



Chester Castle

BY E. W. COX

INTRODUCTION.



IT is not the purpose of the present paper to review the history of Chester Castle, a task that would not fall far short of recording the history of the city itself, but rather to endeavour to recover from such maps, plans, drawings, or descriptions that remain to us, the character of the structure, and to place in chronological order the successive buildings and enlargements that have occupied the site from the earliest period of its existence to the close of the last and the opening of the present century, when the greater part of the ancient buildings were swept away to make room for the modern courts and gaol which now occupy the site. Fortunately, the authorities, in the shape of plans, drawings, and engravings, notwithstanding the extreme crudeness and inaccuracy of many of them, are sufficient when carefully collated and interpreted by the principles of fortification followed in mediæval times, to enable us to delineate and understand with considerable accuracy, almost every detail of the ancient buildings, and to allot them to the dates of their erection with approximate certainty. It may even be claimed for this method, when intelligently followed, that it is capable of presenting to us the actual structure and its dates with

greater correctness than the written records of history, inasmuch as the latter will in many cases tell us by whose hands and at what dates a structure or a portion of it may have been founded; but the successive alterations, repairs, and rebuildings, to which it may have been gradually subjected, and which in many cases greatly changed its character, are not always recorded. Plans, especially measured plans and drawings, will often give the date, value, and extent of such changes at a glance. The sequence of the mediæval styles is now fairly well understood, and gives the usual clue to dates of construction; but the study of these has been mainly devoted to ecclesiastical architecture, and in many castles these elaborated details are so little used that we must look to other indications for the information we seek. Many strong and extensive mediæval castles are without a single moulded or sculptured detail to guide us. It is less commonly known that the schemes of mural defence and fortification in the middle ages followed a regular course of development in their plans, and that these can be discriminated and allotted to their respective periods.

The prevailing idea that an ancient mediæval fortress was a mere chance collection of massive walls, towers, and gates, is certainly a mistaken one. It is true that the adaptation of such features to particular sites, the continued addition of enlarged and improved defences to older works, and finally, the conversion of fortresses in the later mediæval periods into palatial domestic buildings, not specially adapted for defence, has resulted in an intricacy and variety of plan that far exceeds the more conventional forms of ecclesiastical work; yet it will be found almost universally, that the plans have been the result of careful study, that the features of fortresses were, after the middle of the 12th century, calculated with

mathematical exactness, and that from that date the perfection of the flanking defences and the areas covered by them could not be better traced by modern military engineers. In order to understand more clearly the evolution of military defences and the periods to which they are to be attributed as applied to Chester Castle, it will be convenient to define very briefly the development of our English Castles. This is the more necessary because, notwithstanding the application of a thorough system of engineering, their plans were modified in very numerous cases to suit the lines of much earlier fortifications; but the later periods of mediæval history reduced their defensive uses by fitting them for domestic occupation till they became castles only in name. Let the details of such Castles as Flint and Rhuddlan, built almost wholly for military use, be compared with Thornbury in Gloucestershire, whose vast bay windows reaching from ground to parapet leave scarcely any solid wall, and the wideness of the variations may be appreciated.

The primary use of castles was as strengths, or military centres of districts, for the assembly of troops as basis of attack, and tenure of a country, even more than defences against invasion. Under the Feudal System, all were nominally held for the Crown by the tenure of military service, but some of the more important were absolutely so held as Royal Fortresses, Chester being one of these; the others are Windsor, London, Dover, Carlisle, Stirling, Edinburgh, and Dublin. The subsidiary uses of castles were as Capita of Counties or honours, places for collection of fees and rentals, and courts of barons. We shall see in the course of this paper how completely Chester Castle fulfilled nearly all these purposes, and how strongly they influenced its structure.

We may turn now to the evolution of the structure of castles. Their beginnings must as a general rule be attributed to the Saxons. This proposition will doubtless be disputed by those who will point out the enormous extent and vast strength of the Roman works in Britain, yet it must be held as certain that these great erections exercised scarcely any influence upon mediæval military building or plans. The great and disastrous overthrow of ancient civilization, that followed the retreat of the Roman power, completely broke the continuity of the constructive arts; and after the long interval of partial extirpation and repopulation of these Islands, during which the ruder methods of fortifications used by the invading races alone were practised, we again received the influence of late Roman work at second-hand through the Norman conquerors, its direct teaching having been long extinguished. Such exceptions from the general rule in the reuse of Roman city walls we find at Colchester, Porchester. London and Pevensey were rehabilitated in Norman times, while at Pevensey, the Saxon, so far from repairing the walls of the ruined Anderida for use, was content to pile his own mounds and earthworks against the Roman walls.

The rapidity of the Norman Conquest has been erroneously attributed to the supposed want of the possession of castles by the Saxons and Danes. It is true that they had scarcely any structures of masonry; but their fortified places were for the most part skilfully chosen for natural strength, and strongly, if unscientifically defended by entrenchments of earth, stockaded with timber. Abundant records exist of their construction, and their remains are numerous, both in their original state, and incorporated in those of later buildings. Bamborough was built by Ina, King of Northumbria, A.D. 547, and enclosed with a hedge and a wall; Bedford

by Cerdic in 571 ; also Carisbrook and Christchurch in the same year, and Shrewsbury a little later. At these, as well as at Berkeley, Gloucester, Worcester, Dunster, and Kenilworth, important traces are, or were, recently remaining. During the later part of Saxon times fortresses were more numerous, and among the greatest builders was Ethelfleda, daughter of King Alfred. In 907 she refounded Chester, that had lain waste for 150 years, and to her it can scarcely be doubted the erection of the first Castle of Chester is to be attributed. In the same year Brambury, Bridgenorth, and Hertford were built, in 913 Tamworth and Stafford, in 914 Eddisbury and Warwick, 915 Cherbury and Runcorn. It is desirable to give these particulars, because we are enabled to ascertain by these dated examples, of which there are extensive traces remaining, the types of Saxon fortresses, and by their analogy with those at Chester to identify the extent and fashion of its first building.

The Saxon fortress varies little in type ; it consisted, usually, of an oval, or circular earthwork, with a high vallum, and one or more external ditches, on the circumference of which was piled a lofty mound, partly within and partly without the enclosure, and having its own separate trench. Upon this mound was built the timber-house of the chief, and sometimes those of his officers, and the whole of the earthworks were strongly palisaded with trunks of trees, or sometimes with strong wattle or wicker work. In excavating at Penwortham Castle some years ago, remains of such wattled work were found. In large works the vallum and ditch were sometimes made double or triple, and more than one mound was raised ; occasionally, also, the works were built in quadrilateral form, but masonry was rarely used. Wareham is an instance of the latter form, Berkhamstead

of a triple ditch, several mounds, and one of the very exceptional Saxon masonry walls ; but the general type is to be found in the mound and oval or circular earthwork. Greatly as subsequent building has changed the Castle of Chester, it is fairly certain that the inner or upper bailey, represented by the older parts of the existing structure, still stands upon the earthworks thrown up by Ethelfleda, and approximately follows their lines, and that the great mound stood on the south-western side, where it is still traceable, and was more clearly visible before the present buildings were erected, its site having always been distinguished by the flag tower ; this distinction, probably, having continued to mark it as the site of the commander's post since its building by Queen Ethelfleda in the year 907. Changed as is the general aspect of the building, there may still be discerned the line of ditch that belonged to the mound, and this is still more apparent in ancient plans and drawings. It is almost certain that these defences were crowned with the usual stockade, not with masonry, and that such dwellings as the circuit contained were of timber or wattled work.

THE NORMAN CASTLE.

The existence of any Norman remains in the Castle was unknown till the Summer of 1894, when, by the kind permission of the Commanding Officer, I was enabled to make a minute examination of the mass of modern buildings on the west side of the court. It was then discovered that, completely enclosed within modern work so as to be invisible except from the roof and interior, the lower storey of the flag-tower still existed, and its character led to the belief that it was the Norman Keep. It is divided on the basement into two vaulted cellars, this being a Norman characteristic, and it would

be desirable if any of the mean buildings now concealing it were removed to restore it to view. Not only did the Norman Conquerors freely adopt the sites and entrenchments of the Saxon age for their buildings, but they incorporated these defences in their own; also, it is certain that they used, to a large extent, the same methods as their predecessors, using extensively earth-works and timber constructions. It is true that such fortresses have in very few cases come down to us without large additions of masonry made in later ages, and the popular idea of a Norman fortress is that of a huge square Keep with encircling walls. Such buildings undoubtedly were used, but their grandeur and impressiveness lead us to lose sight of the simpler and less enduring modes of fortification that were fully as much used. Timber defences have long since perished, but history suffices to show how large a part they held in Norman engineering. The absence of any relics or indication of Norman work of any kind in Chester Castle itself, or the plans and views that we have of it beyond this Keep, would seem to argue that such additions as were made shortly after the Norman Conquest could only have consisted of similar entrenchments and timber structures and defences as those of Ethelfleda's Castle, and that no other large work in masonry was erected. A short reference to the records followed by the Normans will suffice to strengthen this opinion. The principal and dominating feature of a Norman Castle of masonry was the Keep, which usually contained the hall, the guard-room, the chambers of the baron, and frequently the chapel; also in the vaults were the storehouses, and it usually contained a separate well for water supply. It constituted in itself a complete fortified house, and it was strengthened by being set within an enclosed courtyard,

sometimes with walls, towers, and gates of masonry, but quite as frequently the Keep alone was of stone; hence it oftens forms the only remaining portion of a Norman Castle, and there are very few castles that have received later masonry additions where the original massive building is not still to be wholly or partially traced. The earlier Keeps, such as the Tower of London and Rochester Castle, were mostly square; the later ones round, such as Berkeley, Old Sarum, Tamworth, Pontefract, and Restormel and Totnes. Cæsar's tower has in almost every description of Chester Castle been erroneously called the Keep. It has only three rooms about 16 feet by 19 feet; it is without fireplace for cooking, or any suitable accommodation for residence, and can never have been built or used as a Keep. The prevalent idea that the Normans piled up a mound of earth and built their Keeps upon it is a mistaken one. It would have been impossible to give a secure foundation in this way to the great masses of masonry. In almost every case such Keeps occupy the earlier mounds made by the Saxons, which had become sufficiently consolidated by age to bear such a superstructure. Not only is this proved by existing remains, but history conveys the same lesson. In Domesday Book forty-nine castles are mentioned, and thirty-three were on old sites; eight castles were built by the Conqueror, and five of these were on old sites. Of these, Lincoln, Rockingham, Stafford, and Exeter display the Keep built upon the Saxon mounds.

We have, however, Norman examples of earthwork castles that coincide with Chester in the scantiness of the masonry defences; Wareham is almost wholly an earthwork. At York, William I. built two castles to guard the passage of the river—both still exist, one being the moated mound, on which Clifford's tower was built at a

later date; the other on the opposite side of the river is called the Bailey Hill, a huge mound of earth on which no trace of masonry has been found. The castle on Bailey Hill was burned in 1069, and rebuilt in 1070—the rebuilding occupied eight days—it is clear from this account that the fire destroyed defences of timber, and that no other edifice of stone could possibly have been reconstructed in eight days. With the exception of the gatehouses of the City of York, and some fragments of Roman wall, the city walls are all of much more recent date than the Norman age, and they stand upon a lofty vallum of earth that is of much earlier origin. Our local examples of earthwork castles are to be found at Basingwerk, Mold, Rhuddlan, where the great mound stands without the castle; Penwortham, Tomen-y-Roddy (or the Castle of Yale), Thurstaston, and the latest work in this fashion is the fort at Sycarth, built by Owain Glyndwr, which retained the features of mound trenches and timber palisades.

We have no need to call negative evidence for the free use of timber in mediæval fortification, direct witness is abundant at Chester. In the rolls of the expenses of Edward the First's war in Wales, 1235 to 1249, considerable sums are expended for carpenter's work, building five wooden towers on Montgomery Castle; and there were nine wooden towers on the town walls. Though this castle is a Norman foundation, no existing masonry seems earlier than the opening of the 13th century. In 1227, a wooden tower of Shrewsbury Castle fell down. At Deganwy Castle there are plain indications that the outer defences were earthworks stockaded, and the entrance gate only on the north side was built of stone. The partial use of wood in defensive works was continued down to a comparatively late date, the later

examples being mainly restricted to the internal build-ings of fortresses and to the closing of the gorges of wall bastions and gates, and to galleries and blindages on the summits of walls and towers. Instances of the enclosing of the rear of gateways with timber framing are found at Walmgate Bar, York; the Watergate of the Tower of London; and traces remained in the gateways of Conway and Carnarvon until recent years. With abundant evidence before us that important cities were in the early Norman period frequently fortified without the use of masonry, and that no indication beyond the Keep appears that they made any such of enduring material at Chester, or that any other portion of the castle exhibits in its plan the peculiarities of Norman design, we may assume with some degree of certainty that the character of its works remained with little change till the succeeding style was introduced.

THE MEDLÆVAL CASTLE.

Having considered the details which Chester Castle fails to show, as a witness to the date of its second occupation, we may go on to examine the proofs of construction and date that are to be found in its records and its few existing remains. These will serve to bring us to the same conclusion as the negative evidences, that the first works in masonry, set up after the building of the Saxon mound and entrenchments, belonged to the end of the twelfth, or the early part of the thirteenth century. At this period a new era in the constructive arts started suddenly into life. At the end of the third Crusade, Oriental craftsmen were dispersed over Europe, and the loss of Jerusalem brought thence men imbued with geometrical and mathematical knowledge, the survivals of ancient philosophies, that had never died out in the East. Not only did Gothic architecture spring at once

into perfect form, full grown and armed as Athena from the brain of Jupiter, but the plans of fortresses which previously depended rather on the height of their embankments, or the ponderous thickness of their walls, rather than on any high skill in military art, were brought into a perfect system and laid down on scientific lines. From time immemorial Syria had been the source to which military engineering of a truly scientific character can be traced, even the highly civilized Egyptians were content to learn this art from Syria. The rise of pointed architecture is more conspicuous, and more easily appreciated in ecclesiastical work than the revision and reform that took place at the same time in military engineering, but it is not more complete and thorough than the latter. Hence we are able by examination of the plans of fortresses, in spite of the numerous changes and extensions they have undergone, to ascertain their approximate dates, and estimate the separate systems appertaining to the periods to which they belong.

The plan of the inner bailey of Chester Castle belongs to this developed and scientific style, and cannot be allotted to the preceding centuries.

The thirteenth century plan abandoned the Keep as the predominating feature, and instead of combining the hall, chapel, chambers, and offices in the compass of one great tower, these features constituted separate buildings and could thus be framed on an enlarged scale within a courtyard whose walls were laid down on scientific defensive lines, and strengthened with flanking towers and gates. These sometimes constituted the whole of the castle; more frequently there was a second line of defence, consisting of walls, and outworks, trenches, and earthworks. Thus we have in succession the square

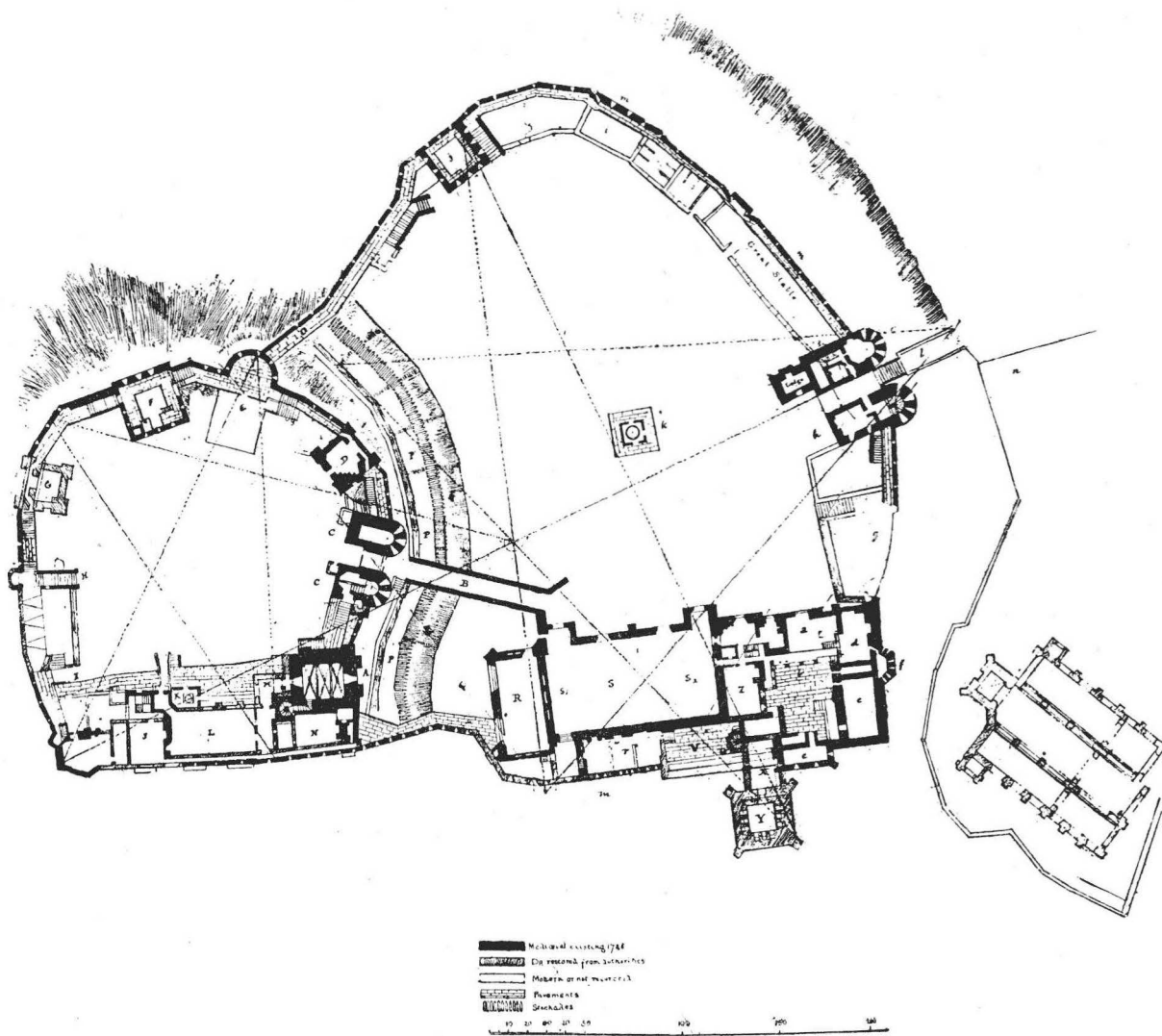
or round Keep containing all the main apartments, the round shell-keep in which these were built against its circular wall, and the developed castle in which they are separate buildings. This last form was complete in the reign of Henry III. Chester Castle is of this period in its upper bailey. No age shows a more perfect study of the principles of fortification than the castles of the thirteenth and the succeeding century, before the domestic element had modified their plans. The inner bailey of Chester Castle was surrounded by a lofty wall, partly on the ridge of the earlier entrenchments, and partly revetting or facing them. The enclosure, though conforming generally to the oval form of the old work was polygonal, and was entered by a gatehouse flanked by two half-round towers, a third tower round to the front, and square in rear flanked the ditch on the west and north-west—this still remains, but much altered. The east side stood high upon a rock and required no flanking, and on this side, which was least exposed to attack, stood the hall with its porch, and the solar or parlour, with chamber above, at the east end, at right angles with it. The main feature of the north-west face consisted of two square towers, rising to some height above the curtain walls, but having no projection beyond the line of the curtain for flanking purposes; a third square tower, the Keep, to the west occupied the Saxon mound, and formed the flag tower. A little to the south was a square wall bastion, which, so far as most plans and drawings go, is shown open at the gorge. But the requirements of the defence, also some slight remains of foundations, and one drawing in Grose's *Antiquities*, indicate that it originally was closed and corresponded in plan with the square tower flanking the entrance gateway. Near it a sallyport opened from a flight of

steps at the base of the wall, and was defended by a machicolated bartizan carried on corbels above it. The gatehouse had a width of 50 feet. The square tower next to it (westward) had its inner face smaller than the others; its flanks inclined inwards to meet this, the larger faces measured 30 feet, the round-fronted tower was 25 feet by 50 feet, and the Keep on the mound 30 feet square. The upper storey of the Keep was reached by steps on each side (apparently later constructions than the tower) rising from the curtain wall and defended by a parapet corbelled outwards with stepped merlons. The tower east of the gateway is the present Cæsar's Tower, containing the chapel, a crypt below it, and a vaulted room above. The purpose of the three square towers was not to flank the curtain wall, but to command from their summits the passage of the river and the strip of land between the river and the city wall.

The arrangement of the defences of this inner bailey sufficiently indicate that it formed the whole of the first mediæval or military castle. The concentration of strength and command of these great towers towards the north and north-west, and its deep separate ditch, show a vast surplus of strength beyond what would be needed for a mere dividing wall between two courts; moreover, the buildings of the outer or lower bailey mask to a great extent the command that the older towers were intended to cover, separating them from the control of the open land towards the north. There is a curious confirmation of this theory found in the early and later views which we possess of this part of the castle. The square towers on the enclosure wall, with the exception of Cæsar's Tower, appear to have been originally all open in the gorge or rear, and adapted solely for

defensive use, not for occupation by troops or stores; if they were closed at all, it was probably with wood. At a later date, the gorges were closed with masonry and the towers made fit for occupation. This is shown by the fact that the buttresses on the exterior are all of the pilaster type, prevalent in the early first pointed style; those in the rear are of later character (probably 15th century type) suggesting that they were added work. The buttresses of Cæsar's Tower are of the pilaster form on each face. Thus, these towers seem to have had originally only the defensive use of which the building of the outer bailey at a later date partially deprived them. The hall of this earlier castle was towards the east, furthest withdrawn from points of attack; its size was 33 feet by 66 feet; it had a porch at the north end, communicating also with the chapel in Cæsar's Tower, and having a chamber over it set transversely to the hall, adjoining which was a well. At its south end, a building of the same dimensions contained the solar, or parlour, and the chamber; and from these (at the south angle) a staircase (indicated in the views by loops for light) led down to the bottom of the wall into the ditch. The ruined staircase, surmounted by an arch, or rather the space where it stood, is shown in a view by Cuitt in Hemingway's History, the adjacent curtain wall having been then lately rebuilt and its line altered at that point to an angle in place of one face of the original polygon. Below this hall and chambers there appear to have been substructures, with narrow lights opening in the wall, probably cellars or crypts for storage; traces of these ought to remain behind the present rebuilt wall, and below the terre-plan of the castle as it now stands.

The bird's-eye view in the British Museum (dating from the reign of Queen Elizabeth) also indicates that



A—Julius Agricola's Tower and Chapel
B—Bridge to Upper Bailey
C—Gateway to Upper Bailey
D—Tower
E—Semi-circular Tower flanking Moat
F—Flag Tower on Saxon Mound
G—Tower (restored)
H—Sallyport
I—Tower and Staircase at south-east angle
J—Solar and Chambers
K—Well
L—Hall of earlier Castle

M—Porch to Chapel and Hall
N—Kitchen and butteries to earlier Castle
O—Curtain walls crossing Moat of earlier Castle
P—Moat with covered way & Stockade
Q—Courtyard between older and later Baileys
R—Exchequer Court
S—Shire Hall
S1—Dais
S2—Screens
T—Curtain rebuilt as battery, 1745

V—Square Bastion
W—Staircase to domestic buildings, Lower Bailey
X—Bastion
Y—Garderobe Tower restored
Z—Kitchen
a—Butteries
b—Court of Domestic Buildings (galleried)
cc—Rooms not identified
de—Guard-rooms
f—Bastion and stairs to wall

g—Site of Garden covered by Battery 1745
h—Great Gateway to Lower Bailey and old Prison
i—Flanking Turret
j—Tower
k—Well and Well-house
l—Drawbridge
mm—Moat of Lower Bailey
n—Site of Shire Hall without Castle Gates
o—St. Mary's Church

the rear of the gatehouse had been rebuilt at a very much later date; most likely a replacing of its original timber with masonry. This view shows that Cæsar's Tower and the gatehouse and flag tower, the hall, and solar, were in good condition, but the other towers were then ruinous and roofless; also the flag tower is shown with curious circular embrasures on the summit, apparently for small cannon, but at the time of its destruction this tower was crowned by an ordinary crenellation; whether the circular embrasures represented a late alteration (intended but never carried out) is possible. There are indications that this was a plan of intended repairs.

The last building to be noticed in the inner bailey is the still existing Cæsar's Tower. Notwithstanding the refacing of the greater part of this building with new stonework, there are sufficient remains of the older masonry to show that it retains very nearly its ancient form; it has always been enclosed entirely with masonry, unlike some of the towers before spoken of. It is very commonly but quite erroneously called the Keep of the Castle, and with equal inaccuracy attributed to an early Norman period, possibly owing to the resemblance of its flat buttresses to the Norman style. Internally it has none of the features of a Keep, and would be untenable for occupation; it has neither fire-place for warmth nor for cooking, there is no trace of the usual well that was seldom absent in this part of a Norman castle; there are neither loopholes nor galleries for defence, nor are two of the three rooms of which it consists (beside the chapel) either spacious enough or otherwise adapted for the habitation of the Earl or his retinue. The ground storey is a finely groined crypt to the chapel, very little below the level of the present castle-yard; the groining forms a kind of sexpartite vault with bold plainly chamfered

ribs springing from short half-octagon wall shafts with plain capitals, which are set upon a high plinth. This room is entered by a door with a plain soffit, not divided into orders, and with a simple roll-moulding on the outer edge; a single small square window lights this room, and on the right hand, a wide newel-staircase occupying the angle turret leads to the two upper rooms. That on the middle storey is the chapel, a lofty room divided into three bays of quadripartite vaulting, carried on detached round vaulting shafts at the sides with caps and a single roll-moulding at the angles; the ribs of the acutely pointed vaulting cells are very massive and finely moulded, with three filleted rolls and an intermediate angular member; there is no longitudinal rib. At each springing the vaulting shaft is circular with a floriated and voluted capital and a moulded base, characteristic of the first pointed style and rather early in the period; but these and the mouldings mark the date unmistakably as being within the fully-developed style that prevailed in the reign of Henry III.; the door is at the right side in the first bay; and at what should be the west end the window has a lancet arch which in one of the ancient drawings shows two trefoiled lights; it is now built into a square, as is the window over the altar.

The altar stood in a recess in the thickness of the wall with a low segmental pointed arch over it. A similar recess on the left was probably the Easter Sepulchre, and on the right is a plain aumbry; all these openings have only the single roll-moulding. The masonry of this tower shows rather small stones laid in courses; but with some little irregularities. It is finely jointed and the stone admirably worked and chosen; it is as fresh as if built yesterday, and is covered with very clear mason

marks. The interior of the chapel has been covered with frescoes painted on a thin coat of fine hard plaster; unhappily, nearly the whole of this has been stripped off, a few running patterns at the ends and just below the groining, and some indistinct figures can with difficulty be discerned under the thin coat of whitewash that now covers it. The upper room has a plain modern brick vault, and the ancient turret stairs (that led to the roof) are now cut off at this point. Altogether, this tower presents one of the finest and best preserved examples of mediæval work left in Chester. Pennant says that the entrance to this tower was by a kind of vestibule of later date, and the ancient drawing in the British Museum (referred to above), shows such a structure of which no trace now exists.

THE LOWER OR OUTER BAILEY.

This was divided from the inner by a deep and wide ditch, apparently over 100 feet wide; beyond this (towards the north) the second great court was added, at a date, if we may judge from the architecture, in the reign of Edward the First. The junction between the older and the more recent buildings was formed on the west by a curtain wall crossing the ancient moat to a square tower, set on its north side. The trace of the curtain wall was irregular; it formed a succession of semi-hexagonal redoubts on the west and north-west, the intermediate re-entering angles permitting a flanking defence without the use of towers. Towards the north-east stood the large gatehouse, with two massive and lofty half-drum towers. The gatehouse and towers not only protected the narrow street leading to the castle from Glover's Stone, but also (by its projection) flanked the approaches and ditches on the north-west and north sides of the enclosure wall. The trace of this long external wall of

the lower court is a very clever piece of defensive work, and it has many of the elements of modern fortification in its plan. The wall was continued round to the east with similar contrivance for flanking, and led up to a strong square tower that flanked the ditch into which it was boldly set forward on the east side between the castle and the town. These details may be best understood by examining the plans of the castle. The great gate was lofty, and appears to have had a portcullis midway in its gate passage, and possibly another near the exterior. Upon the sides of this passage were two doors on each side, leading, no doubt, to the guard-rooms, and also indicating that there were dungeons below the towers. From the rear of the west side of the gatehouse the porter's lodge projected into the inner bailey. One of the commonest positions for prisons in mediæval times was a gatehouse, probably because the gate was the point most regularly guarded. In King's *Vale Royal* we read that the gatehouse was then used as a prison; if so, the ruinous tower of the bird's-eye view was probably repaired, as this work speaks of recent repairs in 1585. Pennant, in his *Tour in Wales*, says the prison was in the buildings north of the hall, and it had doubtless then been removed there from the gatehouse, its original site. Above these doors small windows opened into the gate-passage to the first floor of the towers, enabling the warder to watch the inmates in their rooms, which were probably also prisons. Judging from the bird's-eye view in the British Museum, the rear of the western tower was closed with masonry; that of the eastern (originally) with wood, that side being most withdrawn from any danger of attack. The rear stone face of the gatehouse is shown as ruinous, but the wall terminates with a

straight face (not a broken one) as it would had it been closed with stone and destroyed. In a water-colour drawing of this gate, when in process of demolition, given in Canon Morris' "*Chester in Plantagenet times*," the thin modern wall replacing the original wood-work is shown on the left hand of the upper storey of the gate. This view also shews the hanging machicolated arch below the central parapet, which is an accurate mediæval feature omitted in other views. In Broster's and other views the drawbridge with its chains is represented. From the east side of the gate a range of buildings with a small square court, apparently having a kind of cloister, contained, originally, the kitchen and offices; also probably the guard-room, with a newel-stair to the walls. The great chimney of the kitchen is shown in views by Lysons, in *Broster's Guide*, the *Gentleman's Magazine*, and some others. These, though apparently of Tudor date, doubtless occupied the original sites of the Edwardian additions to the castle, their plans conforming exactly to its measurements. These were the buildings occupied at a later date as the prison.

Further south, and adjoining these stood the splendid and spacious shire-hall (the glory of the castle), whose loss is poorly compensated by the great and costly modern building reared by Harrison on its site, notwithstanding its majesty of classical proportion and detail. In this historic room the brave and loyal Royalist garrison of Chester laid down their arms and completed the capitulation of the city at the end of the three years' siege in 1645. The length of the hall was 99 feet, and its extreme breadth was said to be 45 feet, but the plan shows only a breadth of about 40 to 42 feet; it was of great height, and is described as resembling Westminster Hall. Pennant gives a slight description of its interior from

which the date of its interior reparations can be gathered. On the western base were two projecting bays (one at each end), that towards the north was the porch; this did not open straight forward westwards, but the doorway was turned towards the south, thereby facing away from missiles that might be shot over the north or west curtain wall; this porch would lead behind the screens that always (with few exceptions) occupied the lower end of the hall, having entrances through it to the hall on the right, and the buttery hatches, serving rooms, and way to the kitchen on the left. Over this would be the minstrel gallery. At the other end of the hall stood the dais, with its canopy and chair of state. On the proper left or west side, the bay with its separate entrance for the courtyard, opening westward. Such was the general plan of the hall.

The original hall retained its north and south gables, plainly work of the reign of Edward I., the adjacent exchequer court on the south, being also undoubtedly of the same period and the great gatehouse having indications of the same era. It is most likely that Edward I. constructed the whole of the outer bailey as an addition to the original castle. The fact that this monarch was an active organizer of municipal and local legislative institutions also makes it probable that these great buildings designed from the first for the use of the shire courts, and the exchequer or Parliament chamber of the county palatine, were provided by him for their accommodation. The south gable of the hall had in the centre a long lancet light, and on each side (lower down the gable) a round quatrefoiled opening—the north gable apparently a single quatrefoil, shown in the water-colour drawing of the gate. This arrangement viewed in the light of some recent investigations of the use of such openings

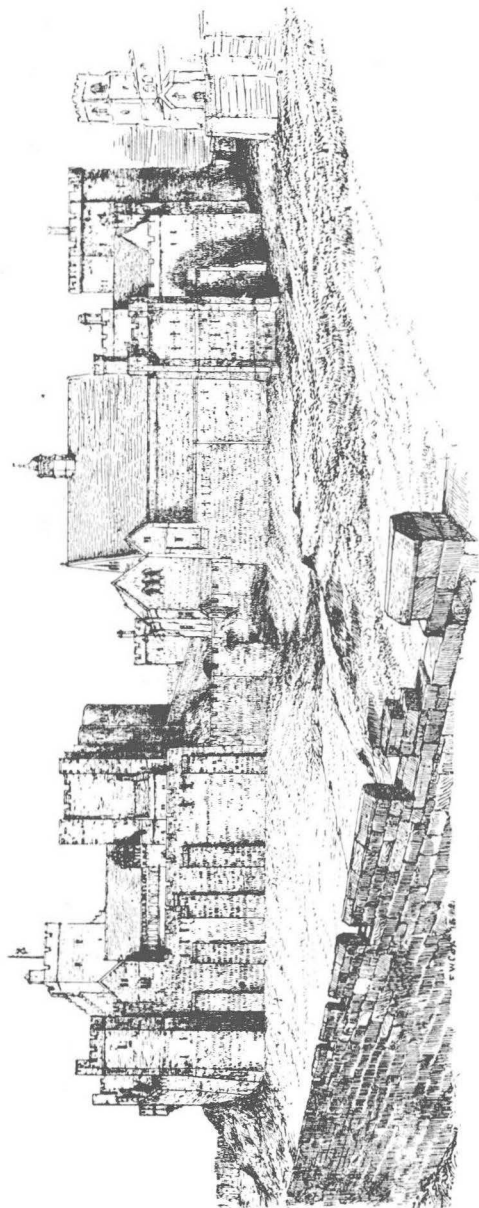
is of peculiar interest. It has been found that certain mediæval halls built without fireplaces have no traces of any louvre for the escape of smoke from the central hearth, and it has been debated whether their inmates were content to be either stifled with smoke or to forego the comfort of fires. It has been discovered that, in some of the halls so constructed, window-like openings were left in the gable ends (which have never been glazed) and which permitted the escape of the smoke. These, like the apertures in the shire-hall gable, can have been of little or no service for light, though they were undoubtedly glazed at a later date.

The views of the shire-hall show a very large and conspicuous louvre, proving that there was a central hearth, and it can be shown with some degree of certainty that this was not the original arrangement. Pennant describes the roof as carried on great brackets of wood. This description can only apply to what is called a "hammer-beam roof"—a mode of construction that was not practised till the early part of the fifteenth century. Lysons tells us that the hall was greatly repaired in the reign of Queen Elizabeth, and the great square windows of the bays and the intermediate wall may very well be of this date. This fashion of roof framing was continued down to the reign of Charles II., and there are later instances. The original roof of the hall would most likely be partly carried by oak pillars in the manner of the Guildhall at York. These were used where there was a wide span to cover until they were superseded by the hammer-beam roofs, which were so framed as to carry a wide span roof without pillars. The roof and louvre of the shire-hall were therefore later replacements of the original thirteenth century roof, and when the louvre was provided the

old smoke openings would be glazed. An instance of this curious arrangement was lately found in the ancient hall of St. Nicholas' Parsonage (recently destroyed), which stood in rear of the east side of Northgate; and another in one of the finest of the old Lancashire halls. A reference to this plan is found in the mediæval tale called "The Mabinogi of the Dream of Rhonabwy." A small separate fireplace may have been provided in the bay on the west of the dais, but its chimney (represented in all the views) appears to be modern. The exchequer court stood across the south end of the shire-hall, and though of two storeys, it was a lower building. This arrangement is the customary one for the withdrawing room and lord's chamber. In the case of Chester Castle, the lesser or second hall was structurally adapted for the purpose of the exchequer court; it was fitted with ten canopied and sculptured stalls in the manner of a chapter house—one for the earl, one for the abbot, and four on each side for the barons. We learn from a record of repairs in Canon Morris' "*Chester in Plantagenet times*," that the parliament chamber was the upper storey.

The exchequer court was lighted at the west end by three single-arched lights, arranged one in the upper part of the gable and two below it; the east end had three lancet lights of equal height ranged horizontally. The lower floor had a two-light window at the west end with uncusped heads to the lights, and of early decorated character; and to the south, two square late Tudor windows (with mullions and transoms) had replaced the original openings.

A small court-yard separated the exchequer court from the curtain wall of the upper bailey and Cæsar's Tower; this lay at a low level, being formed within what had been originally the outer ditch of the older castle, and its



Engraved by
 W. H. STUBBS
 From a drawing by
 J. G. COOPER
 Architect
 Published by
 W. H. STUBBS
 15, Abchurch Lane, London, E.C. 4

Chester Castle (restored)

existence in this position is one of the strongest evidences that the outer bailey was a later addition. Not only is the deeply sunk position of this court inconvenient, but the curtain wall built across the ditch to form it, rather detracts from than adds to its power of defence; while the great hall and exchequer completely mask the command of the ground that was covered by Cæsar's Tower. There were, towards the north and west sides of the outer bailey, two gabled buildings, and stables used for quarters for troops, which, to judge from the representations of them, were of comparatively recent date; and about the centre of the area was the well surrounded by a low circular wall. These buildings completed all that comprised the ancient portion of the castle. Extensive additions were made from the 17th to the 18th century in the inner bailey, most of which still exist, but they are without antiquarian interest. The west-wall from the sallyport towards the south was rebuilt from the ground about 1770; the south-wall refaced and altered in 1790 to 1801 (the lines of these were somewhat changed.) Some small traces of the older lines are still to be seen near the modern barracks.

RELATION OF THE CASTLE TO OTHER DEFENCES.

There remain a few points of interest to notice in relation to the position of the castle. It appears nearly certain from the fact that the strongest defensive features being placed on the northern and western faces, that the castle stood on those sides without the enceinte of the city wall, and that the present wall was on this side a later extension. We have the date of 1322 for the building of the Water Tower, and the character of the ancient Watergate and two or three ancient buttresses correspond with this date. The original city wall probably ran along the line of Nicholas Street and

St. Martin's Ash. Not only do the defensive arrangements show that its fortifications were intended to command open ground, but such position of the castle in relation to a fortified city was the general rule; its inclusion within the circumvallation of a city the exception. Instances are to be found in the Tower of London, built across the line of the Roman city wall; in Rochester, Lincoln, York, Newcastle, Warwick, Southampton, Chepstow, Cardiff, Caernarvon, Conway, and numerous other cases; while castles wholly within the original enclosure, such as Colchester, are quite exceptional. Precisely as the mound of the Saxon burgh stood upon the entrenched line (partly within and partly without the ambit of the trenches), so the mediæval castle of a town was placed; and changes as at York and Chester were the result of later additions. This fact may assist to define the area beyond which it would be useless to seek traces of the Roman wall of Chester to the west. Such Roman remains as are found there must have belonged to extra-mural buildings.

GLOVER'S STONE.

The various plans of the castle and its ancient surroundings have served to throw some light upon the curious manor or district of Glover's Stone which immediately adjoined on the north and east. The manor was not within the jurisdiction of the city, nor was it the property of the crown, but a kind of neutral ground between the two, on which certain trading and other privileges were permitted. It was purchased by the Crown and added to the esplanade of the castle when the modern buildings were constructed. The Romans did not permit offensive trades to be carried on within their cities, and such occupations had to be followed outside the walls. The business of skinnners,

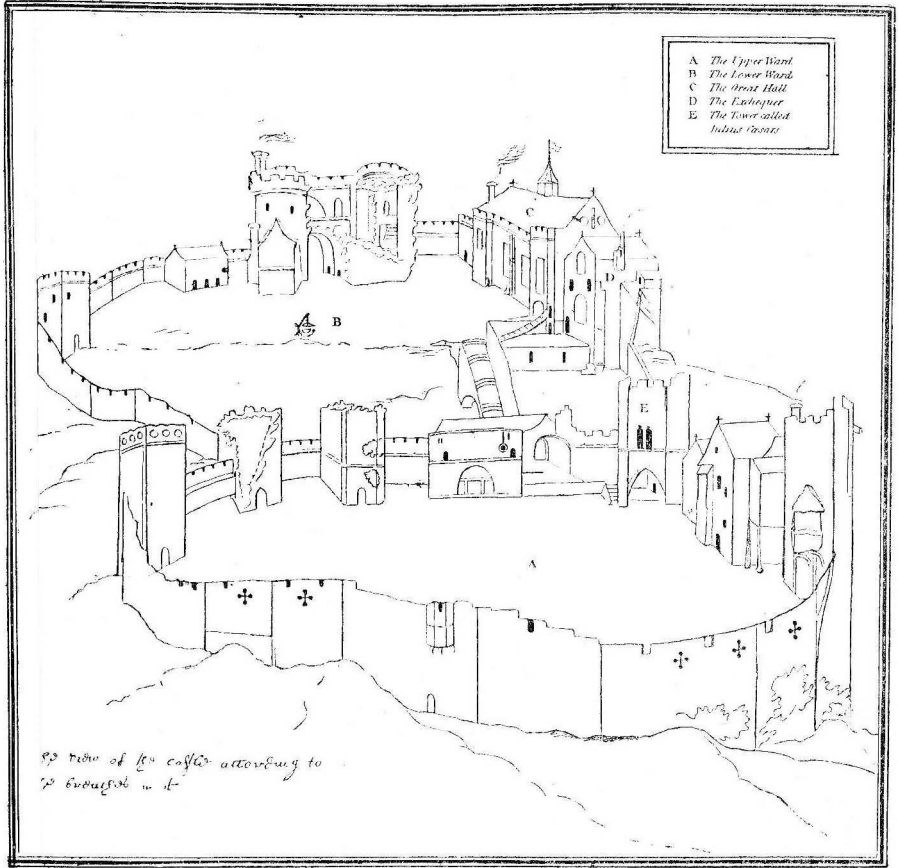
curriers, and tanners, being such a trade, was probably located on this ground from the Roman occupation of the city; and if this be so, it would be strong confirmation of the ground having only been enclosed by the city wall at a late date, as evidenced also by the military engineering of the castle. The placing of the Saxon fortress in this ground would require a delimitation of the area held by the Crown, and that over which the manorial rights extended. There is presumptive evidence that such a space was defined outside the earlier mediæval castle, and afterwards absorbed in the courts added in the thirteenth century. Undoubtedly this was again done with great care and precision when the outer bailey was built. In the records belonging to the city (kept in the office of the Clerk of the Peace) is a map prepared for the purpose of showing the land acquired by the Crown for the extension of the castle in 1790, upon which are laid down the areas and sites of Glover's Stone, St. Mary's Nunnery, and certain Crown rents. The space of Glover's Stone is divided by the road leading from Castle Lane to the great gatehouse, and it includes part of St. Mary's Churchyard. The walls and gate of the castle, when reduced and drawn to the same scale from the ancient plans in the British Museum, and to the systematic series of measures noticed hereafter in this paper, are found to follow exactly the same lines as those of Glover's Stone, which extended fifty yards from the line of the castle walls. Thirty feet of this space seems to have been the ditch of the outer bailey, and the other 120 feet the space that enjoyed the manorial privileges of trading and occupation without the city. The information conveyed by these maps is most interesting from the complete way in which they attest the accuracy of the plan of the ancient castle; this

being laid down from an independent source is found to coincide perfectly with the known boundaries of Glovers' Stone, while the relation of the manor to the plan shows the manner in which the privileged land of Glover's Stone was measured out after the thirteenth century castle was built, and furnishes it with an approximate date for its removal to this place, if not for its original establishment.

Another fact to be noted in the plan and view in the British Museum (said to date from the reign of Queen Elizabeth), is that in the plan all the ancient portions of the castle are marked in strong dark lines; but certain portions, which represent to some extent the plan of structures that existed in the castle until its demolition, and which were of later than mediæval dates, are shown in fine lines. The purpose of this is very possibly a scheme for constructing these additions. It was a practice to make mediæval plans with a single fine line. The bird's-eye view (which appears to be coeval with the plan) shows those parts of the plan that are drawn in fine lines as afterwards constructed. The flag tower already spoken of is drawn much higher than the rest, and with round œillets or embrasures. This tower was never so finished, if we may trust the numerous views of it; therefore, this drawing also most likely shows proposed alterations of which only part were completed.

AUTHORITIES.

It remains only to refer to the sources from which the plan and details of Chester Castle have been compiled, and to give a few of the dominant measures which ruled the principle of its construction, and which I have sought to show in other papers were derived from a geometrical basis governing the construction of mediæval work.



Plan of Chester Castle

By permission—From Canon Morris' "Chester in Plantagenet and Tudor Reigns," p. 94

The written descriptions of the castle are few and incomplete, but we can gather much of value from them that elucidates the plans and drawings extant. Those of most value are King's *Vale Royal*, 1685, and Pennant's *Tour in Wales*—this latter enables us to recall the interiors of the Hall and Exchequer.

The Gentleman's Magazine of 1789 gives a short notice of the castle and a rude engraving of the hall; Camden gives little account of the fabric; Lysons' *Magna Britannia* gives one of the best descriptions we have, but it is incomplete. The plan and bird's-eye view (reputed to be of the date of Queen Elizabeth) are most valuable, especially as the former enables us to discriminate between the older work and that then in progress. The plan is made to the scale of 100 feet to the inch with very fair accuracy; a slight error is made in the aspect of the gatehouses, but there are data by which these can be corrected. The bird's-eye view shows very carefully which parts of the castle were then ruinous, and which in repair or being then restored, and these accord with the ground-plan. The embrasures and loops of the battlements are very carefully given.

King's *Vale Royal* gives a distant view by Hollar, in which details are indicated, but on too small a scale to be of much value.

The Brothers Buck published in their volume of Antiquities, a very clear engraving of the castle in 1725. All the details are very conscientiously given, and it is consequently of value, but the proportions of the building and its perspective are, as usual with these artists, exaggerated and inaccurate.

There is a small engraving of the flag or watch tower, sallyport, &c., by Durazzo, dated December 18th, 1772, showing the curtain wall broken down and in course of

rebuilding. Another engraving dated 1773 (unnamed), shows the city side of the castle, the gable of the hall and exchequer, and St. Mary's Church, with great accuracy of detail.

Cuitt, in 1815, engraved part of the same side (after the gaol had been built) but showing the half-destroyed south stairway to the moat and the south tower. The same artist also engraved the gateway, and towers of the inner bailey, and the hall, taken from the centre of the outer bailey.

Broster gives an imperfect view of the castle and ruins of St. Mary's Nunnery, and the late Mr. Shrubsole had in his possession Broster's original drawings. These agree in detail with Buck; his Chester Guide also gives a poor view of the gatehouse, with embrasures for cannon in the towers.

A lithograph of the great gateway exists in the Chester Library; it appears to be taken from a drawing made during the demolition (a copy of which is engraved in Canon Morris' "*Chester in Plantagenet Reigns*," p. 33), but, though fairly correct in general outline, the details want authenticity.

An engraving of "Hugh Lupus' Hall," copied from an old print is given in *Archæologia*; it represents no structure that ever existed in Chester Castle or anywhere else; the artist drew from his imagination, in the style of Gothic prevalent in the thirteenth century.

There is a large painting in the Grosvenor Museum representing the exterior of the castle; it is very inaccurate and was most likely painted after the demolition with conjectural details.

MEASURES AND PROPORTIONS.

The code of proportion and measurements followed in the construction of the castle corresponds with those

ascertained in a few other measured buildings. The unit for distances between the various parts of the castle is as usual based on the number five; the measures of many of the buildings are ruled by the numbers three and five. The measures of distance of 100 feet are to be found dominating the whole structure; and are so numerous and skilfully laid down that it is certain that this entered into the whole scheme of the plan.

There are several centres from which these measures were originated, the chief ones being the altar of the chapel, the centre of the dais, and the well in the outer court. A very interesting series of 100 feet measures will also be found in the inner bailey, where units of 100 feet may be taken from the centres of the towers, their doors, or their angles; and in every case such measure will fall upon and define exactly some other main structural or defensive point. The same rule holds good in the outer courts. The separate buildings of this court are also largely dominated by subdivisions of 100 feet; while in the lower court the basis of three is more used in the buildings. It is of interest to remark that in the plan of Liverpool Castle, the altar of the chapel, the well, and the hall, were found to be centres from which similar lines of measurement were derived. The geometrical basis of the measurements of Chester Castle has not been worked out yet, but it is hoped that this may be done when the subject of mediæval planning comes to be separately considered.

My task has not been the delineation of those remarkable and stirring events of the romance of history that connect themselves with Chester Castle, and which live among the characteristic records of our English race, but merely to recover with much dry detail their frame and setting. Yet, through all the

changes in this great and complex fabric, it may well stand as a type of England's power and greatness. For a thousand years it has rung (as it does to-day), with the martial trumpet and the clank of arms. Here for seven centuries have law and justice held their seat. So in like way have the arms and courage of England gone out from this small island, as a centre, to conquer half the world, and her justice to hold and rule it. These and their material evidences still stand fast, though the mediæval towers and halls have vanished. Here, too, still stands the type of a mightier kingdom. In Cæsar's tower among the things that are Cæsar's, the chapel still endures, neglected now and misused, but still enduring as a symbol of the mustering place of those true soldiers who, amid the toil of their training and the stress of their warfare, hold the promise of victory and the assurance of peace.

Since the foregoing part of this paper was written, the Rev. Canon Morris has brought together a large number of valuable and original documents for his work upon "*Chester in the Plantagenet and Tudor Reigns*"; a work planned and arranged in an admirable manner to set before us in vivid and true colours the amplest picture of social and urban life during those periods. One of the predominant features in the very full abstracts given from these ancient records is the terse, complete, and graphic character of the language in which they are written. They convey in very few well-studied words the most full and minute particulars of the incidents to which they relate, thus carrying in themselves a literary and historic value far beyond the simple facts with which they deal directly. I have to express my grateful indebtedness to Canon Morris for the use of the principal abstracts relating to Chester Castle—which

he afforded before the publication of his book—and from these are gathered numerous confirmations of the plans and building of the ancient structure, gleaned from the previously mentioned sources; and in addition, many details of the most definite and minute character, which have enabled me to complete the plan and views of the Castle with accuracy.

Page 140, 29-31 Edward I., *Ministers' Accounts*, 771-2-4. We here have a full account of the building of the kitchen in the inner bailey. At the angle of the wall (then rebuilt at the side of the Castle) it stood between the Julian Tower and the wall; had two windows grated with iron, three buttresses: there were eighteen bars to the two windows, probably eight cross-bars and two uprights. Adjoining it was the larder, which stood nearer to the tower and to the screens of the hall as usual. The arch against the side of Cæsar's Tower (supposed to be Roman) is really part of this building—apparently a postern adjoining the great fireplace leading on to the rampart of the wall of the court in the ditch. These were built of stone by Richard de Paris, mason.

Of still greater interest are the entries relating to the older hall in the inner bailey, rebuilt at the same time. William de Kentesdale, Carpenter, under the direction of Richard the Engineer, built the upper portion of this hall (apparently of timber from Ewloe), also the great chamber over the screens at the east end adjoining the chapel, Cæsar's Tower. Stone substructure and corbels for the tenons supporting the beams are also charged for, proving by this preparation that a timber-framed edifice was intended. Another entry gives a repair of the leaden gutter between the *old* chamber of the Earl, which would stand at the dais end of the hall, opposite the screens and furthest from the chapel.

Several disclosures arise from this entry : first, the Earl's Chamber is the old one, and the hall is at the time being rebuilt, probably owing to damage hereafter to be mentioned ; second, that the need of a gutter here is due to the chamber being placed in accordance with mediæval precedent with its gable and roof transverse to those of the hall. All these buildings are thus represented in the restored view of the Castle—the chamber over the screens next Cæsar's Tower, the hall beyond it, the Earl's Chambers of stone at the further end of the hall, of two storeys. These were all so drawn from other plans and architectural analogies before obtaining access to these documents, and it is gratifying to find the records so far verify the plans.

We now come to an entry in the same series of repairs which opens a page in the history of the structure and explains the need of so much rebuilding. The account states that repairs were due to the destruction of the great chapel on the Vigil of the Pentecost, 30 Edward I., apparently by fire, as new roofs have to be supplied—new lead together with the old ; and the expenditure on this work reaches the then large sum of £13 14s. This work is done by William of Kentesdale and others. The porch called "Claustre," near the great chapel, also required its covering renewing ; also the dormitory (probably the same room called elsewhere the great chamber next the chapel) and the great hall required repairs as above-mentioned. It may be inferred from the destruction of timber and lead, that fire was the destroying agent. The floor of the chapel also required shoring up, showing that the whole tower had suffered. There are charges for "strengthening" the stonework of the room below the chapel, and for eleven stone corbels for the same repairs. Now the room below the chapel

is groined in stone with a fine separate vault, and though very plain in its details, there being only plain chamfers and no mouldings, it has a later character than the room above. The ashlar of the walls is rough and disintegrated, as if by fire; the groins and the six plain semi-hexagonal vaulting shafts are sound and in excellent condition. It is reasonable to suppose that these replaced, during the repairs in question, the earlier vault, and that we have here the items of this work, entries for strengthening the stonework in this chamber, as well as the new corbels (query—shafts and imposts), are found in this account, and that they are still distinguishable by their condition. This view of the repair is the more likely to be correct by the evidence of another entry:—"Robert de Barton, Carpenter," for timber to shore up the floor of the chapel; a necessary operation requiring much timber for props, centres, &c. ("posts and wevres") while the newer groining was being put in.

In the account we have mention of the "little chapel" as well as the great chapel, and this little chapel is the only building in the Castle whose location we are unable to trace—there being no other known record of it.

8-9 Edward II., 771, we have mention of another chamber called that of Edward de Melton. In the tower at the south-west angle of the inner bailey were apparently three chambers, one of which probably was Edward de Melton's. If this be so, we have only the other two chambers in this tower to identify to complete

"In the Royal Letters (circ. 1246) nine years after the assumption of the Earldom, Henry III. writes to John de Grey ordering him to remove the palisading with which the bailey above the Castle of Chester was enclosed, and build up a wall of lime and stone, the expenses of which were to be charged to the King's exchequer."

the long range of buildings on this side of the Castle. The cost of the kitchen was £8, and the stone came from quarries outside Northgate.

It is a not unusual arrangement in early mediæval castles to find a stable for the lord's horses in the inner bailey; and it commonly stood to the right of the gateway on entering. We find, 8-9 Edward II., a charge for two hinges and other repairs for the stable in the inner bailey. This should be located in the square tower to the right or west of the gateway removed 1800-1810.

References to the building of the great shire-hall and exchequer chamber in the lower bailey are not so full as those just given, but they are instructive. In 1251 the great hall in the outer ward (already begun) is ordered to be finished, together with the outer wall. "Edward the First did a great deal of work in alterations and additions, whose chief assistant, Richard the Engineer, was kept constantly employed." Edward III. also had a number of men at work in alterations and additions—repairing the great stable and building a new kitchen and other apartments. (The great stables shown in its usual place to the right of the entrance gateway of the outer bailey in the British Museum bird's-eye view.) Every other feature can be identified: the hall and exchequer, built by Henry III. and Edward I.; also the wall and great gate, the courtyard with kitchen, chambers, guard-room and buttresses at the north-east angle, by Edward III.; the whole forming the complete series of buildings of a second castle, added to the first or inner bailey. A tower called Goghstower was the western one of the great gate. This was used as a prison, and is identified by the porter's lodge, into which prisoners were delivered, being attached to it (*vide Order 4th year Elizabeth*) to so use it.

The exchequer chamber was in the lower floor of the two-storeyed building, set across the south end of the shire hall. We learn this from an entry $\frac{271}{9}$ 13 and 14 Edward II.: "Divers expenses about repair of bridge of the outer bailey and remedying different defects of the chamber *above* the exchequer." In 1579-1581, 22-24 Elizabeth: "Costs of re-edifying the parliament house within the castle to be converted into the exchequer there, with a gallery and other works; also constructing a new shire-hall.—21 Elizabeth, 1578: A new hall called Prince's Hall, and kitchen built in the castle, finished 23 Elizabeth, 1580." These rebuildings consisted of a new front to the hall towards the courtyard, a new roof, and the opening of two wide square windows in the side wall of the exchequer; the gables and other walls built by Edward I. were retained. A projecting square tower at the south-east of the great hall was probably the record tower, as it adjoined the dais and the exchequer; it was called "Maysham's Tower."

There was another shire-hall external to the castle, which adjoined the lane leading to the castle-gate and the castle-ditch. It was removed in 1581 to the Northgate, and set up for granary and shambles, being evidently a timber structure. Its exact site is ascertained, and probably its size, from maps existing, and it is shown in the plan of the castle.

LAVAUX' PLAN OF CHESTER CASTLE.

This large and minutely accurate plan was prepared for the purpose of converting Chester Castle into a modern fortress, capable of withstanding a siege, by the addition of four large bastions, with connecting curtains set out outside the ancient walls, upon which also three batteries were already erected, besides a fourth work not

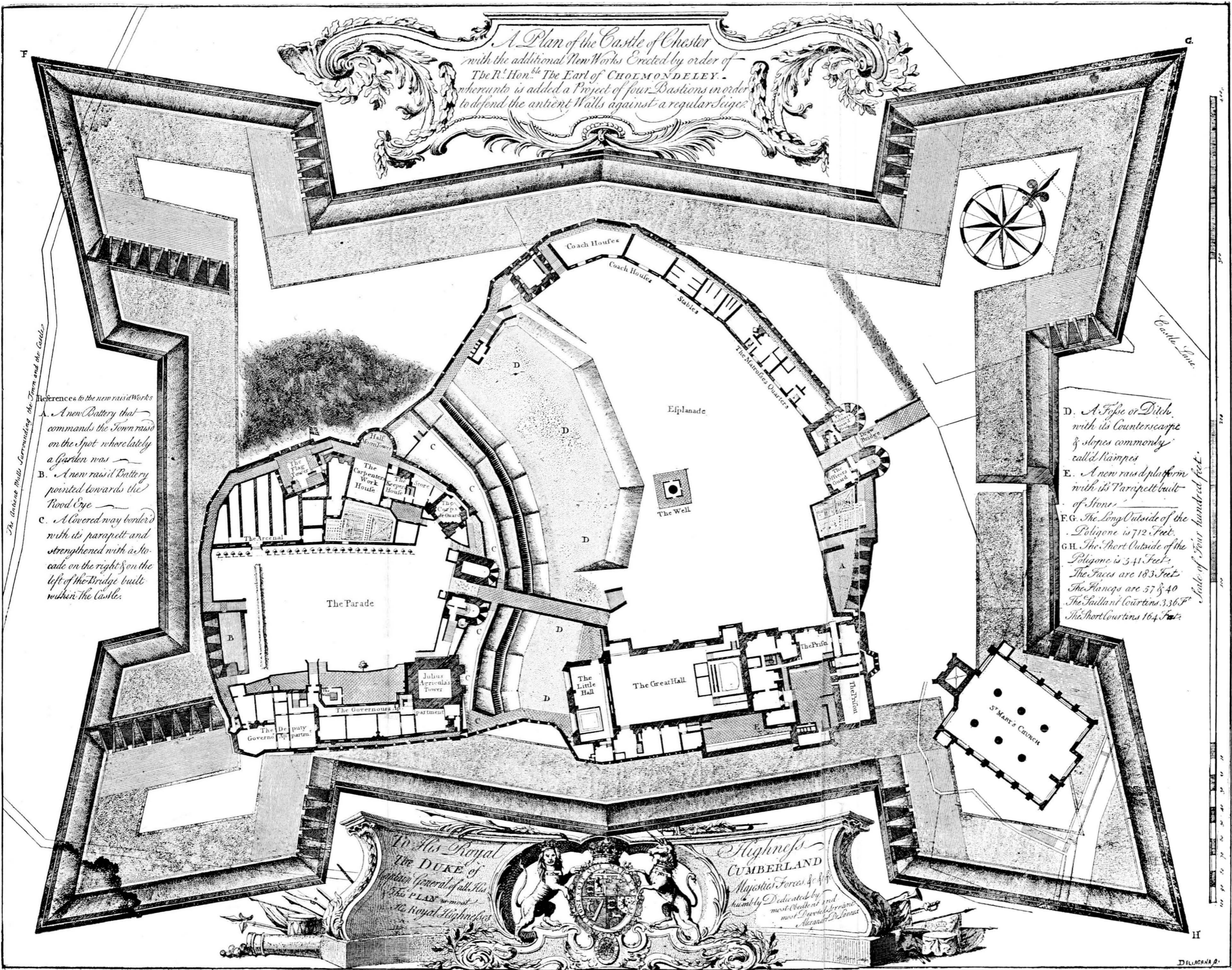
armed with cannon. The additions outside the castle were never carried out. The plans of the new works were not very well traced, and they were based on antiquated precedent, being almost identical in plan with those designed by Gomme for Liverpool Castle in 1642-4. The details of the existing parts of the ancient castle are of the greatest value, giving as they do exact measures to scale of every feature. Owing to this accuracy it has been possible to recover the base lines and geometrical basis and centres on which the original castle was laid down. On these I do not propose to comment, further than to say that they confirm the planning of a first and second Castle, each with its proper orientation; and the two schemes, though separate, are harmonised. Another paper may deal with this subject.

From such geometrical basis we are able to place the last tower in the east ditch, shown only in the British Museum plan; also the square tower opposite the gate of the inner bailey, and we find that the remains of this tower (many were then left) must have been cleared away in 1745 for the new curtain wall and breast-work then erected. This great tower was most likely not only defensive, it was probably the garderobe tower used for the sanitary purposes of the castle, and drained into the ditch; and it was thus set out from the other buildings for sanitary reasons. Such towers are found in other Castles, notably at Coity, in South Wales, and in a modified form at Kenilworth. Conway gives us another phase of this system. No other site was so suitable as that occupied by the example at Chester. In this fine plan every window, loophole, and battlement of the entire castle are given by a most ingenious scheme of planning, railings, terraces, flagged alures on the walls;

and it is possible to distinguish where the older timber structures were replaced with brick, as well as the large comparatively modern additions of quarters for troops, and storehouses set up in the inner bailey. By the careful elimination of these latter, it is plain that nearly every feature of the ancient Castle remained, and could be replaced with absolute certainty; and I have to acknowledge the obligation I am under to Mr. J. Wiseman for his kindness in lending me this plan to copy and to study. It has been of the utmost assistance in preparing the plan given, and by the help of the Elizabethan plan to discriminate the ancient features. I trust that it may be found to present the most complete monograph of the ancient Castle that has yet been printed, so far as regards its structure. It is well to mention that the bulk of this paper was prepared from the Elizabethan plans, and an imperfect block-plan made in 1810 in the Castle Records, and that Lavaux' plan came before me after completing it. It is gratifying to find that this plan (made by a military engineer) has called for no material alteration to be made, but has amply verified the conclusions drawn from earlier authorities and filled in the minor details.



A Plan of the Castle of Chester
 with the additional New Works Erected by order of
 The R. Hon.^{ble} The Earl of CHOLMONDELEY.
 whereunto is added a Project of four Bastions in order
 to defend the ancient Walls against a regular Siege.



References to the new raised Works
 A. A new Battery that commands the Town raised on the spot where lately a Garden was
 B. A new raised Battery pointed towards the Wood Eye
 C. A covered way bordered with its parapett and strengthened with a No-cade on the right & on the left of the Bridge built within the Castle.

D. A Trench or Ditch with its Counterscarpe & slopes commonly called Rampes
 E. A new raised platform with its Parapett built of Stone
 F.G. The Long Outside of the Polygon is 712 Feet
 G.H. The Short Outside of the Polygon is 541 Feet
 The Faces are 183 Feet
 The Flancs are 57 & 40
 The Saillant Courtins 336 Feet
 The Short Courtins 164 Feet

To His Royal Highness
 The DUKE of Cumberland
 Captain General of all His Majesty's Forces &c.
 This PLAN is most humbly Dedicated by
 most Obedient and most Devoted Servant
 Alexander De Longueville

