitch than the original medieval gable (The Hague City Archives)

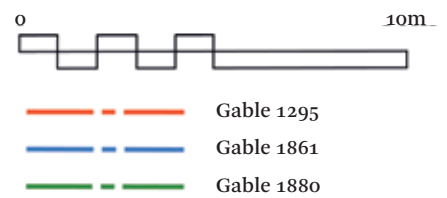
der piece to be retained. On the right side the gable line was shifted slightly inwards at the bottom, generating a 'proper' shoulder piece to counterbalance the left shoulder piece.¹⁵ All in all, the current gable is more massive than the original medieval facade in which the gable end and roof line were closer together and the original shoulders sat at a significantly lower level (fig. 7).

The alterations to the lower zone of the front facade,

which saw the pointed arch windows replaced by cross-bar windows, served to strengthen the secular character of the facade. The pointed arch windows were regarded as a later modification by the 1900 Advisory Committee, which was why they were replaced by cross-bar windows whose design was based on the fourteenth-century cross-bar windows discovered in the side elevations of the Great Hall.¹⁶



7. West front of the Great Hall. Coloured dotted lines show the three different gable wall lines that preceded today's (solid black) line, which dates from 1900 (drawing H. Hundertmark, 2021)



THE POSITION OF THE WESTERN TOWERS

A striking feature of the facade are the two flanking towers. Because of their asymmetrical position and different dimensions it has been suggested that they were not built at the same time as the Great Hall.¹⁷ The northwest tower's larger diameter mars the symmetry of this focal *Schauseite* of the Great Hall.

With regard to size, it turns out that the internal diameter of both towers is the same (2.7m) and that the larger diameter of the gable wall line of the northwest tower is due to more massive masonry, which is related to the fact that this tower functioned as a stair tower and perhaps also as a clock tower. Because the stone steps of the spiral staircase had to be supported in the tower's brickwork the latter was made more substantial.¹⁸ The stair reaches as far as entablature level and, starting at the bottom, provides access to the large basement below the Great Hall, the Great Hall and bel-etage of the northern side wing, the room on the upper floor of this wing and the corridor in the west elevation leading to the southwest tower, before finally arriving at the entablature. The gallery or corridor in the thickness of the west elevation of the Great Hall leads to the upper floor of the southwest tower as this tower only provides access to the basement, the Great Hall and the bel-etage of the southern side wing.

It is possible that the position of the northwest tower was partly dictated by its clock tower function. It is unclear whether this was part of the original plans, but there is mention of a clock with clockwork in archival documents from as early as 1366.¹⁹

DATING OF THE TOWERS

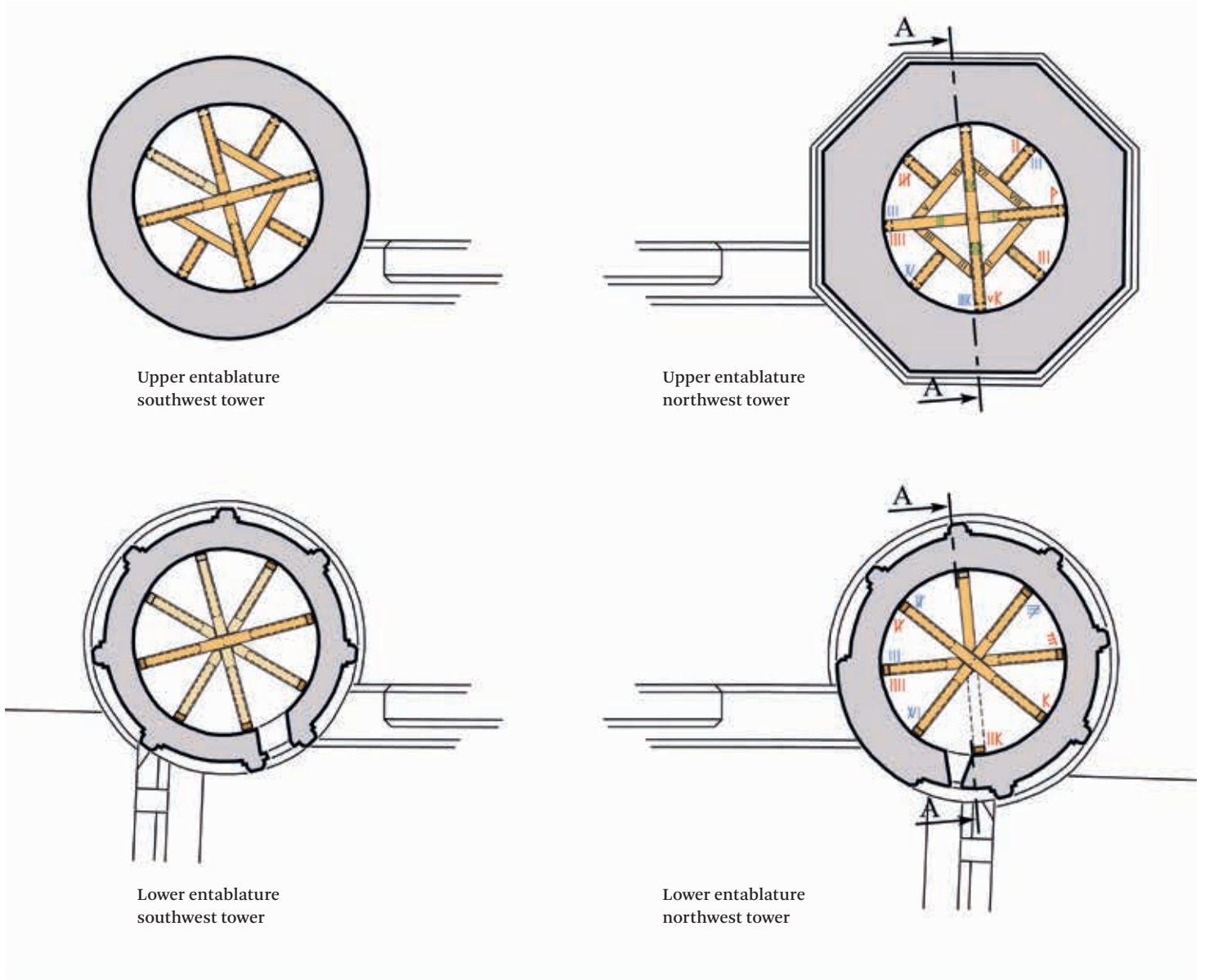
It seems that the symmetry of the west front was not regarded as essential by its builders. Not only do the towers differ in dimensions and position, the side wings (designated original) also differed in height (fig. 2). This is why there is some speculation in the literature as to whether the towers were built at the same time as the Great Hall and whether they might originally have been lower and heightened at some later date.²⁰ In 1998, in an effort to provide some answers, the towers' two oak entablatures were subjected to a dendrochronological analysis aimed at determining the felling date of the wood and with that the construction date of the towers.²¹ These entablatures form a kind of anchoring structure (timber framework) in the top of the towers and supported the original spires.²² The analysis produced two specific dates. The earliest dates for wood samples from the wall posts are 1288 +/- 6 years in the northwest tower and 1289 +/- 6 years in the southwest tower, indicating a construction date of around 1295.²³ What is surprising though is the late seventeenth-century dating of the corner braces in both towers, namely 1693 +/- 6 years and 1696 +/-



8. Upper horizontal framework of the entablature in the northwest tower of the Great Hall. Scribed assembly marks are visible on the beams. The oak entablature was constructed in 1295 and originally supported a spire (photo H. Hundertmark, 2021)

6 years.²⁴ These dates for the brace timber gave rise to the idea that some timbers may have been reused and that the wall posts are in fact recycled rafters from the monumental roof construction of the Great Hall.²⁵ However, this is contradicted by the documented assembly marks on these members, consisting of scribed marks, which occur from the end of the thirteenth century up until the transition to gouged assembly marks in the sixteenth century (fig. 8).²⁶

In light of the absence of an unequivocal date, a new investigation into building history indicators such as assembly marks and the deployment of original or reused wood (figs. 9 and 10) was recently conducted. Both entablatures sit on a wooden beam structure and are approximately 5.5 metres high with a diameter of around 2.7 metres.²⁷ The horizontal framework in the top rests on eight wall posts with corner braces. The beams in this framework are imposed and notched (bridle joint) into a circular wall plate incorporated into the original masonry of the round tower wall (fig. 11).²⁸ The wall posts of the entablature are secured midway by a second horizontal framework with corner braces. This framework sits between the continuous wall posts and differs in execution from the framework in the top. In the lower framework the beams come together in a 'knot', whereas in the upper framework four of the eight beams connect to shoring. The assembly marks in the entablature of the northwest tower have been documented, but this was not possible with the other tower due to limited accessibility.



Upper entablature southwest tower





Upper entablature northwest tower

Lower entablature southwest tower

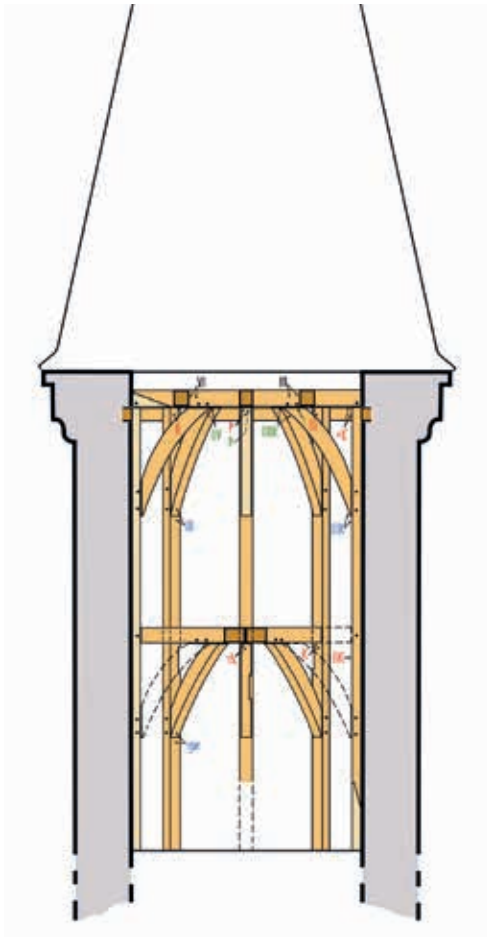
Lower entablature northwest tower

-  Masonry
-  Oak
-  Pinewood



-  Scribed assembly mark on upper side of the post and horizontal beam
-  Scribed assembly mark on post and soffit of the corner brace
-  Scribed assembly mark on horizontal beam and upper side of the corner brace
-  Scribed assembly mark on one side of the horizontal beam and shore

9. Plans of the upper section of the southwest and northwest towers of the Great Hall with the upper and lower horizontal framework of the entablature. In colour, the different assembly mark sets and types of wood (drawing H. Hundertmark, 2021)



- vK Scribed assembly mark on upper side of the post and horizontal beam
- IIIK Scribed assembly mark on post and soffit of the corner brace
- IIK Scribed assembly mark on horizontal beam and upper side of the corner brace
- VI Scribed assembly mark on one side of the horizontal beam and shore

10. Vertical cross-section of the top part of the northwest tower of the Great Hall plus a cross-section of the entablature. In colour, the different sets of assembly marks and types of wood. The oak is the original wood used in 1295, while the pinewood indicates restoration work (drawing H. Hundertmark, 2021)

The entablature in the northwest tower carries two sets of assembly marks. One set is scribed on the wall posts and corresponding corner braces and beams of the framework. A second continuous set of scribed assembly marks is found only on the horizontal beams of the upper framework. Interestingly, the continuous wall posts also carry a slightly different set of marks at the level of the lower framework. These also appear on the corresponding corner braces and beams of the framework, making it possible to distinguish the woodwork in the lower framework from that in the upper framework. For example, a post with corresponding beam in the upper framework is marked with vK and in the lower framework with IIIK, or in the upper with III and in the lower with K. So instead of a continuous series of assembly marks or assembly marks with directional marks there are marks of 'corner brace sets' with the unusual distinction between upper and lower as in roof trusses, or pairs of rafters with a distinction between left and right. The corner braces with corresponding beam and post also have different assembly marks to distinguish between the under- and upper side of the corner brace, owing to the fact that the corner braces are tenoned and cambered – rather than nailed – on the underside as well. On the post marked vK, the soffit of the corner brace and post



11. Detail of the upper horizontal framework of the entablature in the northwest tower of the Great Hall. The beams in this framework are imposed and notched into a circular wall plate, which has the same rounding as the outer brickwork of the round tower (photo H. Hundertmark, 2021)



12. Detail of the oak entablature in the northwest tower of the Great Hall. The assembly mark IIIIK has been scribed on the upper side of the corner brace and on the soffit of the beam in the upper horizontal framework (photo H. Hundertmark, 2021)

bear the mark IIIK, while the upper side of the corner brace and beam of the horizontal framework is marked IIIIK (fig. 12). In the lower framework the soffits of the corner braces also display a set of assembly marks. Unfortunately it was not possible to determine whether the upper sides of these corner braces were also marked.

The second set is on the shoring of the horizontal framework in the top which is marked I to VIII. The marks are intended to ensure that the shores connect correctly with the continuous beams of the framework. The beams themselves have matching marks, for example IIII on the shore and on one side of the continuous beam. On the other side of the beam is the mark v and the corresponding shore is also marked v, and so on. This additional set of assembly marks was unnecessary in the lower framework, which did not involve shoring.

The entablature of the southwest tower is difficult to access, making it impossible to record the assembly marks. In this case we drew on the observations made during the dendrochronological survey of 1998.²⁹ Many of the original oak timbers in that entablature have been replaced by pinewood, so that it was not possible to determine whether the corner brace sets were marked and whether there were different sets of assembly marks distinguishing top from bottom.

The marking of entablatures with separate sets of assembly marks for vertical and horizontal framework timbers is common practice. Typically, different marks were used to distinguish between the upper and lower horizontal timbers. What sets the entablatures in the west towers apart is the marking of corner

brace sets rather than a series of assembly marks with directional marks. Also unusual is the use of different assembly marks on the corner braces to distinguish between top and bottom, and that this set of assembly marks is unrelated to the sets of marks on the horizontal timbers and the vertical posts. The reason for this is that the corner braces are tenoned and cambered on both the top side and soffit. This combination of top and bottom tenons and trunnels and the additional marking of corner braces is unique and as such indicative of great age. In later constructions corner braces are mostly nailed on the underside, rendering additional assembly marks unnecessary.

We then looked for the usual clues to the use of recycled wood, such as non-functional tenon and trunnel holes, tenon holes that are too big or that have been altered to match new, often smaller tenons, and 'orphan' assembly marks bearing no relation to the current construction. No such indicators were discovered. The notion that these beams were installed during the construction of the towers and not at some later date is borne out by the fact that the entablature beams were imposed and notched into the circular wall plate integrated with the original masonry of the round tower wall.

The combination of building history indicators, the sets of assembly marks and the unequivocal nature of the dendrochronological dating to the final quarter of the thirteenth century, raises questions about the dating of the corner braces in both towers, namely 1693 +/- 6 years and 1696 +/- 6 years. The dating with an outlier of 1746 +/- 6 years is similarly incongruous, raising doubts about the correctness of the dating and the

choice of the reference curves to which the dating is related.³⁰

In conjunction with the thermoluminescence dating of the brick samples from the Knights' Hall – 1352 +/-65 years – the earliest thirteenth-century dendrochronological dates of 1288 +/-6 years and 1289 +/-6 years indicate that the towers were built at the same time as the Knights' Hall.³¹ During recent archaeological research where the foundation base of the northwest tower and the adjoining foundation of the west elevation of the Great Hall were exposed, it became apparent that the original masonry of the tower and west elevation was tightly interlocked and must consequently have originated at the same time.³²

CONCLUSION

A comparison of historical photographs from the late nineteenth century reveals that the gable of the Great Hall underwent substantial modifications during two

restoration campaigns. When the height of the roof was raised in 1861 the gable wall line had needed to be adjusted accordingly. This was partially reversed during the restoration of 1877-1880, and in the next restoration in 1990 the gable was amended again with the aim of approximating the original situation as closely as possible. During recent building history research, the construction date and original height of the two towers in the west elevation of the Great Hall were investigated. Contrary to previous assumptions that the towers were not part of the original plan or had been completed at a later date, it was established that the towers were built at the same time as the hall. Dendrochronological dating in combination with the typical thirteenth-century assembly mark system and the fact that the beams in the entablatures had been imposed and notched into in the wall plate of the original tower wall masonry indicate that the towers had already reached their current height at that time.

NOTES

- 1 A. Ising, *Het Binnenhof te 's Gravenhage in plaet en schrift, De Groote Zaal, 's Gravenhage* 1879, 1.
- 2 H.F.G. Hundertmark and P.C. van der Heiden, *Grafelijke Zalen Binnenhof, Bouwgeschiedenis van een grafelijk hof met koningspalts*, report, Oss/The Hague 2021, 23-33.
- 3 E.H. ter Kuile, 'De bouwgeschiedenis van het grafelijk paleis op het Binnenhof', *Holland*, December 1978, 313-328; A.J.J. Mekking, 'De Grote Zaal van Floris V te Den Haag. Een onderzoek naar de betekenis van het concept', in: W. van Anrooij et al., *Holland in wording. De ontstaansgeschiedenis van het graafschap Holland tot het begin van de vijftiende eeuw*, Hilversum 1991, 65-90.
- 4 For the construction of the basements, see Ising 1879 (note 1), *Het Hof van Holland*, 2. Ising ascribes the two basements to the building phase under Floris v.
- 5 F.A.J. Vermeulen, *Handboek tot de geschiedenis der Nederlandse Bouwkunst*, vol. I, 's-Gravenhage 1928, 481-483. The Great Hall was said to have been designed in 1275 by Gerard van Leyden; Mekking 1991 (note 3), 76-78.
- 6 Mekking 1991 (note 3), 76-78.
- 7 E.H.P. Cordfunke, *Een Hollands-Schots avontuur 1291-1292*, Utrecht 2005.
- 8 B.J.L. de Geer van Jutphaas (ed.), 'Kronijk van Holland van een ongehoorden geestelijke (gemeenlijk geheeten kronijk van den clerck uten laghen landen bi der see)'. *Werken uitgegeven door het Historisch Genootschap, gevestigd te Utrecht*, new series no. 6, 1867, 133.
- 9 Mekking 1991 (note 3); Cordfunke, 2005 (note 7). Westminster Hall's original roof was probably not single-span but rather a double-nave construction supported in the middle by a row of columns.
- 10 H. Janse, *Houten kappen in Nederland 1000-1940* (Bouwtechniek in Nederland; 2), Delft 1989, 89; Janse mentions Sutton Courtenay Abbey as an English example of a cruck; A. Emery, *Greater medieval houses of England and Wales*, vol. III, Cambridge 2006, 386-394 (Penshurst); examples of thirteenth-century hall roof constructions: Emery 2006, vol. II, 574-576 (Stokesay, 1285); M. Hislop, *Approaches to Castle Design and Construction in the Middle Ages*, Barnsley 2016, 45-46 (Ludlow Castle, late thirteenth century).
- 11 P. Hoffsummer (ed.), *Roof Frames from the 11th to the 19th Century. Typology and Development in Northern France and in Belgium*, Analysis of CRMH Documentation, Turnhout 2009, 192-193 and 270-272.
- 12 The Great Hall roof construction spans 18 metres; the halls of the Bijloke hospital in Ghent and the Sint Jans hospital in Bruges have a span of 16 and 12.6 metres respectively; K. Atzbach, *Gotische Gewölbe aus Holz in Utrecht, Gent und Brugge*, Berlin 2007, 104.
- 13 In a few illustrations from the end of the sixteenth century, stone crockets are visible on the Great Hall gable: Jacob Saverij, engraving of the entry of Leicester, 1586; Gillis Saen, painting with view of the Hofvijver, 1598.
- 14 Ising 1879 (note 1), *De Groote Zaal*, 8. According to Ising, during repairs carried out in 1534 the towers acquired new spire finials on an also new, octagonal structure on corbels. Sixteenth-century paintings likewise depict the spires that were replaced during the 1880 restoration with the current spires.
- 15 *Rapporten van de Commissie van Advies voor de Grafelijke Zalen. Werkzaamheden aan de verschillende gebouwen XII, Juli 1904*: 'De Hofzaal werd uiteindelijk voltooid door de herstelling van de voorgevel, waar in de top veel los metselwerk, stammende uit een vroegere restauratie (1880), moest vervangen worden.' 'The main hall was completed externally with the repair of the front facade where a lot of loose masonry in the top, stemming from a previous restoration (1880), needed to be replaced.'
- 16 Ising 1879 (note 1), 10: 'In 1395 eleven new windows of Drachenfels stone were made in the Hall'. C.H. Peters, *Beschrijving van de Grafelijke Zalen op het Binnenhof te 's Gravenhage, in opdracht van den Minister van Waterstaat, bewerkt door de Commissie van Advies en uitgegeven door de Maatschappij tot Bevordering der Bouwkunst*, 1907, 129; *Rapporten van de Commissie van Advies voor de Grafelijke Zalen. Groote Zaal en Haagtorentje te 's Gravenhage x*, 25.06.1902: 'When this attached masonry [on the inside of the front facade] was removed, the arches of the windows in the front elevation were revealed and it became apparent that the original shape of the windows was not that of a pointed arch but was similar to those in the two side elevations'.
- 17 Hundertmark and Van der Heiden 2021 (note 2), 27-29.
- 18 During the 1900 restoration it was established that the original spiral staircase had stone treads that were imposed into the brickwork of the tower wall. *Rapporten van de Commissie van Advies voor de Grafelijke Zalen. Groote Zaal en Haagtorentje te 's Gravenhage x*, 25.06.1902: 'At the same time the stair in the northwest tower, which was quite

- dilapidated and had an alignment different from the original, was renewed and restored to its original place, which was evident from remnants still present in the wall.'
- 19 Ising 1879 (note 1), De Groote Zaal, 8: 'De noordertoren, die ook thans een uurwerk draagt, schijnt dit in 1366 reeds gekregen te hebben', aldus de Rekeningen van Noordholland. ['The north tower, which also contains a clockwork, appears to have acquired this in 1366', according to the Rekeningen van Noordholland.]
- 20 Ter Kuile 1978 (note 3), 327 and Mekking 1991 (note 3), 67.
- 21 D.J. de Vries, 'Vergelijkend natuurwetenschappelijk dateringsonderzoek', *Bulletin KNOB* 99 (2000) 3, 74-84.
- 22 E.J. Haslinghuis and H. Janse, *Bouwkundige termen, Verklarend woordenboek van de westerse architectuur- en bouw-historie*, Leiden 1997, 450. The current spires are from 1879; E. Röell, *De ontstaansgeschiedenis van de grafelijke zalen op het Binnenhof*, doctoral thesis University of Utrecht, 1999, 129.
- 23 The two earliest dates for the entablatures in both towers are corroborated by the other *post quem* datings of the wall post timber, which are all from the late thirteenth century: 1276 or later and after 1278 +/- 6 years in the northwest tower and 1288 +/- 6 years (2x) and after 1285 +/- 6 years in the southwest tower; RING, report of dating research in Röell 1999 (note 22), 172-173.
- 24 These dates are 'corroborated' by a *post quem* dating of a third corner brace in the southwest tower: 1746 +/- 6 years; RING, report on dating research in: Röell 1999 (note 22), 172-173.
- 25 De Vries 2000 (note 21), 77.
- 26 Janse 1989 (note 10), 35 and 46-54 and Röell 1999 (note 22), 145-150.
- 27 The height of the entablatures is the same as that of the wall of the top section of the tower articulated with blind niches.
- 28 The masonry in the top of the tower is executed in bricks measuring $28 \times 13/13\frac{1}{2} \times 7\frac{1}{2}$ centimetres, and with a ten course height of 85 centimetres. The brick dimensions and course heights are consistent with those in the foremost basement of the Great Hall.
- 29 Röell 1999 (note 22), 149.
- 30 Röell 1999 (note 22), 156. Continuing advances in understanding have meanwhile made it clear that due caution should be exercised with respect to the dating of the brace timber owing to the irregular growth pattern of the wood.
- 31 De Vries 2000 (note 21), 77.
- 32 C. Bakker e.a., 'Archeologie in Den Haag in 2021', in: *Jaarboek Die Haghe, 2022*, 224. This observation confirms the building history observations in the basement of the Knights' Hall, see: H.F.G. Hundertmark and P.C. van der Heiden, *Vervolgonderzoek met waardestelling van een vierstal 'hotspots' binnen het complex Grafelijke Zalen*, Report, Oss/The Hague 2019.

DRS. P.C. VAN DER HEIDEN runs her own agency for building history research (BVBO) in The Hague, and undertakes research in the field of construction and architectural history. She also works as an architectural historian in the City of Amsterdam's department of Monumenten en Archeologie.

H. HUNDERTMARK has been a freelance building archaeologist since 1993 and since 2010 has combined those activities with a part-time job as building archaeologist in the Heritage department of the City of Utrecht. In 2012 the Union of Building Archaeologists accredited him the title 'building archaeologist BNB'.

Both authors contributed equally to this article.

'A SUBSTANTIAL WALL SET BETWEEN TWO SLENDER TOWERS' THE ORIGINAL DESIGN OF THE WEST ELEVATION OF THE RIDDERZAAL

PAULA VAN DER HEIDEN AND HEIN HUNDERTMARK

The front elevation of the Ridderzaal (Knights' Hall) in the Binnenhof in The Hague is one of the best-known frontages in the country. The impressive facade was built in around 1295 by Count Floris v as a *Schauseite* or 'best side' of the stately hall. The front elevation and its two towers were recently the subject of building history research.

It is known that the elevation underwent major restoration between 1861 and 1900, but the key question explored in this article is to what extent the late thirteenth-century elevation was modified. Our research focused on modifications to the gable and the authenticity of the two flanking towers. A subsequent building history study has revealed that the gable wall line was altered several times during this period, ultimately resulting in a more massive gable.

As to the towers, it was previously unclear whether they were part of the original design. Because of their asymmetrical position and different dimensions it was surmised that they had not been built at the same time as the hall and may even have been heightened at a later date. A dendrochronological analysis conducted in 1998 dated the entablatures supporting the steeple to around 1295. However, because seventeenth-century wood was also encountered, it was speculated that the thirteenth-century timber had been recycled. A new analysis of the assembly marks on the entablatures supports the notion that they do indeed date from the building period, which in turn suggests that the current height of the towers is the original height: in other words, both towers were part of the thirteenth-century design.