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# TONBRIDGE CASTLE: FURTHER OBSERVATIONS ON AN ANCIENT CASTLE

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## INTRODUCTION

Tonbridge Castle stands on a spur of hard Grinstead Clay<sup>1</sup> on the northern side of the Medway valley. The first castle was a motte and bailey thrown up shortly after the Norman Conquest at one of the few ancient crossing places of the valley, and where a tributary stream could be diverted to feed a moat.

In its final splendour, the palisades of the bailey had been replaced by stone curtain walls and corner towers; the wooden structure on the motte by a three storey multi-angular shell-keep, and on the north side, in place of the simple wooden entrance, an imposing gatehouse, protected by a drawbridge and barbican. In 1521, the castle was described by Henry VIII's surveyors 'as strong a fortress as few be in England'.<sup>2</sup>

The stone is a golden Tunbridge Wells sandstone found in a small bluff on the south side of the Medway about half a mile upstream of the castle, but the major source was Quarry Hill, also south of the town. The masonry is high quality; the quadrangular stones (ashlars) of the walls are 10 or more in. between horizontal joints and some are over 18 in. long. The walls, which are up to 9 ft. thick, were built as two skins of ashlar; the space between being filled with broken stone, chippings, and rubbish, into which was thrown a mortar matrix of sand, lime and water. This filling, known as 'corework' was of a variable quality.

The castle was furnished with well-contrived garderobes or latrines, which discharged outside the walls. The main entrance and all doorways, save one, were protected by a portcullis. The exception was a small 'postern' or back door in the south wall well above water level.

<sup>1</sup> Bernard C. Worssam of the Geological Survey. Private communication.

<sup>2</sup> Wadmore, *Arch. Cant.*, xvi (1886) 48. Quoting Letters and papers of Hen. VIII.

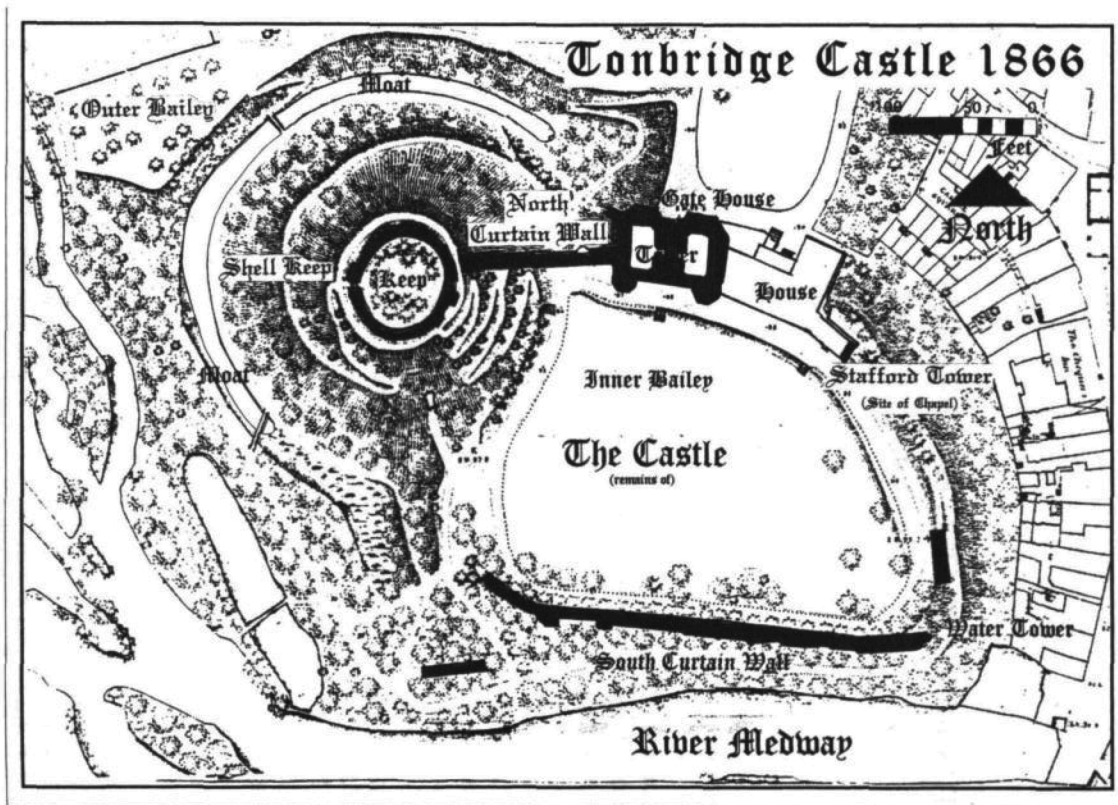


Fig. 1. Tonbridge Castle, 1866.

The most detailed description of the complete castle is found in Edward King's paper a 'Sequel to the Observations on Ancient Castles' given to the Society of Antiquaries of London on the 17th January, 1782.<sup>3</sup> More recent descriptions have been given by Wadmore;<sup>4</sup> Simpson;<sup>5</sup> and Renn<sup>6</sup> whose study of the gatehouse is invaluable. These present observations are based on King's.

In 1898, the Tonbridge Urban District Council bought the castle from the Trustees of the Will of Emma, Lady Stafford, the wife of a grandson of Frances Sulyard to whom it had been devised by William Bailey in 1831. In 1898, to the west of the castle the Hilden Brook meandered towards the Medway through a maze of channels; large trees overhanging the river hid the south wall; ivy covered the other walls, and in most years for days on end the moat, the Hilden Brook, and the north bank of the river were under flood water. At the Great Bridge a slope gave access to the 'Horse wash' – the remains of the link between the eastern part of the castle moat and the river.

From 1900 until 1974, when the Tonbridge Urban District Council ceased to be, the castle was the seat of local government, and the present writer was the last of the surveyors who not only cared for and was responsible for the upkeep of the fabric, but was fortunate enough to have his office within the walls.

In 1954, a systematic repair of dangerous stonework was begun. The work lasted twelve years and the knowledge gained engendered the interest which led to these notes being compiled. The answers to some questions are suggested, but this building still retains many mysteries.

Good progress photographs and full notes of the 1954–66 work are lodged with the Tonbridge Historical Society at the Tonbridge Reference Library.<sup>7</sup> The record proved invaluable to the architects responsible for repair work carried out in the 1990s unfortunately made necessary by years of neglect in the previous decade.<sup>8</sup>

#### THE AREAS OF TONBRIDGE AND BRIONNE

The motte at Tonbridge was probably raised by Richard FitzGilbert very soon after the Normans' conquest of England. Richard's father, Gilbert

<sup>3</sup> Edward King, 'Sequel to the Observations on Ancient Castles' given to the Society of Antiquaries of London, 17th June, 1782. Reported in *Archaeologia*, vi (1782), 273–90.

<sup>4</sup> Wadmore, *op. cit.*, 12–57.

<sup>5</sup> *J.B.A.A.*, v (1940).

<sup>6</sup> Derek Renn, 'Tonbridge and other gatehouses', in (Ed.) A. Detsicas, *Collectanea Historica: Essays in memory of Stuart Rigold K.A.S.* (1981).

<sup>7</sup> *Tonbridge Hist. Soc.* Tonbridge Library. Z 21/1 Miscellaneous Historical Notes.

<sup>8</sup> *Kent Arch. Soc.*, Newsletter no. 14, Autumn 1989.



(the grandson of Richard I, Duke of Normandy) was murdered in 1040 when his son Richard was only three or four years old. Brionne, in Normandy, which Richard felt should have become his chief possession, was given to another branch of the family and Richard's fierce resentment over his loss led to cruel revenge and bloodshed. There are several versions of the story that Tonbridge was given to Richard in recompense for the lost Brionne, and, that to ensure he received no less than his due, he measured Brionne with a cord or rope which he brought to England to measure Tonbridge. Although quoted as implying special determination and character, this method of accurately transferring dimensions by means of a knotted cord had been practised for thousands of years.<sup>9</sup>

The measurements have frequently been described as those of the *Leuga* or *Lowy* of each castle, meaning the lands surrounding and held for the support of each. There are objections to this explanation. The references in Domesday to what Richard of Tonbridge holds in his *Lowy*<sup>10</sup> are to small units which existed before the Conquest and do not form a compact block around the castle.<sup>11</sup> To take linear measurements of the boundaries of those units would have been an impracticable task, and would have served little useful purpose; rods as units of measurement were well known in Anglo-Saxon times, and acres could be visualised by those who worked them, but the modern concept of area did not arise until the sixteenth century.<sup>12</sup>

The situation of the two castles is similar; both are surrounded by rich pleasant flood-plain meadows: Tonbridge on the bank of the Medway; Brionne on the Risle, a tributary of the Seine. Before 1047, the castle at Brionne was on the island in the river and was notable among the wooden fortresses of the time for having a stone hall and for holding out for many months in 1048 when besieged by Duke William.

At Tonbridge, a line from the Great Bridge, around the south wall and the northern rim of the moat back to the bridge encloses an area of 5.48 acres. The island at Brionne is long and narrow and contains 5.44 acres. This co-relation certainly points to the areas being similar, but such precise accuracy must be a coincidence. Brionne is not easy to measure and although an island, has probably undergone many changes in the last nine hundred years. At Tonbridge castle, the tributary stream and the height of the knob of clay influenced the size of the motte, and to the east the bailey conveniently fitted between the motte and the crossing

<sup>9</sup> R.D. Conner, *The Weights and Measures of England*. H.M.S.O. 1987.

<sup>10</sup> Jennifer C. Ward, 'The Lowy of Tonbridge', *Arch. Cant.*, xcvi (1980), 119-31.

<sup>11</sup> W.V. Dumbreck, 'The Lowy of Tonbridge', *Arch. Cant.*, lxxii (1958), 142-9.

<sup>12</sup> R.D. Connor, *op. cit.*

place. It is probable that the line of palisades, replaced piecemeal by stone, has not changed a great deal, but with the building of the shell-keep and other improvements the limits measured with the cord from Brionne may have altered. With good sandstone easily available at Barden, only half a mile upstream, Richard may have been minded to be the lord of a hall of stone as his grandfather had been in Brionne. In any event, the story of the line, which has caught the imagination of generations and fits so well with the characteristics of Richard's family, must refer to the castle strongholds and not to the areas needed for their support.

#### THE WATER DEFENCES

The castle is bounded on the west by the Hilden Brook and on the south by the flood plain of the Medway. From the Great Bridge to beyond Mill Lane, despite erosion and buildings, the bank at the northern edge of the flood plain can be detected. Describing the water defences, Edward King says<sup>13</sup>

'... there were great outworks, with several deep ditches, extending to a considerable distance into the country, and having fine contrivances of sluices, and locks, for filling them with water; the latter being brought not only to surround the whole castle, but to wash the very feet of the great tower of Entrance.'

In the second edition of *The History and Topographical Survey of the County of Kent* (1797-1801) Hasted, quoting as his authority, King's paper of 1782, wrote

'These moats were capable of being filled or emptied at pleasure, by a large wear and bank which extended the space of two miles, towards Lyghe'

The words 'towards Lyghe' are not in the published version of King's paper and may have been added by Hasted to indicate 'to the west'. King, describing the river, continues

'... it did not run originally in the present channel, this latter being first made for it only at the time the mount was raised, which was in great part composed, most evidently, of strata of earth dug out from thence: as the course of the river was then turned, in order to render it a better means of defence

<sup>13</sup> Edward King, *op. cit.*

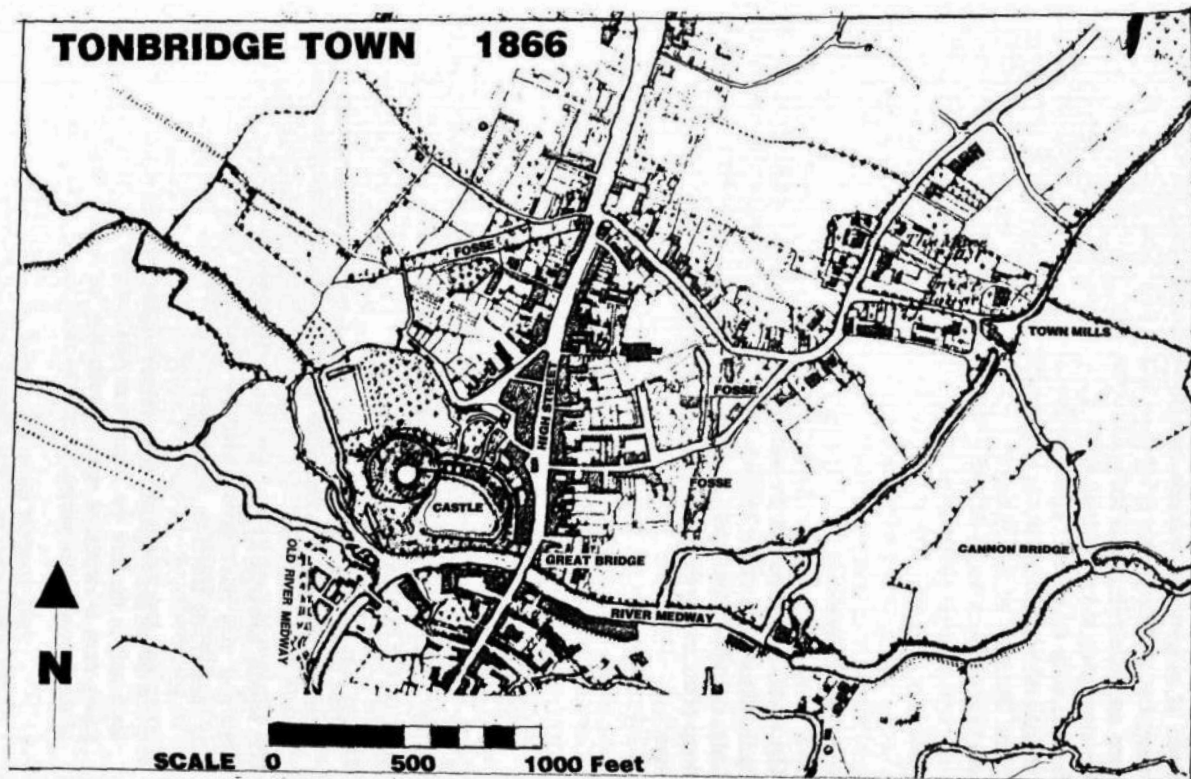


Fig. 2. Tonbridge Town, 1866.

to the castle. The great ditches surrounding the whole fortress . . . were filled with water from the river . . .'

At the southeast corner of the bailey by the Great Bridge he describes a wall across the moat to retain the water

'and over this wall it found a passage, that formed a continual fall: whilst the whole work was well protected, by its nearness to the adjacent tower.'

North-west of the motte across the Hilden Brook

'... was another large and strong wear; and from some foundations discovered [west of the stream] it seems as if there was also a tower or work, constructed there, in like manner, for its protection, that it might be as well secured as the former.

At a little distance from this wear, to the west of the castle, began a bank, that was carried two miles up the country, through hills and valleys, to enable those who had the care of the castle to fill the mote, at least 14 feet above the level of the valley in its neighbourhood; which circumstance (by the by) joined with those others which I have already mentioned, convinces me still more fully, that the ground, within the area of the castle could never be much lower than it is at the present since when the water was raised on any approach of an enemy, it must have flooded the bass-court, by means of the arch in the wall between the tower of entrance and the keep.'

On the margin of the Medway flood plain north-west of Tonbridge, some five hundred yards south of the road to London, the Hawden Stream and the Hilden Brook join, and flow at the base of the castle spur. To have attempted to embank a stream on the edge of the flood plain as far west as Leigh would have been an impossible task; on the other hand, to embank the Hilden Brook in its shallow northern valley to prevent its being lost in meanders across the flood plain was comparatively easy.

Confirming King's description, the first draft O.S. sheet of Kent (1799) shows the Hilden Brook artificially straightened from well north of the road to London as far as the Hawden Stream. That stretch is still contained within banks and, although near the castle the tangled channels have been altered many times, until the indoor swimming pool was built in 1995, the Hilden Brook was still prevented from running into the old Medway by a bank on its west and south sides.<sup>14</sup>

In periods of drought there is little or no flow in the Medway, but

<sup>14</sup> The waterway opposite the west end of the south curtain wall of the castle was not cut until 1830.

from earliest times the flooding of the road south of the castle has been notorious. Until well into the last century, after only moderate rain, the flood waters were so deep for so long, that stout wooden walkways called 'clappers' were maintained above water level for the use of pedestrians and horsemen. Nevertheless, King's water

'at least 14 feet above the level of the valley in its neighbourhood',

which he associates with the ground in the bailey, is out of the question. However, the Hilden Brook does fall about 14 ft. in the two miles above the castle, and, but for the confining banks, the waters would disperse as in former times to the old river and there would be no water to cleanse and fill the castle moat.

In 1626, a dispute having arisen about the repair of the bridges over four of the streams, an Order was made at the Assizes that the bridges be viewed and reported on.<sup>15</sup> Extracts from the report and a subsequent inquiry confirm the layout of the waterways at that time.

'20 Mar 1626. The Fifth and last Bridge being called the great Bridge lieth under the Castle there and consists of three arches . . .'

'Further We conceive that the main River goeth alone by itself thro' the new bridge consisting of two arches.'

[That is the present 'Little Bridge']

'One other stream we conceive to be called the Mill Streame, on the south side thereof there is one way or bank cast up, and the said stream runneth under the side of the Castle & so thro' the great Bridge.

And the Said River called the Mill Streame, upon any decay of the Bank thereof, the Miller of the said Mill hath used from time to time to repair at his own charge, And that the same hath been used time out of mind as Will: Peirce Miller of the Lords Mill hath reported.

We also find that out of the main River there issues by small water ways certain streames in number three which run thro' the three small Bridges before mentioned And we do find on both sides of the Town divers small streames running to & fro

Will. Twisden Jo. Rivers Edwd. Duke Wm. Campion

Tho. Seliard Henry Dixon John Porter'

'Observations on the rivers and Streams. Certain observations made upon the view taken the 20th day of March 1626 of the River & streames at Ton-bridge.

<sup>15</sup> Centre for Kentish Studies, County Hall, Maidstone. U442 Q7. 41.

Imprimis there are high grounds lying on the north and on the South between which a plain is situated almost level.

Item on the south side of the said Plain lyeth the Great River or Main Streame called the Medway and that the same is the main River appeareth by the situation in the lowest ground whither all water naturally and originally fall in

That they also fall southward towards the said River is proved by these reasons following

1. First all the waters issueing out of the same River northwards run with very small or no streames and are rather dead waters than other in their ordinary course
2. Secondly the streame called the Mill Streame is kept by a Bank on the Southside thereof from falling southwards, and to avoid the surcharg of water in the mill Streame there is laid one Pinnocke<sup>16</sup> through the south bank which issueth the water southward.
3. Lastly the waters of Hilden and Hinds Brooke falling on the northermost part of the Plain do run southwardly into the Mill Stream and by the Bank on the South side thereof are there kept and holden.

Item all Streames fall to the Town whether running on the North Side or on the South Side of the Plain.

Item there was five Bridges the Southermost thro' which the Meadway runneth hath 2 arches. Three small Bridges lying northwesterly from the said Bridges consist of one arch apeice and the waters running thro' them are for the most part the dead waters above mentioned issueing from the Meadway and these Streames it is conceived are artificial streams, both because they run from the Meadway northward and because they run with a small or no streame at all, but rather stand as dead waters all made for the benefit of the lands which otherwise would be surrounded long and to avoid the drowning when the Rivers are full but not overflowing and also for the benefit of the Town as were also the said Bridges.

The first als fifth Bridge consisteth of three arches and thro' it runs these waters which fall by the River called the Mill Stream, which streame is conceived to be artificial for the benefit of the Castle and the Lords Mill.<sup>17</sup> That it is artificial is proved by the Bank cast up to keep the same in the current, and for the benefit of the Castle because it runneth under it, and for the benefit of the said Mill because it runneth to the said Mill and because the Miller of the said Mill from time to time before the memory of man hath used to repair the said Banke and keep the stream in his course for his benefit as it was witnessed by Wm. Peirce then Miller thereof and before by report of one Syddens.

Item the surrounding of the Lands by the Banks of the South and north of

<sup>16</sup> Pinnocke. A small culvert. A sandstone pinnocke about 15 in. wide and 18 in. high with a turned arch carried the mill stream under Mill Lane; one of similar handiwork passes under Postern Lane near Postern Forge.

<sup>17</sup> As note 15. U442 Q7 81-90.

the said waters almost flat Plain and continueth by the foulness of the Rivers and by the Mill, and Wares placed above the Town westwards.

Item the continuance of these waters surrounding the Lands and washing of the bridges is a great cause of the decay of the said Bridges, another cause is the carriage of Iron and heavy loadings over these Bridges which shake the Bridges continually and now will Suddenly ruin them if there be no course taken to stop their passage that way'.

The Great Bridge is recorded by Wadmore<sup>18</sup> as being rebuilt by Henry VIII in 1525 and was 104 ft. long. The 1626 report describes three spans, and Mylne's bridge of 1775/6 using the old foundations was also of three spans of 22 ft. and two piers of 4 ft. giving a waterway of 74 ft. A sketch of the three arches with the vertical curve of the bridge extended, suggests that at each end of the bridge a 4 ft. pier and an arch of 11 ft. would account for the 30 ft. lost since the 1525 rebuilding. The cause was almost certainly the raising of the approach roads above flood level at each end of the bridge – a process which continued thereafter into recent times.

John King a local engineer, surveyor, architect, contractor, and a Town Warden, who was responsible for a great deal of work to bridges and other buildings in the town at the time, noted<sup>19</sup>

'1776 A new three arch bridge built with stone parapets from the old stone five arched bridge . . .'

The conclusions are that:

1. The waters from a valley on the north side of the Medway flood plain were retained within banks from about two miles above the castle and, before reaching the river, were intercepted to fill the castle moat and serve the Lord's Mill.
2. The waters were directed to, and retained in, the northern arc of the moat by weirs at the south-west and south-east of the castle.
3. On the south side of the castle the water, penned for the use of the mill and for the protection of the foot of the wall, was at least a hundred ft. wide at the bridge.
4. Edward King's control weirs at the north-west corner of the motte were an essential part of the design.

King's drawings are not precise, but what now remains of the west end of the south curtain wall is founded on a high dry area several feet

<sup>18</sup> Wadmore, *op. cit.*

<sup>19</sup> John King's notebook. *Tonbridge Hist. Soc.*, Tonbridge Library, T 6.028.



above the present water level. The base of the wall cannot be commanded from any part of the castle now remaining and it is likely that the dry area outside the south-west corner of the bailey was formerly occupied by King's

'great round tower (whereof the foundations only now remain underground)'

Hasted<sup>20</sup> describes that tower, and a matching one at the east end of the south wall, as being 70 ft. in diameter. Such towers would not only have commanded the base of the south wall but also controlled and defended the broad waterway, the weirs, and the bridge.

#### THE BAILEY

Edward King had made a passing reference to the castle in 1776<sup>21</sup> and in his paper of January 1782<sup>22</sup> said he remembered the moat in front of the gatehouse before it was filled in 'within these eight years'. He believed that by means of the weirs, the water in the moat could be raised 14 ft. Based on this belief he argued that the ground level in the bailey could never have been lower than when he saw it, for such a level would have flooded the bailey. Here he had fallen into error.

The arc of moat within the bailey must have been a great inconvenience. Therefore, it was filled with soil, leaving an access to the waters of the moat under each curtain wall. The soil was most likely scarfed from the side of the motte and there would not have been enough to level the bailey, in fact to do so would cover any buildings inside the south wall.

The gatehouse, shell-keep and the garderobes in the south curtain walls are all of the same large sandstone ashlar and workmanship, and in the Bucks' engraving of 1735 showing the remains of the high watergate tower still standing, they showed the bailey sloping down from the fixed level of the gatehouse passage to the foot of the curtain wall. The levels of the postern and garderobe floors at the east end of the wall, now well below the present lawn and path, confirm the accuracy of

<sup>20</sup> E. Hasted, *The History and Topographical Survey of the County of Kent*, Second Edition (1797-1801).

<sup>21</sup> Edward King, Paper to Society of Antiquaries of London. Reported in *Archaeologia*, iv (1776), 411.

<sup>22</sup> As note 3.



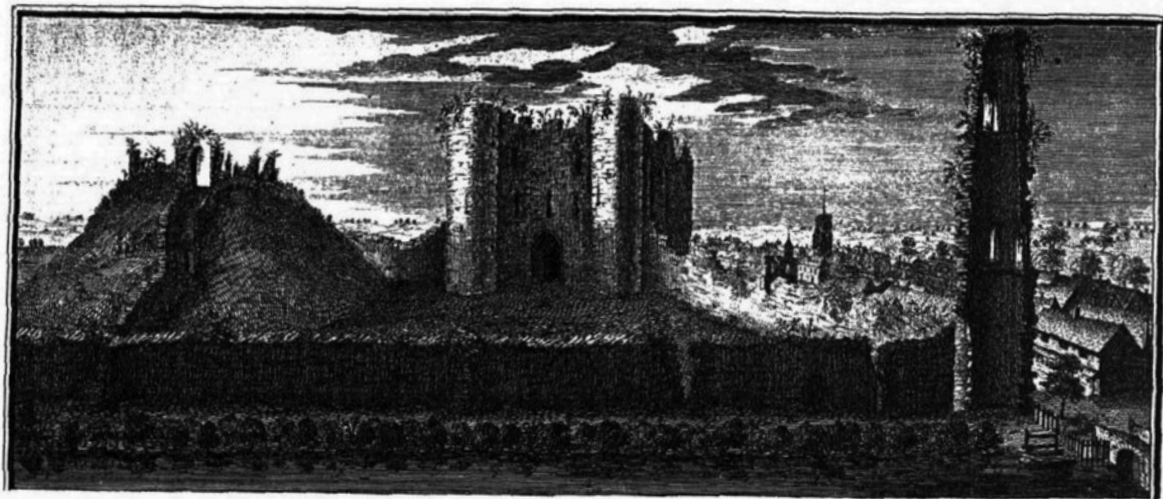


Fig. 3. "The south view of Tunbridge Castle in the County of Kent", the Bucks' engraving of 1735.

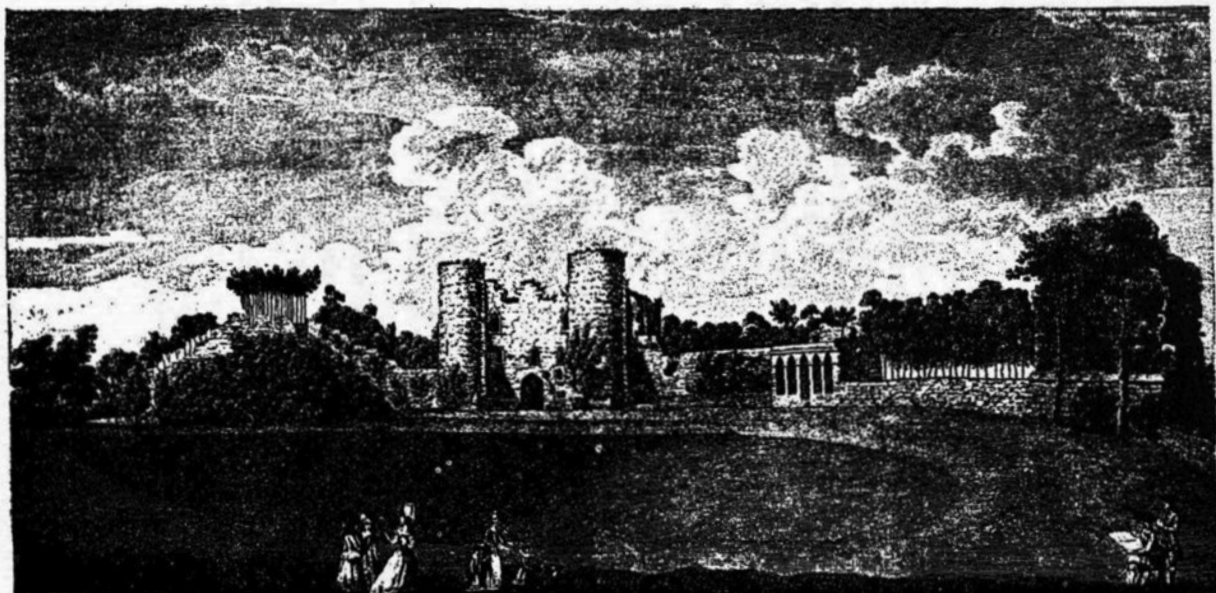


Fig. 4. 'Tonbridge Castle in the County of Kent', by R. Godfrey c. 1760. There are prints of this engraving attributing the ownership of the castle to other persons. The arms on this version are those of the Woodgates of Summerhill, but that family did not own the castle until some thirty years after 1760. Another version bears the arms of the Hooker family and describes Thomas Hooker as the owner. He did not inherit the castle until his father, John Hooker, died in 1765. In no version has any detail changed.

Bucks' engraving and are precisely as in the survey of 1521 quoted by Wadmore<sup>23</sup> where it will be recalled that the south wall is described as

... intended to have been made for lodgings ... builded with ashlar and no more done thereunto.'

From early in the thirteenth century until 1521 royal and noble families such as the Staffords held and lived in the castle. As important figures in military, diplomatic and ambassadorial activity they would have had to lodge and entertain persons of dignity and importance from home and abroad in a style which would have befitted their status. Life in the shell-keep and the south-east and south-west towers where the apartments were reached by steep spiral staircases would no doubt engender a feeling of security and safety in an age of medieval warfare, but would hardly be suitable for a later age. The possibility of secure, comfortable, easily accessible and no doubt more commodious accommodation on the inside of the south wall would hardly have been overlooked, and, in keeping with the importance of the family and their guests, it was no doubt provided.

The skilfully designed garderobes of the south wall are built of beautifully worked ashlar appropriate to lodgings of high standards, and the remains of late medieval/early Tudor cooking-pots found below the outlet chutes indicate the apartments had been occupied. I suggest that the abandoned work of the 1521 survey did not refer to handsome chambers associated with the garderobes which had been used for over two hundred and fifty years, but to additions begun by the Duke of Buckingham and never finished.

During the Civil War, observation platforms, look-outs, walkways and guns were mounted on the walls and towers<sup>24</sup>; the putlog holes<sup>25</sup> in the south wall may be part of that work.

In the subsequent claim for compensation the dimensions of the draw-bridge, and the internal dimensions of the floors of the water tower are given. No important alterations to the structure are recorded.

It is not difficult to fix a date for the final infilling and levelling of the bailey. A drawing by R. Godfrey dated 1760 shows the stone pavilion, the lawn and surrounding walk as they are today. In 1739, the year in which he bought the castle, John Hooker was a promoter of the success-

<sup>23</sup> Wadmore, *op. cit.*

<sup>24</sup> *Ibid.*

<sup>25</sup> 'Putlog holes'. Horizontal holes at right angles to the face of a wall to receive short horizontal timbers on which scaffold boards rest.

ful Bill to make the Medway navigable and was the first Secretary of the Company. The canalisation from Maidstone to the Great Bridge required stone for locks, wharves, and bridges and the castle had long been a source of stone for buildings in the town.<sup>26</sup> In May 1743, Hooker sold 358 tons for £35 10s. to the navigators to build Eldridge's Lock, (two miles downstream of the castle) and two years later for Tonbridge wharf, east of the Great Bridge.<sup>27</sup> Drawings confirm Edward King's statement that the moat in front of the gatehouse was still open at that time, and, except for the high dry clay area at the west end, the south curtain wall rose straight out of the waters of the Mill Stream.

With the castle isolated by an open moat, the easiest way to carry away stone was to breach the river end of the west curtain wall and make the ramp which still leads to the waterside. Soil from the canalisation was at hand for the ramp and, as a bonus, to fill and level the inconvenient slope of the bailey to make a bowling lawn surrounded by a pleasant walk along the wall top – all as Godfrey drew it.

The walk was a double source of pleasure to Hooker; it overlooked the busy wharf which brought him profit, and it gave a pleasing prospect of the valley and the wooded slopes of Bidborough Ridge – as it does today. I suggest that is what was done, and that near to the ramp and below the lawn lie the remains of King's

'square subterraneous vault still remaining most perfectly entire'

and of the buildings associated with the thirteenth century garderobes and Buckingham's buildings, unfinished in 1521.

The breach in the wall leaves a gap in our knowledge of the layout of the castle. The 1866 O.S. map shows the south curtain wall continuing west beyond the line of the west wall descending the motte. That wall has always been accepted as straight; if it changed direction it is possible that it did so at the arch shown by the Bucks at the foot of the motte. At the west end of the south wall the massive stub of wall remaining, and the northern curve on the spur of dry clay, may all be parts of King's

'great round tower whereof the foundations only now remain underground'

Although the apartments and towers of the south wall can no longer be seen, signs of post thirteenth-century work appear from time to time.

<sup>26</sup> Castle stones are frequently found in Tonbridge buildings. A castle stone 'R A 1732' had been used in Robert Alexanders' brewery opposite the castle and re-employed to repair the south wall before 1946.

<sup>27</sup> The Waste Book of the Company of the Navigation of the Medway 1739–46. Kept by John Hooker, Studies Centre, Rochester-on-Medway S/MN FZ1.

Derek Renn<sup>28</sup> has described two sets of moulded stones he observed in the basement of the castle; the first, when assembled, would have formed carved chimneys, and the second group of about eight, taken from the river by the Great Bridge in 1976, was a set of moulded engaged columns or botels. No stones worked to match either of these patterns is visible in the castle.

Preserved in the core are remnants of buildings now lost to us – stones which were never intended to be seen. Exposed in the south curtain wall are two stones similar to, but more elaborately moulded than those of the large upper windows of the gatehouse. In September 1985, a stone, larger than the waste usually discarded, fell from the core at the south end of the east curtain wall. When freed of moss and earth, although all arrisses had been destroyed, parts of plane and curved surfaces emerged; one having a concave surface worked horizontally and vertically. After making models and extending the planes the stone turned out to be a quarter of the base of a crocketed pinnacle which would have been about 6 ft. high. The stone was pierced with cusped openings and had an egg-shaped domed interior.<sup>29</sup> The reconstruction showed why so elaborately carved a stone had been rejected. Having completed all the work except carving the crocket blocks, the poor mason found he had pierced the stone parallel to the radial joint instead of at right angles to the face, and had thus irreparably overcut his piercing. His work and the stone were wasted, and the only place for it was where it was found six hundred years later. The crocketed pinnacle is of early fourteenth-century style – a later date than any moulded stonework at present visible in the castle. Such stones, intended to be hidden for ever, are pointers to the presence of the buildings now lost to us, and not seen by King, but whose foundations may still lie beneath the bailey lawn.

#### 1900 TO 1951

Within a few years of buying the castle, the Council had cleared the riverside, planted trees on the top of the south curtain wall, built a depot and electricity generating station in the walled garden, canalised the Hilden Brook, built a fire station, mortuary and conveniences on the Castle Street boundary and had dignified that entrance with a brick castellated gateway.<sup>30</sup> The cables from the electricity works were laid in the

<sup>28</sup> Derek Renn. *op. cit.*

<sup>29</sup> See Appendix for the development of the crocketed stone.

<sup>30</sup> The gateway was inconvenient and was demolished by a Council vehicle in an 'accident' in World War II.

strip of land between the Hilden Brook and the moat to cross the river to serve the southern part of the town. Similar cables were laid across the upper field, reputedly a second bailey. There is no record of any traces being found of the outer structures noted by Edward King. Conversations with men, who as boys, in the early years of this century went scrumping in the castle grounds, confirm the entrance to an ice-house of good ashlar in the western face of the motte. The ice-house is mentioned in the Woodgate papers,<sup>31</sup> but no other account has been found. In beautifying the grounds a rustic thatched bandstand was built at the west end of the lawn near the top of the ramp that leads to the riverside.

From 1911 until 1915, under Mr C. R. Peers (later Sir Charles Peers) of the Office of Works, and Harold Sands, a trench was cut across the top of the motte and other exploratory work undertaken.<sup>32</sup> A well, foreseen, but not found by Edward King, was discovered, and the foundations of an inner ring wall. Moulded stones, not described and now lost, were recovered from the well<sup>33</sup> which is lined with small roughly squared stones.

South of the motte, Harold Sands thought that a hole at the back of the bandstand had been caused by movement of the arch stones of the passage 'where the wet ditch passed out under the west wall similar to that still to be seen in the north wall adjoining the gatehouse'.<sup>34</sup> Peers and Sands were convinced that King would not have described the passages within the west curtain wall without good reason, and prepared plans for solving this and other uncertainties. Mr Sands referred to a survey made in the time of Queen Elizabeth which has not been traced. The excavation on the top of the motte left a circular depression some 15 ft. deep (*sic*) which remained fenced off for almost thirty years. The hollow gradually filled with gardeners' debris and in 1938 the fence was removed. It was established that the opening into the mound on the south side was a gardeners' shelter and modern.<sup>35</sup>

Help with the cost of the work was given by the Society of Antiquaries of London, the Wardens of the Town Lands of Tonbridge and, on condition a report was made to the Secretary with proper plans drawings and illus-

<sup>31</sup> *A History of the Woodgates of Stonewall Park and of Summerhill in Kent and their connections*. Printed for private circulation, Wisbech. [1910] On the 4th December, 1800 'The Major' chased a rabbit across the front of the ice-house.

<sup>32</sup> Tonbridge UDC Archives. Reference Section Tonbridge Public Library.

<sup>33</sup> Tonbridge UDC Minutes 21 February, 1912. Reference Section Tonbridge Public Library.

<sup>34</sup> The arch in the north wall is now [1994] hidden by soil eroded from the foundations of the north curtain wall.

<sup>35</sup> Tonbridge UDC Archives. Reference Section Tonbridge Public Library. Letters from Harold Sands. On the motte above the opening, the curved trunk of a sycamore twenty to thirty years old indicates the soil is moving down the slope.

trations, by the Kent Archaeological Society.<sup>36</sup> Cllr. George Stacey, J.P., the Headmaster of the Slade School, a respected and conscientious man, undertook to prepare the report, but it has not been found.

From that time, in the face of protests that the ivy was more pleasing to look at than stark stonework, the Urban District Council was sporadically active in maintaining the castle. Before 1920, the north-west spur of the gatehouse was underpinned, and throughout the nineteen twenties and thirties the vegetation was cleared, joints were repointed and buttresses built to support loose parts of the south curtain wall. In 1933, the guardroom was re-roofed and the old rubbish tip for the house on the south-west side of the motte, known as 'The Dell', was made into a lily pond.

In the 1930s a hole appeared 'behind the bandstand'. The description places it beneath the modern garden terrace close to the hole examined by Sands and fitting well with King's 'square subterranean vault' between the top of the motte and the south-west tower. The hole was filled with cart-loads of earth without being investigated, and between 1935 and 1938 the bandstand was removed. In the same period new steps were made in the west tower of the gatehouse, further repairs were made to the south wall, and the rockery overlooking the Great Bridge was reconstructed.

The floor of the west tower of the gatehouse was excavated to a depth of 8 ft. in 1938. Beneath 12 to 18 in. of made-up ground was virgin soil – internally the foundations of the southern wall were only 2 ft. below the floor level and had no ashlar facing. Before the outbreak of war in 1939, a suggestion that the motte be excavated to form an air raid shelter was rejected. At that time trees rooted in the ashlar were damaging the walls and preservation work which had been started on the south curtain was abandoned as efforts were transferred to repairing the towers with reinforced concrete for use as an observer post and to support an air raid siren. As a node point in the 'Ironside line' – a barrier against invasion by Germany – concrete anti-tank cubes were half buried across the outer bailey; a reinforced concrete hexagonal machine gun emplacement about 20 ft.  $\times$  17½ ft. was built on the footpath to the open air swimming pool at the northwest corner of the castle, and at the Castle Street and Slade entrances to the grounds reinforced concrete anti-tank cubes of about 5 ft. sides were cast. A hundred and seventy-six concrete pyramid anti-tank obstacles were planted on the east bank of the Hilden Brook adjoining the Lily Pond; shallow weapon pits were dug in the top of the south curtain wall, and a brick and reinforced concrete observation

<sup>36</sup> The Kent Archaeological Society has reference to the works and a note that photographs were taken. No records of what was discovered have been found. [*Arch. Cant.*, xxx (1917) xlvi; xxxi (1918), xcvi AGM 17 July, 1914].



post was built on the wall overlooking the river. Two 'anti-tank gun emplacements' (pill-boxes) were built, one at each end of the wall on the sites of the two former great thirteenth-century towers; each was about 20 ft. square and  $7\frac{1}{2}$  ft. high, and contained about 60 cubic yards of concrete; the wall was cut out to receive them and they were founded and integrated into the ashlar and core work. The ends of the curtain wall were badly damaged by the work and the curved western end shown on the 1866 O.S. map disappeared. There is no record of what was destroyed.

The castle was also the centre of Civil Defence. East of the house the steep bank which had formerly supported the curtain wall was cut away and the ground levelled to take a control centre of two standard street air raid shelters, i.e. a flat reinforced concrete roof on brick walls with a light-lock at the entrance. No records have been found of any discoveries made during any of these works.

During the 1939 war little could be done to the castle fabric, and from 1946 the council's efforts were concentrated on solving a serious housing problem and coping with the effects of deferred maintenance to roads, sewers and other structures including the castle where, by 1951, the walls were becoming dangerous.

By then most of the stonework was again hidden beneath a veil of dense vegetation rooted between the ashlar. Hazel, ash, alder, sycamores, brambles, grass and yew flourished, and the roots and stems had lifted and displaced stones from the walls. Stones frequently fell from the gatehouse, the south wall, and the remains of the shell keep. In 1951, the pill-boxes of the 'Ironsides Line' in those parts of the Medway valley owned by the council began to be demolished by pneumatic drills and explosives. The pill-boxes at each end of the south wall were among those destroyed, and in the removal, of these, the latest developments in the defences of this ancient fortress, previously undisturbed areas of core and ashlar work were damaged. Although dangerous, the south wall supported such a variety of colourful plants and flowers that it appeared to be a safe natural rock face. There was no doubt work had to be done to the castle, but money was short, and the plight of many people who were homeless, or in poor or insanitary or overcrowded dwellings meant that helping them with their problems had first call on the council's money and resources.

#### THE PRESERVATION WORK OF 1954-66

##### *Introduction*

In October 1951, (after prompting by the inspectors of the Ancient Monuments Division of the Ministry of Works), the removal of the mantle of ivy and ash saplings from the walls, revealed a sorry state of



affairs. The mortar of the south curtain was soft and friable and many of the upper stones so loose that, to protect the public, parts of the wall were fenced off. Stones had already fallen from the top of the gatehouse and cars were no longer parked in its shadow. Work was urgently needed to stabilise the fabric, but the task was a daunting one as, once started, work could not be abandoned, and it was impossible to assess what would be found.

The council was fortunate in that all the eminent chief inspectors, inspectors and superintendents of the Ancient Monuments Division inspired interest in the work and encouraged the council's endeavours to face the problems. Estimates of how long the work might take, and what it might cost, were little better than guesses, and a consensus about the best method of tackling and funding the task was not reached without much discussion. In the end the councillors made the brave and responsible decision to entrust the work to their surveyor and his direct labour force, and to pay for it by raising a loan. The wildest estimate did not contemplate the extent of the defects that would be found and that twelve years would pass before the file could be closed.

Two local stonemasons, Alf Phillips, a Justice of the Peace of Sevenoaks, who came out of retirement, and Albert Stanbridge of Tonbridge were recruited; both were well experienced in the work, and set high standards which were maintained to the end. After a year or so Alf Phillips gradually withdrew, and Jim Till from Tunbridge Wells joined the team which was sometimes helped by Mr Spickett, a well-known Tonbridge mason, his brother, and his men. All who worked on the castle were captivated by it, and never lost interest in their work and what they learned of the ingenuity and skill of their predecessors. Within a few months of work starting, the ministry inspectors, who kept in close touch with the work, became content to trust the masons to draw attention to significant details, and leave day-to-day decisions to the surveyor. Finding money turned out to be a constant problem and in supporting pleas for help to continue the work, the inspectors consistently paid tribute to the sustained efforts of the council.

To avoid falling stones, work always started at the top of a wall by removing the vegetation; this was done with care to avoid disturbing stones which gave a clue to the line of the original face. An assessment was then made of what should be done to ensure the safety of that section. It was common to find ashlar displaced by roots which had consumed all the mortar in the joints. By repeatedly cutting down vegetation the roots and stubs had grown with renewed and damaging vigour and when they eventually died the cavities left had been further enlarged by the birds.

Where earlier repairs had been made, isolated ashlar were frequently found with their faces well behind the adjacent stones. There were com-

monly two reasons for this. Sandstone should be laid in a wall as it had been laid down in geological times – with the bedding planes horizontal. Where a stone had been replaced with the bedding planes vertical and facing the front of the wall (face-bedded), the thin vertical external skin had been destroyed by the action of rain and frost; each freshly exposed face had been flaked off in turn, and the stone retreated behind its neighbours. If the mortar used in a repair had been harder or denser than the adjoining stone, moisture dried out from the wall through the stone and not equally through the hard mortar; the stone then weathered away and left the mortar joints proud of the surface. In such cases, the stones were replaced and within eighteen months could not be distinguished from the old work. The original lime mortar used matched the porosity of the sandstone, and being slow to harden, allowed the stones of the walls to bed down gradually, gently and solidly.

The mortar found in the core was made of lime, sandy grit, and pieces of sandstone up to  $\frac{3}{4}$  in. in size. To match that mortar as nearly as possible, a mix of three parts of sand, no more than  $\frac{3}{8}$  in. in size, with some  $\frac{3}{4}$  in. crushed sandstone, and one part of hydrolysed hydraulic lime from East Anglia was used. Where voids were found or suspected in otherwise sound work, they were filled with the same mortar mix, with water added to form a grout, which could be poured or forced into place; larger cavities and replacement foundations were filled with a similar mix with  $\frac{3}{4}$  in. ballast and cement added. Core-work on the tops of walls was set in the jointing mix gauged with a little cement, and was laid evenly to the edges to avoid rain-water running down the face in streams. There was a temptation for new masons to add cement to jointing material to make it 'stronger'. This had to be guarded against.

Good castle stone was recovered from the river bed, from 'rockeries' in the grounds, as gifts from townsfolk who had it in their gardens, and by purchase from the demolition of a house known as Culverden 'castle' in Tunbridge Wells.<sup>37</sup>

All the walls were treated in the same way. Fine home made steel picks of different shapes and sizes were used to rake out the debris of roots and soft and decayed mortar and mould from core-work and ashlar. The joints and surfaces were treated with sodium chlorate. In the case of

<sup>37</sup> The details of the 1954–66 work have been recorded for English Heritage on 18 large sheets of a Photogrammetry Survey prepared for Peter Beake, the architect who undertook preservation work in the 1990s. The Tonbridge and Malling Borough Council has a copy of the notes. *Tonbridge Hist. Soc.* Miscellaneous Historical notes Z 21/1 for a description of the 1954–66 works written by one of the masons and supplemented by over 200 photographs of the work.

exposed core-work, loose stones came down with the vegetation, and the face was washed free of dust and loose material which brought down more stones; all were saved to be re-used and reset in mortar behind the back line of the missing ashlar. Where the face of the original ashlar was known with certainty temporary ashlar were laid to that line and a core filled behind; when the mortar was partly set the temporary face was taken down. Ashlar were pinned up or rebbed and jointed and pointed with the lime mix using thin wooden spatulas to force home the mortar. The day after a patch of work was finished it was brushed down with a stiff bristled brush while still 'green'. Where several courses of good ashlar had to be taken down they, and any broken stones in the faces, were taken down, numbered and cleaned and in the dry weather kept in a tub of water until wanted. Broken face stones were replaced by newly worked ones which, if necessary, were cut deep enough to be recessed into the core.

With money a major cause of concern, work had to be limited to securing the stability of the fabric. Time after time, with reluctance and regret the temptation to go a little farther to uncover the answer to a question of design or disclose the quality or extent of hidden work, had to be resisted, and features were covered over leaving the question to be answered by a future generation.

### *The south curtain wall*

On the 6th September, 1954, work started at the west end of the south curtain wall where the concrete pill-box had been demolished. The curtain acts as a retaining wall to the earth-filled bailey, and the face was clothed in colourful flowers and heavier vegetation. Some ashlar had been pushed out and lay below the wall and others projected precariously from decayed core-work. Minimum trial holes were made at the foot of the wall to check the condition of the base.

At the west end, below a jumble of tumbled stones, the wall was founded on the hard dry yellowish-brown Grinstead Clay several feet above the present penned water level. All of the ashlar face and much of the core-work at the base had gone, and the upper core, which overhung the loose debris by some feet, was rotten and fissured. To support the overhanging stones, new core-work was built on a concrete base stepped back to the same slope as the clay. A bank of soil was formed and grassed to hide the concrete. The masons at first made the new 'core' too neat and tidy, and it was taken down and rebuilt three or four times before it could begin to pass for genuine work. In the wall were large roughly-squared stones left protruding by the decay of the core – few had been properly set and levelled. The majority of ashlar were in courses of

between 10 and 12 in. depth and of as great a length as could be got from the stone.

Moving east there were good ashlar at the base and the core was less rotten. Clearly visible in parts of the core were not only the lines of the beds of the missing ashlar but signs of the way the masons' labourers had shot buckets of mortar into the broken stone waste between the two ashlar skins to consolidate the core. From the dense mix close to the mouth of each bucketful the mortar thinned out rapidly and where it failed to fill the gaps, left the stones dry and loose. Ashlar or stubs of core showed where walls or buttresses had projected from the face. Wherever core had to be rebuilt from ground level a shallow concrete base was tucked under the front edge to give a solid start to the work.

Still in place in the core are two moulded stones, similar to but more elaborate than the Gatehouse window mouldings. The batter of the base of the wall is not constant from west to east; the changes may have been on either side of intermediate walls or buttresses now lost, or may be the result of rebuilding. The length of wall with the finest ashlar is punctured not only by the small putlog holes, but pierced by a drain adjoining a stub wall. The inner end of the drain is now beneath the earth with which the bailey was filled nearly three hundred years after the drain was built.

Halfway along the wall the face around the postern doorway had been rebuilt of unjointed stones. On either side of the postern were unequal modern buttresses containing ragstone. The one on the east was smaller, and from it a shallow rough dry stone arch supported the higher levels of the dry stone work. As a start was made on cutting into the vegetation at the top of the wall there was a landslide. The greater part of what should have been the core-work of the upper section of wall cascaded down the face leaving a steep slope of roots, soil and small stones running to within 2 ft. of the back of the wall top. This was probably the infilling to the gap in the wall shown in Bucks' engraving of 1735 and was so dangerous that it was rebuilt as core-work in lengths of no more than 6 or 7 ft. at a time. The modern buttresses were sound and not bonded to the wall. The rough dry arch and the small eastern buttress were left hidden within the newly built core-work.

Within the postern the passage was lined with sound ashlar, but the front, the first stones within the arch, and the door jambs on the inner end, were in a state of collapse. The stones of the side walls which were to be rebbed and pointed were taken down and numbered and reset to the springing level of the vault after the core behind had been made good. A flat vertical dry stone wall supported the soil with which the bailey had been filled. That wall was taken down and rebuilt in the form of an apse, wider than the postern, to support the earth within the bailey, and to show the ashlar of the inner face. The passage arch was rebuilt

to the original shape and, before the wall above was built up, some of the new voussoirs were taken out and the date of the work cut in the stones. The postern doorway is about 2 ft. 6 in. wide and from the uneven floor about 7 ft. to the springing of the vault. At the inner end, to form steps down, were two winders; one was complete with the newel of the spiral staircase from which they came. The temptation to explore had to be resisted.

Near the eastern end of the south wall are the chutes of four garderobes arranged in pairs. The protective hoods of the western pair had broken away from the face of the curtain and the hoods of the eastern pair were in place. The top of the external batter of the hood is at the level of the top of the wooden seat. The wall is 7 ft. 6 in. thick excluding any batter, and is split vertically through the line of weakness created by the garderobe recess and the outlet chute below the seat. A trial hole below the garderobe disclosed sound ashlar for 3 ft. and shards of soot-stained pottery dated to the late Middle Ages or early Tudor period.

The split in the wall through the easternmost garderobe chute had been filled with earth from the bailey held in position by packed dry stones topped by a rough dry stone arch. The stones and soil from the split were removed, exposing the sides of the access to the double garderobe and the base of the wall which separated them. The stones were undamaged sharply cut ashlar; the arrisses were chamfered and each garderobe was set back within an arch which appeared to have been plastered. Within each recess was a step up to where horizontal grooves 2 in. deep provided the support for a 2 in. thick seat; similar vertical slots in front would have housed 2 in. thick kick-boards. The quality of the workmanship, and the absence of rebates on the single opening seen, led to the supposition that each pair was en-suite with an ante-room of a chamber.

The faces of the walls on each side of the split do not line up. On plan the western and eastern sections have opened to the south like a pair of lock gates. The eastern face has remained vertical but has dipped towards the gap. The section on the west side has also dipped to the gap and the base has slid to the south and tilted back at the top. At the threshold of the split garderobe the east side is 3 in. below the west. At the level of the internal step the east of the split is 5 in. below the west; at the back of the seat groove the east is 9 in. below the west and the gap in the seat is  $4\frac{1}{2}$  in. wide.<sup>38</sup>

<sup>38</sup> Fully dimensioned drawings of the split were given to the Area Superintendent of English Heritage at Tunbridge Wells in 1986.

A reason for the failure suggests itself. The wall rose straight out of the waters of the moat at the lowest part of the bailey. The clay beneath the wall would have been softened by the water. In the early 1740s, when the Medway was being made navigable, the top stones of the wall were removed to build locks and bridges, which reduced the load on the foundations; the slope within the bailey was filled with earth. East of the garderobes, resting on, and bonded to the wall, were the weighty remains of the tower which stood high over the bridge. When the bailey was filled, the curtain wall on its softened clay would have been subject to the great horizontal pressure of the moist retained earth. The east end, stabilised by the massive weight of the tower, would have withstood the thrust better than the west, and, at the point where the thick stone wall was reduced from 80 in. to 28 in. by the garderobe recess and the chute, the two sections of wall would have parted; the west dragging the east with it until the wall broke. The base of the west side slid forward on the wet clay and the top moved backwards; at the same time the top tilted towards the gap. The east side, bearing a much greater weight, remained vertical but moved forward and down in one piece towards the south, at the same time also sinking and dipping on the softened clay into the gap.

The defective stonework and core were dealt with in the routine way. The gap in the garderobe was cleared and the earth fill of the bailey was held back by concrete panels strutted against the inner face of the curtain wall. The ashlar were protected from damage by the struts with mortar-filled sandbags. A stone arch was built over the top of the gap and the panels brought up to ground level where a man-hole cover was fitted to give access to the garderobe and internal ashlar. The other pair, being sound, was not examined. It was hoped that further measurements could be made of the details to enable comparisons to be made with other de Clare castles.

As in the case of the west end of this curtain, the demolition of the concrete pill-box had destroyed much stonework. The end of the curtain and core-work were made secure as before. The great quantities of stone in the rockery which hides the remains of the tower at the south-east corner of the castle were not disturbed.

It has been noted that the batters at the foot of the south wall differ from place to place. The outside of the wall is not visible from any part of what remains – an unlikely feature of an otherwise sophisticated design. There may have been at least one intermediate tower along the wall, and the towers at the west and east ends probably projected a considerable distance to give cover to the whole of the wall. The stones from the west tower were most easily accessible for building the locks, bridges and the Tonbridge town wharf between 1742 and 1745.



*The north curtain wall*

The north curtain wall supports the soil with which the part of the moat within the bailey has been filled.<sup>39</sup> In the spring of 1956 movement in the north face of the wall increased and on the 23rd April, in some haste, remedial work was begun. Midway between the gatehouse and the crown of the motte the wall was cracked from top to bottom. At the top, vertical joints were open and stones cracked, while in the bottom seven courses of cracked stones remained in place. The face of the wall east of the crack had tilted forward about 9 in. in 15 ft. and the tilt was increasing daily. Rainwater from the wall top ran into a space between the backs of the ashlar and the core; the void was full of nests, loam, decayed mortar and vegetation. As jackdaws had nested in the north face for generations, the ashlar must have been parted from the core for many years. Bushes, shrubs and small trees were rooted in the joints and some penetrated into the core through the decayed mortar joints. The face on the west side of the break had moved very little.

About 220 large ashlar separated from the core had to be taken down. From five courses at the gatehouse end the number increased to eighteen at the base and then stepped up to the top at the motte end. Access to the top of the wall with materials by way of the footpaths climbing the motte is difficult, and behind the working platform a second set of scaffolding was erected to store the stones. The aluminium alloy scaffolding, which was strong enough to support the small number of stones previously removed at any one time, would not have been strong enough to take the weight of all the ashlar which had to be removed at the same time. Therefore, from then on, steel scaffolding was used.

A drawing was made of the face, and as each stone was taken out it was lettered and numbered. None had been tailed back into the core which was cracked behind the break. After treating the core in the routine way, each stone which was fit for re-use was cleaned and set and bedded and jointed into its original place. To secure the wall, new stones and replacements for the damaged ones were tailed back into the core. The bulge could not be wholly eliminated and the narrow gaps and joints below and adjacent to the crack were cleaned out by hand or flushed with water. Some cavities were large enough to need grouting. By the 21st August, 1956, all the roots had been dealt with, the wall adjoining

<sup>39</sup> The moat was probably filled when the bailey was first enclosed with stone – the present wall may not have been the first. Garderobes discharge to the moat on the outer side. On the bailey side the stones above the moat have been damaged by fire and replaced. There are marks of a lean-to having been built against the wall. There was a well here to the water of the moat and the shed had been used for many years for purposes requiring fire and water – cooking – blacksmiths – armourers – farriers for example.

the crack rebuilt, and the scaffolding removed, and attention was turned to the rest of the wall.

Near to the gatehouse, just below the entry to the wall walk, there is, in the north face, a small square blocked opening; it may have been a drain from a possible pit outside the portcullised door. King's drawings show steps descending from the threshold of the doorway, and it has been suggested there may be a flight of narrow stairs within this north wall to give access to the water of the moat. This part of the wall being sound no search was made. The arch carrying the wall over the moat had been built in five sections, the face arches and a centre rib being pointed, and the vaulting between them being circular of a longer span. It was not explored.

East of the arch the lower joints were open and the courses sagging. When the base was exposed it was found the wall, above the soft swampy ground of the moat, had been founded on a heavy timber sole-plate (from memory more than 1 ft. sq.) which had decayed, leaving the imprint of its grain in the surrounding mortar. A concrete beam was cast in its place and by reducing the thickness of the open joints the lower courses of stones were raised as far as possible and pinned up on the concrete.

### *The east curtain wall*

The isolated block of wall towering over the bridge at the east end of the bailey is the remains of the curtain wall which ran from the top floor of the gatehouse, past the two storey chapel (Stafford Tower) to the 'Water Tower'. The wall had been repaired many times, and the south-eastern corner, damaged by the demolition of the pill-box, had been underpinned by a concrete block cast in corrugated iron.

Work began on the 16th May, 1957. There are imperfect string courses on both faces, and below the outer string the wall descends in a steep batter to the moat; the base of the inner side is below present ground level. The damaging vegetation has already been described. Some ash-lars, estimated to weigh two hundredweight, had been pushed out by roots and tipped forward exerting such a thrust on those below that they were split 3 or 4 in. in from and parallel to their faces. Working from the top, the vegetation and seven courses of loose ash-lars and broken stones from both faces were taken down, numbered and cleaned. As the weather was hot, all were kept in a tub of water until rebuilt.<sup>40</sup>

<sup>40</sup> In 1985, during the neglect of maintenance in the 1980/90s a worked stone fell from the core at the south end of the wall. It proved to be part of a fourteenth-century crocketed pinnacle which the mason had overcut and ruined. See Appendix.



*The upper gatehouse*

The dense vegetation hiding the upper walls of the gatehouse has already been described. The parapets of the wall facing the bailey, and of the turrets have gone; the worked stones in the tops of the wall are probably the cills of the embrasures and slits in that parapet. Remains of steps from the lead-covered flat roof to the tops of the east and west turrets were found on either side of the central chimney shaft; the steps were in fair condition, and needed little work beyond the removal of vegetation, treatment with weed-killer, and rebedding and pointing.

On the eastern side of the gatehouse, the upper stones on the north side of the protective wall from the top floor to the curtain wall had been pushed off their beds by a tree, and the top stone had fallen and been lost. The doorway to the wall had been blocked with ashlar (probably when the house was built in 1792/3) and the portcullis slot over the doorway was still in use as the chimney for a room on the first floor of the house.

On the north side of the gatehouse the majority of the large ashlar of the upper courses were loose, and bedded on mats of roots of heavy vegetation. Many stones were held in place by the ivy rooted in the decayed vegetable matter, guano, and perished mortar. Some stones, lifted from their beds, had been pushed out horizontally and some had fallen from the external north face and north-eastern section. Internally many of the ashlar were bulging and at an unknown date the sockets, which had housed the ends of the heavy timbers of the roof and floors, had been filled with bricks.

The whole of the top floor is occupied by one finely proportioned chamber dominated by a splendid fire-place, hooded and ornamented, and flanked by large two-light south facing windows. Above each window is a moulding terminating in a head of wonderfully detailed carving, and showing, despite the effects of weathering, such character and spirit that it is clear each is a portrait of such great importance that it warrants discussion in a separate note.

The first floor had originally been divided into three rooms by two thick walls rising from the side walls of the entrance arch; the east and west chambers were connected by a passage behind the north wall of the gatehouse which acted as a screen to the main portcullis. In the eastern wall of the east chamber the remains of a fire-place had been filled in with bricks; only pieces of carved foliage remain of the consoles which had once supported the hood. In the cavity behind the bricks was a mass of pigeon droppings, roots, old nesting material and soot. The mortar from between the large weathered fireback stones had decayed. In what has proved to be a futile attempt to prevent any further accumulation of such debris, those stones were pinned up and a sloping slate covering laid over the opening.

In the west wall of the western room, above a matching fire-place, lacking hood or consoles, the triangular gathering to the chimney had been filled with bricks. Above were wedged large unjoined ashlar hiding a flue of 9 in. drain pipes which had taken the smoke from the closed fireplace in the west guardroom. The stones at the back of the original flue were cracked and broken from top to bottom.

Behind that fireplace is the junction of the gatehouse with the north face of the curtain wall. At the junction the apparently stout wall of the tower has within its thickness many cavities; not only the fire-place and flues already noticed; but the garderobes on the ground and first floors with their access passages, vents, and vertical outlet chutes; the chamber below into which they discharge; and above, rising to the roof from the doorway to the wall walk, the slot for the portcullis which guards that door. It is not surprising that the gatehouse, perched above the moat, has parted company with the curtain wall, cracking the flue.

The fracture is clearly seen on the outside in the corner between the curtain wall and gatehouse, but in the basement core-work shows only as a fine line. It is associated with the wide external crack over the high arches of the north face of the gatehouse which, on the inner face, is barely discernible as slightly wider vertical joints in the ashlar. It is highly probable that while being built the west tower slewed to the north-west at the same time settling down towards the moat. The external squinch in the angle above the upper garderobe vent was built at that time to tie the walls together and set the masonry square again before continuing upward.

The north-eastern top of the gatehouse, being the most precarious, was dealt with first. In December 1957, scaffolding was erected within the gatehouse, and externally to bridge the house. That part of the work took exactly twelve months. The interior and exterior of the other faces were dealt with in order, finishing at the west curtain in June 1963.

When the vegetation, which hung from the top of the south and east wall, was removed, some parts of the internal wall looked more like a natural stratified rock face than an ashlar wall. There were numerous substantial trees and shrubs growing from cavities. Stones and bricks from earlier repair work had been displaced, and while some stones were supported by brickwork in good condition, others were only held in place by the vegetation. The cavities were occupied by generations of accumulated nesting material and pigeon droppings. In the south-east corner some ashlar had been replaced by large stones laid as dry-stone walling. Although both interior and exterior ashlar were in good condition, many joints were empty of mortar, and before treating them and filling them using the wooden spatulas, the stones had to be temporarily supported.

The core-work of the upper levels of the gatehouse contained larger

stones than had been found in the south wall but, as there was little mortar and few small stones, there were many voids. In the drums of the towers and turrets the external ashlar which were large on the face did not run into the core as far as was expected but quickly tapered back no more than 10 in. or so. The curved ashlars of the interior faces ran farther into the core and all the vertical joints were radial.

Roots and mould filled the joints for many courses from the top, and in some places between the ashlars and the core-work there were gaps 2 or 3 in. wide and several square feet in extent. Cavities in the north faces were favoured by jackdaws, and the holes and ledges of the south by pigeons. There were iron tie-bars through the upper part of the north face which were left untouched. Above the south wall windows the cavities were of extraordinary size. Above the internal hood moulding it was possible for the mason to insert an arm up to the shoulder without finding any core, and on opening up it was possible for him, in a crouching position, to shuffle into the cavity between the inner and outer skins. Such cavities were packed with broken stone consolidated in mortar and the ashlars rebbed and jointed. Internally, above ground floor level, the ashlars were good and the joints open. Of the two stout internal walls which had formed the chamber over the entrance arch and supported the heavy floor timbers, only the stubs of their core-work remained; the ashlars of the inner face of the portculis screen had been stripped away.

Seven of the top courses in the north-east were taken down and the stones lettered and numbered for rebbeding. Where voids were suspected in apparently sound work, grout was forced into the stonework from above. The rainwater from the top of the walls was directed to the inside of the tower where an old walkway of fine concrete, edged with bricks, had been built in a previous repair.

The remains of the doorway at the top of the eastern spiral staircase were represented by two precarious courses of small voussoirs topped by a course of bricks. A timber centre was made to fit the head of the opening and the bricks were removed and the voussoirs re-jointed. To lend stability three new short courses of stones were laid above the arch and, to make it clear they were not original were deliberately built not to break joint.<sup>41</sup>

Below the matching western arch, the steps through the turret wall, which had given access to the parapetted wall walk, had been cut down by 3 ft. 6 in. to give a level access to the present walk around the top of

<sup>41</sup> We may have been mistaken in working a face on the south side of these stones as they would have been hidden in the arch roof.

the gatehouse. The original level of the edge of the roof is given by remains of a string course under which the lead had been tucked. Measurements showed the original parapet walls of the body of the gatehouse had been at least 8 ft. above the string course, and the parapets of the turrets at least 16 ft. above the string (8 ft. above the top of the arch).

The interior portrait heads which had been hidden and protected by heavy vegetation for generations, were newly protected from the weather and birds by raking out the mortar joints above them and inserting flat sheets of lead. From the pattern of weathering of the stonework it is likely the most damaging factor had been wind and rain<sup>42</sup> deflected through the window openings. Because the hood and ashlar above the west fireplace were missing, the stones were rebbed and jointed and new 'core-work' was built, but with only modest success. Within the flue, 15 courses of broken stones were rebbed and some cracks were stitched with concrete. At roof level a few courses of the flue were rebuilt with new stones which were dated and marked by the masons.<sup>43</sup>

Holes and gaps above the arrow slits in the north face opened into substantial cavities. None was so large as any found near the south windows. They were cleaned out and remade as the others.

On the north face the crack over the main arch had been plugged with small stones. Internally the crack was no more than a line of joints slightly wider than the others. All the ashlar over the arch and on the towers were very large and the top-most were separated from the core. Some seven to nine courses were taken down and relaid. By removing ashlar from the inner and outer faces the crack was traced down into the core-work. The sides of the crack were stitched together with well-rammed concrete. A copper tub was placed on the top of the wall and, from an outlet in the bottom, a pipe was led to access points on top of the wall and between upper ashlar. Water was flushed through the system and was followed by grout forced into the wall by a rammer and plunger until it appeared at holes left in the face for the purpose. The grout in each hole was then cut back from the face and made good with mortar. The stones filling the large

<sup>42</sup> Looking at the portraits again after thirty-five years I am not sure that we did the best thing for them. Fortunately, I took plaster moulds and made casts of them which are now in the castle.

<sup>43</sup> 'T.U.D.C. 1961. A H' the 'A' with the strokes crossed for Albert Stanbridge. The 'H' with the horizontal bar extended to the left with an arrow head for Jim Till.

external crack were replaced with mortar and small stones left well behind the face.

It is easy to be misunderstood; when the scaffolding was taken down the crack was plain to see. There were public complaints that our preservation work had resulted in a new crack in the front of the gatehouse.

### *The lower gatehouse*

The lower stonework on the south side of the gatehouse had been damaged by iron fastenings used to support old roses whose thick roots had loosened the stones of the spurs. Higher up, damage had been caused by the practice of driving stout iron holdfasts into the joints to suspend across the lawn, first, candle lights in meat-paste jars, then electric lights, and later, steel wire catenary cables carrying floodlights. Probably because they were easier of access, the lower joints of the gatehouse had frequently been re-pointed, but some stones were face-bedded and some pointed with too strong a mortar causing the face of the stone to recede from the joint as it weathered. Surprisingly, below ground level, the south-west side of the east tower was supported on dry-stone walling. Most external joints were open, but not to the same extent as the dangerous sections at the top of the walls. In the angle between the gatehouse and the south side of the north curtain where the moat had been filled in, a buttress had been built; as it was in good condition there was no need to examine the foundations. The adjoining south face of the curtain is the part, previously noted, which has been damaged by fire and has been rebuilt with smaller ashlar.

When the first face-bedded stones were removed it was found some ashlar were separated from the core by 2 or 3 in. This proved to be the case at the south-east corner and on the battered faces of the north side from which the drums of the towers rise. The external north-west corner posed its own problems.

The eastern basement is open to the sky and was slippery with pigeons' droppings. Some areas of the lower parts were faced with ashlar and not in so bad a condition as the higher parts where the light had encouraged a great deal of vegetation. Where ashlar were missing, the core-work was wet and coated with a black material of a tarry texture which proved to be the remains of algae which had thrived on the soft mortar and stones. When the dwelling was built on the east side of the gatehouse in 1792, an access had been made through the east basement wall to the kitchens (the Georgian ovens were still intact). In this basement was a well 38 ft. deep which held 30 ft. of water [and now the mason's plumb-bob]. The basements

under each tower had been connected by a brick-lined tunnel driven beneath the entrance passage. Under the western guardroom the wall is founded on hard clay just below the present internal ground level; only a few squared stones were found in the core in a matrix of soft wet mortar.<sup>44</sup> In the centre of the west wall a protruding area was the stub of the cross wall<sup>45</sup> at the side of which the crack between the north curtain and the gatehouse, so easily visible on the outside, showed as a fine line. In the north-west part of the core was a roughly plastered apse-like niche associated with a brick-lined sump draining to the outside through a nineteenth-century light-coloured earthenware pipe. The date of construction is unknown – it may have been a latrine for servants, or a drain from Thomas Hooker's failed attempt to make a cold bath in this basement.<sup>46</sup> The pipe is similar to those which had been inserted as flues in the western chimney. In the north-eastern corner a coal shute had been hacked through the tower wall.

Externally the walls were consolidated in what had become the normal way. Internally, the soft wet core-work of the western basement almost fell down when it was touched and, as on the south wall, was difficult to rebuild convincingly. The stability of the north-west tower and the crack in the angle between the north curtain and the gatehouse had probably been a source of anxiety from the time it was being built. Many attempts had been made to underpin the corner. The batter of the gatehouse pyramids, the talus from the vaulted chamber into which the garderobes discharged, and the stepped buttresses of the north wall all met in this corner where ashlar and core-work had been chopped away and modern superficial buttresses had been built to pin up the faces. Behind the buttresses were dry stone work, decayed core-work, and many cavities. Water from the sump in the basement had discharged through a hole large enough to crawl through, and roof water discharged into the garderobe reception chamber; all found its way into the mass of masonry and core-work. The stonework propping up the modern buttresses at the north-west had no sound foundation. It took 30 hundredweights of cement/sand

<sup>44</sup> In 1994, the tarmacadam path under the front of the gatehouse arch collapsed. The roof water had been carried in a plastic pipe down the east groove of the portcullis slot and into the ground where it had washed away the supporting soil. Immediately below ground level the ashlar of the gatehouse were founded on large rough blocks of sandstone similar to those under the wall of the shell keep. (Footnote 47) There were no ashlar below ground level nor any signs of a drawbridge pit.

<sup>45</sup> As note 3.

<sup>46</sup> *Ibid.*



grout poured behind the buttress and stones to make them secure enough to examine in safety.

The cavity left by the decay of the timber sole-plate beneath the north curtain has already been described. The whole area was confusing. The banks of soil from the filling-in of the moat under the drawbridge masked the north face of the base of the tower, and it was not possible to work out how the problem of the intersection of the planes had been resolved. Beneath the soil the spur of what may have been an original north-west buttress had been hacked off and within rebuilding work at the base was a finely cut undamaged string course covered by another buttress cut carefully to fit over it. An unbroken 'Churchwarden' clay pipe was found in a cavity in this corner; the leaf pattern on the seam of the bowl was one common between 1750 and 1850.

Once the base had been secured, bulging ashlar were taken out cautiously a few at a time and marked, and their neighbours temporarily pinned up. Behind was the usual separation from the core. The cavity was washed out, the work consolidated, in some places with concrete, and the stones rebbed and pointed. The large hole from the basement 'latrine' was filled with stones well bedded, and externally finished with fine ashlar. To avoid confusing future investigators, the date was carved within a sinking made in the face of a new stone. The soil was returned to the same slope as found.

### *The Motte*

All that remains of this three storied multi-angular shell-keep, beyond some badly damaged and poorly repaired core-work, is a short length of the base of a wall of massive ashlar with an angled buttress and the stub of the north curtain wall. The junction with the north curtain had been destroyed before 1866 to make a footpath on the outside of the wall. The junction of the shell and the west curtain has gone, and only a little of the unexplored footings of the latter can be seen in the side of the motte. The ashlar left in the base of the shell have a batter, but the angles and lengths of sound faces are insufficient to reconstruct an accurate plan of the whole. There was nothing to be seen of the inner walls of the shell-keep; beneath the ground there is probably enough evidence to disclose the dimensions of the inner and outer walls. The present path outside the wall is below the level of the bottom ashlar, and two short flights of steps give access to the interior. The flight on the east has been cut through the ashlar adjacent to the north curtain. The western flight has been chopped through what remains of the core. Beneath the south end of the bottom step an upturned sandstone scullery sink protected a perfectly squared and chamfered ashlar which appeared to be in its original position. The sink was replaced and the step remade over it to protect

what might be evidence of the line and angle of the wall.<sup>47</sup> The core has been badly repaired with face-bedded sandstones; dressed and rubble ragstone; tar-impregnated kerbstones; hard cement mortar and wide joints adorned with galletting (small stones – locally known as cherry-cobbling). Much has fallen down in recent years.

Decayed lime mortar of the core-work supported the usual heavy growth of hazel, sycamore and brambles which had lifted and displaced stones. For fear of bringing down whole sections of the wall much of the sound ragstone and kerbstones were not touched, and as before, after all vegetation had been removed, the wall was repaired as core-work.

A little below the top of the motte and stepping down the slope to the south, the short length of the foundations of the western curtain wall runs in a direction well towards the east of the south-west corner of the bailey. Having been protected it was undamaged and required no attention. Of the west wall King said

‘This was, from a great round tower (whereof the foundations only now remain underground) at the west corner of the area of the castle. From this tower it came, as a covered way, upon the top of the wall, about half of the intermediate distance towards the Keep, as far as . . . where was a steep descent, by stairs, to a square subterraneous vault, still remaining most perfectly entire: and from thence was a subterraneous ascent (the arch of entrance to which also still remains); and the whole then went up . . . to the summit of the mount; where it communicated only with the store-room, or lower apartment of the Keep . . .’<sup>48</sup>

### *The cost*

When the alarming state of the walls was disclosed in 1951, it became clear that a great deal of money would have to be found, and a search for funds was begun. It was mooted that a public appeal should be launched and, as the castle was of more than local importance, help was sought from national bodies. The Ministry of Works offered advice but no money, and other appeals met with a similar response – some of the advice was not practical. By the end of January 1952 the Ministry, on

<sup>47</sup> In March 1970, at the top of the motte, west of the west curtain wall, the crust of the tarmacadam path collapsed into a large cavity left by the decay of a tree root. A little below ground level were a few worked broken stones from the face of the wall, and beneath them a shattered stone and some which were broken and sloping forward into the cavity. Below them were rough, unworked, and unsquared, irregular blocks of sandstone which were longer than they were deep and which formed the base on which the wall had been founded.

<sup>48</sup> As note 3.



learning that the council had not the money to carry out the work, was stressing that if not done urgently the final costs would be much greater. The council continued to do superficial work while discussions and calculations of the likely costs and how to meet them went on. There was insufficient evidence to make reliable computations of the cost, but it was clear that once started there would be no stopping. In the meantime the north curtain (gatehouse to motte) deteriorated so much that it, too, had to be fenced off. In March 1953, press accounts of the possible loss of Conway castle through lack of maintenance worried the councillors who shared with the Tonbridge townsfolk a strong emotional attachment to their castle.

The council was in a genuine difficulty. The estimated product of a penny rate was only £650; there were government restrictions on capital expenditure, and the council was already committed to dealing with serious problems involving human suffering and health. The staff bore a tremendous burden. There was a heavy house-building programme including slum clearance; sewers and the sewage disposal works were overloaded resulting in polluting discharges; the highways and traffic problems were a constant worry; and with the rapid increase in population such duties as town planning, building control, refuse collection and disposal presented new problems. The council considered offering the castle to the National Trust but the Trust would only accept it if endowed, or if the council would accept it back on a full repairing lease.

An estimate of the cost of the known minimum work was drawn up by the council's Engineer and Surveyor. He calculated that four pairs of masons, paid at a rate of three shillings and eight pence an hour for a week of forty-four hours (£8 1s 4d. a week) could do what was thought to be needed in a year. The estimate was hedged about with provisos; for example, the cost of the dry stone section of the south wall would have been such a wild guess that it was excluded; the isolated section of the south-east wall was thought to be sound enough to be included as a minor matter with the north wall; and as for the gatehouse, it was thought that only the top two courses of stones would need to be taken down and re-bedded. The total estimate was £8,538 and it was emphasised that, when the walls could be properly examined, the figure would have to be revised.

Despite the strict restrictions on capital expenditure, the Minister of Housing and Local Government, on the advice of the Minister of Works, let it be known that an application for consent for a loan to be repaid over twenty years would be entertained, and on the 23rd July, 1954, the council received consent to raise a loan of £8,538.

With limited funds, and considering that decisions would have to be made daily depending on what was found, it was difficult to draw up a contract which could be firmly controlled and measured. A contract

based on cost of materials and labour, was ruled out as being too open-ended and requiring expensive control. The council, encouraged by the Ministry of Works, made what turned out to be the sensible decision to entrust the preservation of its castle to its own Engineer and Surveyor. At that time the most pessimistic estimate did not imagine the extent of the defects that would be found, and that there would be twelve years of struggles before the structure would be secure. One of the consequences of the strict financial constraint was that nothing was done beyond making the structure secure, and the little extra steps, which would have answered so many questions about the design and layout, could never be taken.

Two masons were recruited and started work on the south wall on the 6th September, 1954. By July 1955, the estimated date for completion was retreating, and a five-year programme was being visualised. This pattern was to be repeated year after year as fresh defects were uncovered. The estimated cost of the south wall was £1,128 and by the end of September 1955 the estimate had been exceeded by over £400, and the final cost, now including the dry-stone section, was estimated to be £2,200. The masons' wages were then five shillings an hour (twenty five new pence) and the labourers' four shillings and sixpence an hour (twenty two and a half new pence). The council agreed that work should continue on the dangerous north curtain but again discussed setting up a public appeal for funds. Expenditure was rising to well over £1,500 a year and the north wall, with two sets of scaffolding, was expected to increase that rate. In the event the north side of that wall took just over a year and cost about £1,800, and the isolated section of the south-eastern curtain, which was more dangerous than had appeared, cost about £840.

By February 1959, the original loan had been exceeded by £1,300, and it was estimated that £5,200 was still needed. The Parks Committee, which was responsible for the castle, decided work should continue, but by July the Finance Committee had had enough, and felt the council had spent as much as could reasonably be expected of it. The ministry was told of this feeling and was asked for a grant to complete the work which in the meantime continued.

In June of 1960, it was calculated that there were still two more years work ahead, and the council sought and obtained loan sanction for a further £5,200 with a firm warning from the ministry that no alterations were to be made to the 'Banqueting Hall' – an expensive project, dear to the hearts of generations of councillors to use the fine top floor as a Council Chamber (the risers of the spiral access stairs are almost 11 in. high). At that time a rough estimate of the annual cost of the 20-year loan was £500 (a tenth of the capital sum) and the estimated product of a penny rate had risen to £1,265.

The leading mason was then paid five shillings and twopence half-

penny an hour (26 new pence); the other mason four shillings and elevenpence half penny an hour (nearly 25 new pence) and the labourer four shillings an hour (20 new pence). Help came from the Ministry of Works in a grant of £400, payable over two years; and the Pilgrim Trust made an outright gift of £500.

By the end of September 1961, when the gatehouse was clad in scaffolding, it was discovered that far more courses had to be removed than had been visualised, and the finishing date retreated again. £13,768 of the £14,638 available had been spent, and the forecast was that another £5,855 would still be needed to finish the work. It was decided to press on, and in the light of this new estimate, a further loan sanction for £5,015 was obtained on the condition that it would be reduced by the amount of any grants which might be received.

The Minister of Works promised, in January 1962, to give another £400 over two years. The news was accompanied by a warm letter of encouragement and appreciation of the sustained efforts of the council in preserving the castle. Thus encouraged, the council asked for an increase in the amount of grant which had been promised 'for the preservation and restoration [*sic*] of the castle'. After considering the new estimate the minister promised to pay an additional grant of £1,500 over the next two financial years, and to pay the first instalment as early as possible in 1964/5.

At that time (the beginning of 1962) the costs were running at almost £2,500 a year and the end was in sight – the scheduled work was due to be finished by the end of January 1964 at £200 under the last estimate. However, by 1963, the oak stairs to the basement (the only route to the dungeon) had become dangerous. It was renewed with a safe, substantial, but unsympathetic concrete flight with a galvanised iron handrail.

On 3rd April, 1964, all the work scheduled in the last revision of 1961 was finished. It had cost £19,593 18s. 2d. The ministry inquired about the programme of work for the financial year 1964/5 and when told all had been done, refused to pay the second instalment of £750. Firm letters were exchanged, and in February 1965 the ministry agreed to pay.

In the meantime the oak-decking over the gatehouse arch was found to be leaking – the scaffolding had punctured the waterproofing. It was intended to take the £560 for repairs from the council's revenue account for 1965/6, but in March the ministry again asked for details of the 1964/5 and 1965/6 programmed work, and the Council took the opportunity to ask for a grant to meet the cost of the repair to the roof. When stripped, the damage was found to be much greater than had been apparent and the final cost of a new roof and hand railings to guard the drop into the roofless basement was £825 towards which the ministry made a further grant of £240 in mid-1966.

The final cost was £20,519 and grants from the Pilgrim Trust and the Ministry had been £3,040. The work had started on the 6th September, 1954, and finished in December 1965. The last payment was made in 1966. The advice and support given by the ministry inspectors and superintendents in bringing this task to a successful conclusion despite all the setbacks and crises cannot be overestimated, and without their encouragement to the masons, the staff, and the council, it is unlikely such an onerous hand-to-mouth task could have been persevered with in such a happy spirit, and brought to such a successful conclusion. What had appeared to be a solidly built fortress had turned out to be a structure on the point of disastrous collapse, with walls moving and splitting, the ashlar separated from the core, and stones perched precariously on decayed mortar. On occasions, ministry inspectors, superintendents, the surveyor, and the masons, all had had their coats off helping, feeling proud to play a part in such an enterprise which left the castle safer and more secure than when it was first built.

There were two regrets. The shortage of money and the need to press on with saving the structure prevented any time being spent on finding the solutions to questions of design and layout, and Albert Stanbridge, the mason who started the work on the 6th September, 1954, had to stop because of lung trouble before Christmas and died on the 24th July, 1964, when his task had been completed.

The most important lesson to be learned from this and earlier repairs is that skilled and knowledgeable professionals must always be employed for day-to-day maintenance if such perfect examples of what our forefathers built are to be preserved in the most economical way for handing on to our descendants.

## SUMMARY OF EXPENDITURE

		£	£
Council Years:	1954/55	834	
	55/56	1,631	2,465
	56/57	1,798	4,263
	57/58	1,442	5,705
	58/59	2,169	7,874
	59/60	2,654	10,528
	60/61	2,305	12,833
	61/62	2,334	15,167
	62/63	2,781	17,948
	63/64	1,646	19,594
	64/65	1,044	20,519
			(The final figure)

## UNSOLVED MYSTERIES

When King first saw the castle much of the shell-keep and water-tower remained and the moat in front of the gatehouse had not been filled in. Some features which he saw and did not describe in detail, have gone and some are now hidden. Even today things which have been seen by people still living are unrecorded and their existence questioned – the ice-house is an example. We know nothing of the stones found in the well in 1911; the record of the inner walls of the shell-keep cannot be found although many people must have known of their number and arrangement; the details of the south curtain wall before it was re-armed with concrete pill-boxes are forgotten. Doubts about the existence of the arch under the north wall have been voiced; the worked stones found near the Great Bridge and sketched in the castle basement by Derek Renn have been lost.

Worked stones enable the heights of the gatehouse and turrets to be calculated, but what of the towers at the end of the south curtain wall? The 1521 survey describes the water tower 'being builded eight square'; the dimensions of timbers in the Civil War claim for compensation fit a square tower; and King has it as one of two great round towers at the ends of the wall. Are the stubs of walls jutting from the south curtain the remains of King's second great round tower and an unrecorded intermediate tower needed to command the foot of the wall? Are the foundations still beneath the grass outside the wall? The line of the west curtain runs well to the east of the lost northward curve of the south wall, but it certainly runs towards the site of the hole which appeared behind the bandstand. Is the accepted plan of the south-west corner completely wrong? Did former reports omit an intermediate tower near the end of the south wall? What are the steps King shows outside the door to the west curtain? Is there a pit outside the door? Is there a flight of steps within the wall? Why is such an elaborate vaulted arch used to carry that wall over the moat? What was the arrangement of the apartments now under the lawn that warranted en-suite garderobes? The remains of what grand structure once embellished with a crocketed pinnacle rests beneath the lawn? What artifacts lie at the bottom of the wells? How were the portcullises lowered and the drawbridge raised? Is the hole in the south side of the motte the remains of an attempt to find King's 'subterraneous ascent' to the keep or the arch of Bucks' engraving? Was the block of masonry shown on the 1866 O.S. south-west of the bailey the remains of one of King's 'wears'? Was the barbican a gatehouse in miniature?

The excavators of 1911 gave us a tantalising glimpse of what can be found with little trouble, and if Sands' proposals were followed, and a non-destructive excavation made with the clearly defined object of

answering these questions, then, with little effort and the temporary loss of some flower beds, we could fill the gaps in our knowledge of the development of medieval military architecture from a simple motte and bailey to its peak as shown in Tonbridge castle.

#### ACKNOWLEDGEMENTS

My thanks are due to the members of the Tonbridge Urban District Council who, at a time when their first concern had to be the health and the housing of their townsfolk, had such an appreciation of their responsibility for the marvellous heritage bequeathed them that they faced their difficulties steadfastly to the lasting benefit of the town and nation. Their dedication led to my being an instrument through which they brought the task to a successful conclusion, and which has given me so much abiding pleasure. I remember with gratitude the masons who worked so conscientiously, and the officers of the Ancient Monuments Division whose help, co-operation, encouragement, and knowledgeable advice played such an important part in our success.

As I delved into the history of the castle I became aware of how little I knew, and overawed by the knowledge of others. In 1970, when the guide books were giving 1220-40 for the date of the gatehouse, I mentioned to Stuart Rigold and Dr R. Allen Brown a 1259 date on the grounds that the portraits of the builders and their wives were still within the walls and that I knew their names. I listened, with increasing awareness of my temerity and ignorance, to the ensuing discussion which ranged over the politics of Henry III and the de Clares; the dates of tournaments; hair-styles and fashion; and the stiffness of carving of foliage. Since then, and in preparing these notes, I have been similarly overawed by the knowledge of Derek Renn whom I must thank for the tremendous help he has given me by providing facts, and by his valuable comments and kindly questioning, which have disclosed my ambiguities and faulty thinking, and which have led me gently towards correcting my errors.

I also owe a debt of gratitude to Dr Detsicas. The rough notes on which this paper is based go back over many years and without his expert guidance and speedy response whenever I encountered difficulties the work would never have reached this stage.

In clarifying statements and correcting errors I am sure to have made new ones for which I alone am responsible. The comments of experts on the points I have touched on will be welcome additions to our knowledge of this splendid example of the development of medieval military architecture, and perhaps encourage further research, which may answer some of the remaining mysteries of design and operation.



## APPENDIX (Plates II-V)

## The stone which the builder rejected

In September 1985, a large stone fell from the core of the south end of the east curtain wall. The visible surface had been worked as two planes, but was too irregular for an ashlar from a wall face. Careful removal of several inches of moss and dirt uncovered a carved block at the end of each surface. The underside was a smooth hollow curve, cracked at right angles to the bedding planes. With the exception of a small area halfway up one edge there were no surfaces which could have been either vertical or horizontal joints. A rough sketch was made based on a few measurements made *in situ*. The stone was about 14 in. from top to bottom and 15 in. across the 3 in. deep hollow of the inner side. The two worn external faces with the carved blocks would have met at an angle of about 135° had the arris remained. The small area of plane worked face on the edge of the stone was not at right angles to an outside face, but radial to the inside curve. What could be seen roused sufficient excitement to have the stone moved to the castle basement; unfortunately, in the move it split in two.

Without doubt the stone was a quarter of an octagon with a bowl in the centre – this suggested a font – a notion encouraged by more measurements of the inner bowl. Small grooves cut to drain the curves in the blocks indicated outdoor use, and curved piercing at the corners, taken to be ornamental overflows, fitted the idea of a fountain. In the absence of faces or beds a great deal of time was spent trying to make the planes and curves fit this hypothesis.

No doubt the stone had been rejected because something was wrong, but the unknown mistake did not help in making a reconstruction. There were other problems; a mason using compasses could not have created the peculiar angles between the faces and the outer line of the blocks, and whichever face was assumed to be vertical, the piercings at the ends could not be made to match a similar neighbour.

The breakthrough came with the decision to follow the steps taken by the mason. Starting with a squared stone, a similar block was made to scale, and all fell into place. When the block was rotated until both outer faces of the carved blocks were vertical, there was no doubt. When measured on the new vertical faces, the angle between the external faces and the outer line of the blocks became 60°. The faces from which they rose, tapered backwards at the rate of one horizontal in four vertical. The construction lines for the outer edges of the blocks and the external angle between the large faces met at the level from which the outside lower arcs for the bottom piercing had been struck. It was clear the 'bowl' was a dome and the raised blocks had been left to be carved into crockets.

The stone had been 18 in. high giving a good bed for the crocket of the stone above. The internal bowl was the lower part of a dome, 24 in. diameter at the base, and vertically, curving sweetly into the stone above to complete an egg-shaped crown. With four such stones fitting against each other, the piercings at the ends should have met to form pointed trefoil-cusped, hollow-chamfered openings framed by the crockets.

Two models of the stone when fitted together disclosed the reason for its having been rejected. The crockets, being delicate would not have been carved



until the last in any event, and as soon as a mistake was found the stone would have been discarded. The last work before the crockets were cut was to complete the right hand piercing to meet its counterpart, and complete the trefoil pointed opening. The mason began to work from the outside. Having cut through the stone, the poor man realised that he had cut his opening parallel to the radial joint and not at right angles to the face and the curves would not meet. After all his craftsmanship spent on the faces and curves he had, with the last few strokes of his mallet, overcut his stone beyond redemption. Instead of forming a quarter of the base of a splendid canopy over some early fourteenth-century basin or statue, it went into the wall core to be uncovered six hundred years later.

The reconstruction showed the eight-sided canopy was supported on four columns which fitted into a 36 in. diameter circle. The stones of the base course were 18 in. high, and four similar tapering courses brought the pinnacle to an ornamental finial about 6 ft. above the base. The diameter of the inner dome at the base was 24 in. and the height 20 or 22 in.

The stone is so weighty that it was probably cut near to where it was to be used. The model suggests the whole pinnacle was free-standing as a cover for a statue, well, or basin, and was not intended to be cantilevered from a wall as part of an oriel window or similar feature.

The gatehouse windows have similar pointed trefoil arches, but the elaborate style of this stone is later than any to be seen in the castle. There are records of carpenters and masons working in the castle in the fourteenth century, and from early in that century until the Duke of Buckingham was beheaded in 1520, the castle was in the hands of the Staffords. Members of the family, which could well afford fashionable elaborate ornamentations to their buildings, were buried in Tonbridge Priory and in 1521 the survey of the Duke's lands refers to the chapel in Tonbridge castle as the Stafford Tower.

The answer to the question of what building this rejected stone was intended to embellish may still lie beneath the castle lawn.

PLATE I



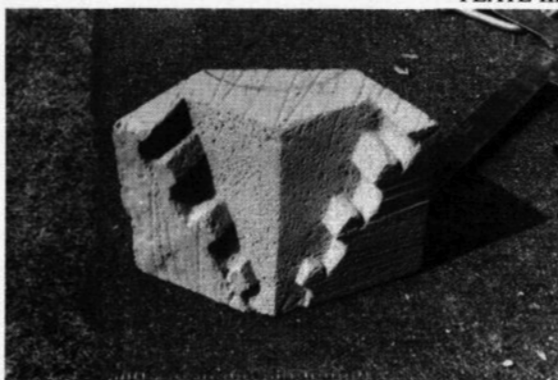
Tonbridge Castle: A cavity typical of those found in the upper gatehouse.

PLATE II



Tonbridge Castle: The rejected stone as found.

PLATE III

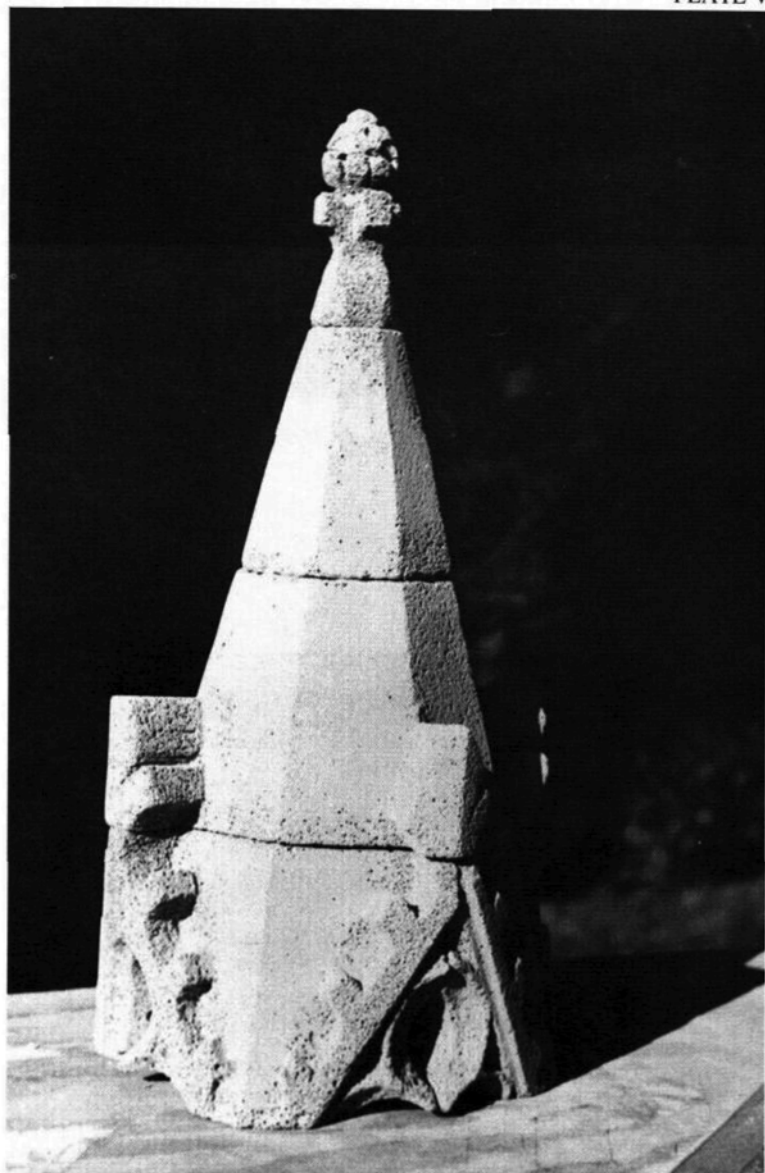


Tonbridge Castle: An early stage in the development of the model.

PLATE IV



Tonbridge Castle: Quadrants when fitted together form the trefoil opening framed by the crockets.



Tonbridge Castle: A reconstruction of the final pinnacle.