

IV.

ACCOUNT OF THE RECENT DISCOVERY OF THE REMAINS OF DAVID'S TOWER AT EDINBURGH CASTLE. BY W. T. OLDRIEVE, F.R.I.B.A., *Vice-President*, PRINCIPAL ARCHITECT FOR SCOTLAND OF H.M. OFFICE OF WORKS.

The commanding position of the Castle of Edinburgh naturally suggests the extreme probability of there having been a fortified retreat there from very early times. A Royal residence certainly existed in the time of Queen Margaret, one of the principal apartments being known as Queen Margaret's Chamber. The exact site of this building is not now known, but it is recorded that in 1314 Ranulph, Earl of Moray, in pursuance of Bruce's policy, demolished all the buildings of the Castle except the little Chapel of St Margaret, in order that no shelter should exist in case of re-occupation by the English. In September 1335, King Edward III. ordered the fortifications to be rebuilt, but it was thirty-two years later, in 1367, when the English invaders had at last been permanently expelled, that the building of King David's Tower was commenced, the work taking over ten years to complete.¹

This, I now submit, is the tower the recent re-discovery of which I am about to relate.

The work of exploration followed upon an inspection early in 1912 of the older parts of the Castle by a Sub-Committee of the Royal Commission on the Ancient Monuments of Scotland. This Sub-Committee was charged with the survey of the historical buildings of Edinburgh, and consisted of Professor G. Baldwin Brown, Dr Thomas Ross, and myself. We found in a coal-store (fig. 5), connected with

¹ *Abstracts from the Exchequer Rolls* gives the first entry for payment for building the "new tower of Edin.'" at 20th March 1368-9, and the last entry "for the complete building and construction of the 'Gate Tower'" at 26th March 1379.

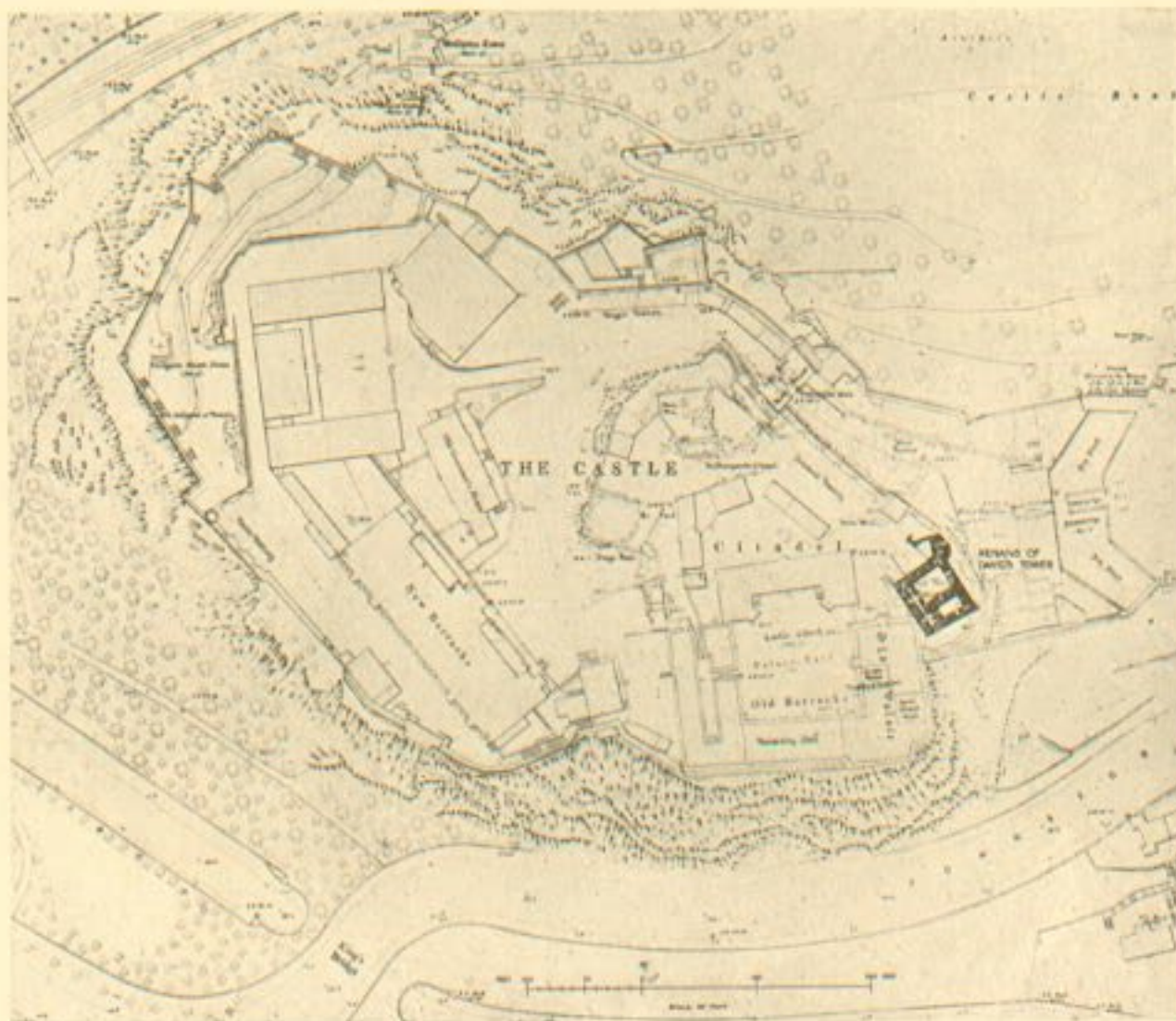


Fig. 1. Key-Plan of the Castle, showing the position of David's Tower.



Fig. 2. View of Edinburgh Castle from South-east.



Fig. 3. View of Edinburgh Castle from the East.



Fig. 4. North-east Angle of Palacio.



Fig. 5. Canteen Coal-cellar until 1912.

the soldiers' canteen at the north-east corner of the palace that the construction of the masonry indicated work of a much earlier character than that of the palace building. In particular, we noticed



Fig. 6. Vaulted Recess with Shot-hole (after removal of coal-cellar floor).

the substantially constructed stone-vaulted recess in a wall 7 feet 6 inches thick, with the narrow window slit or shot-hole (fig. 6), which, though now below the level of the Half-Moon Battery, had obviously been above ground originally. It was suggested that this window

might be traced from the outside by excavation from the level of the Half-Moon Battery, and so a commencement was decided upon.

The work of excavation from the Half-Moon Battery commenced



Fig. 7. Outer face of Original Wall of Tower where first exposed.

on the 12th August 1912, and the shot-hole or window referred to was soon reached at a depth of 5 feet. Interest was soon quickened by the appearance of shattered masonry upon the outer face of the wall (fig. 7), evidently the result of bombardment by cannon, which

supposition was confirmed by the finding of two solid iron cannon balls and fragments of burst shell in the debris directly under the damaged wall.

Now mortars or bombards were first used for shelling purposes on land against Wachtendonck, in Gueldreland, in 1588, but the use of the explosive shell had then been known to the English for more than fifty years. About 1543, Ralph Hogge, the Sussex gun-founder, brought over a certain Fleming named Peter Van Collet, who devised or caused to be made certain mortar pieces, "being at the mouth from 11 to 9 inches wide, for the use whereof the said Peter caused to be made certain hollow shot to be stuffed with fyrework, whereof the bigger sort for the same has screws of iron to receive a match to carry fyre, to break in small pieces the said hollow shot, whereof the smallest pieces hitting a man would kill or spoil him."¹

At a depth of 15 feet it was reported that the extrados of stone vaulting had been found. An opening was at once authorised and formed, and on the 23rd August the vault beneath was entered. Loose earth was found almost filling the vault, but the clearing of this away to a depth of 32 feet revealed the doorway and well-worn steps of what appears to me to be the lower entrance to the ground floor of the earliest part of the tower (fig. 8). This doorway, which is in a well-constructed stone wall 8 feet 3 inches thick, has a pointed segmental head formed by two sloping lintels meeting at the apex, not by a truly constructed arch. This type of door head is usually associated with early mediæval building, especially in England, where there are instances of its use with straight stones in Saxon times, as at Barnack and Brigstock Churches, Northamptonshire.² The illustration fig. 9 is of the inner side of

¹ *British Battles on Land and Sea*, p. 154.

² *Parker's Glossary*, 4th ed., vol. i. p. 139.

doorway, and shows the later addition to the thickness of the earlier outer wall. In Scotland the double lintel is used throughout a



Fig. 8. Original Entrance to earliest part of Tower.

considerable period, while in Ireland it is used in late sixteenth century, as at Ballybur and Foulscrath Castles, Kilkenny.¹

This entrance doorway is formed with a $3\frac{3}{4}$ -inch splay entirely round the outer edge, the check being $3\frac{1}{2}$ inches deep. A massive door once

¹ *Proceedings*, 1908-9, pp. 51 and 55.

protected the tower. Holes in the door jambs show that a bar—probably of oak—about 5 by 5 inches, sliding into a hole in the north side, served as a fastening on the inside.

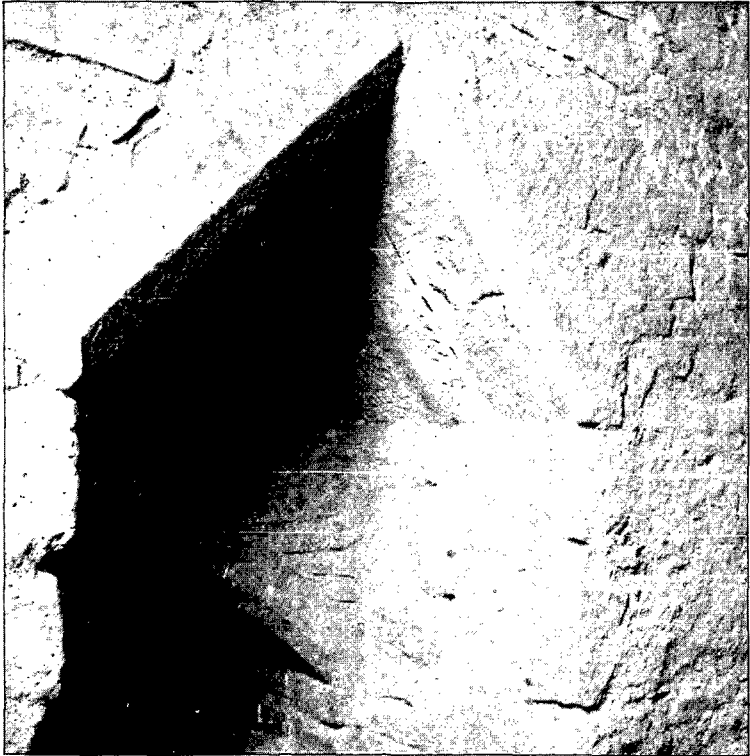


Fig. 9. Inner Side of Original Entrance.

An area, enclosed by railings above this part, has now been formed, so that visitors can see a part of the outer face of the tower wall from the Half-Moon Battery (fig. 4).

The size of the outer vault first entered, after clearing away the rough rubble backing against the east wall, is 22 feet 6 inches by 12

feet 6 inches, the height being about 16 feet to the crown of the vault, which is semicircular. The surrounding walls are about 8 feet thick.

On clearing away the rubbish from the two loop-holes or windows on the south side of this vault, access was obtained to the eastmost of the two lower vaulted chambers of irregular form which occupy the space between the tower and the curved wall of the Half-Moon Battery. These chambers contained a considerable amount of loose soil, which was cleared away. The size of the stalactites from the vaulted roof (fig. 10), and the stalagmites rising from the ground (fig. 11), some extending to 7 feet 6 inches long, indicated that these vaults had not been disturbed for a very long time.

A wall, 5 feet thick, was found to divide the two lower vaults, the wall having a doorway 3 feet wide. There are indications of a pathway over the rocks leading eastward from this doorway.

Our chief interest now lay in the clearing out of the entrance to the tower. The interior, right out to the outside of the doorway, was solid with soil, but, after clearing out the doorway to the thickness of the 8-foot wall, the soil commenced to fall in, great care being necessary to avoid accident to the men engaged in the work. It was then found that the paving of the coal-cellar above rested directly upon the loose soil which had filled up the entrance hall of the tower.

In the entrance hall the doorway on the south side (fig. 12) was discovered on 5th September, and by this doorway access was obtained to the westmost of the outer vaults. This doorway is peculiar in its having three door checks. These checks indicate that two of the doors opened outwards, while one opened inwards. There are here no bar-holes in the stonework. There is a sunk pit 4 feet wide and 5 feet 6 inches deep, with rock floor immediately beneath on the inner side of the wall.

On the west side of the entrance hall or lobby a recess was found (fig. 13) with narrow window looking westward, and with a lamp bole or cupboard as shown.

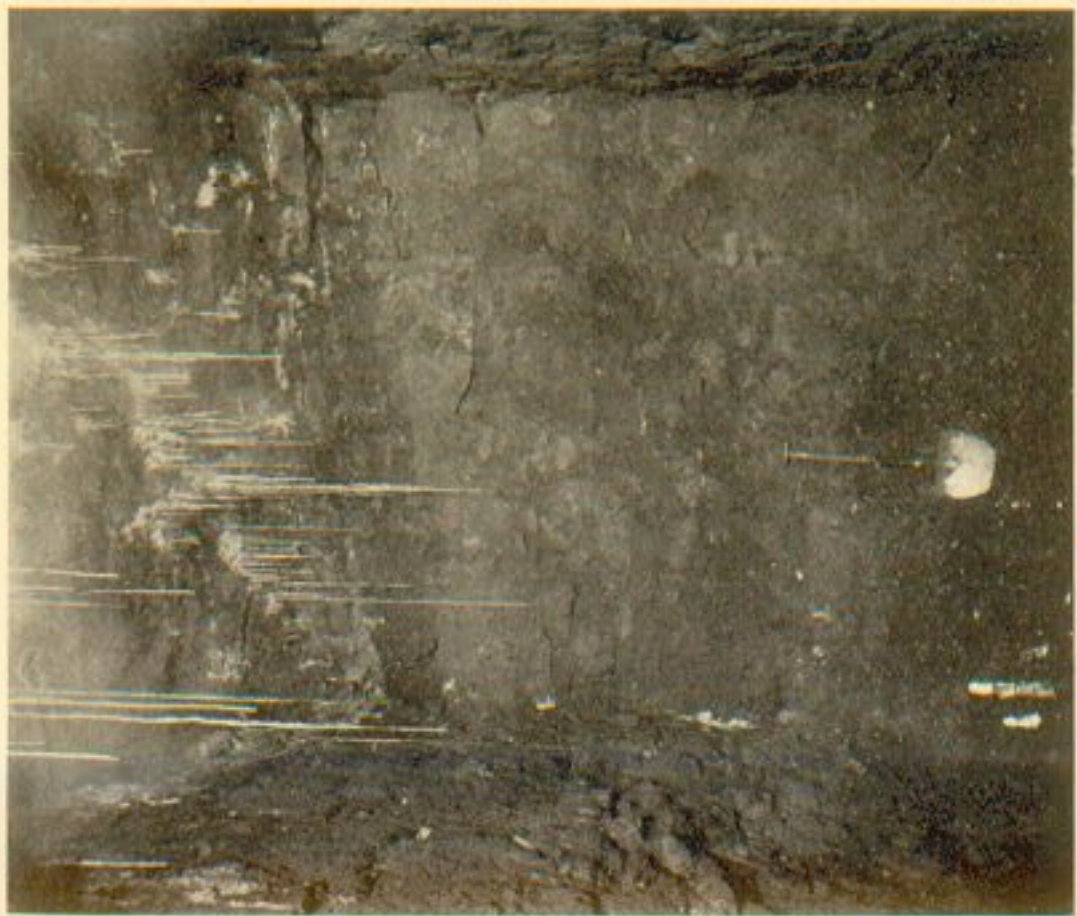


Fig. 10. Outer Vault with Stalactites.

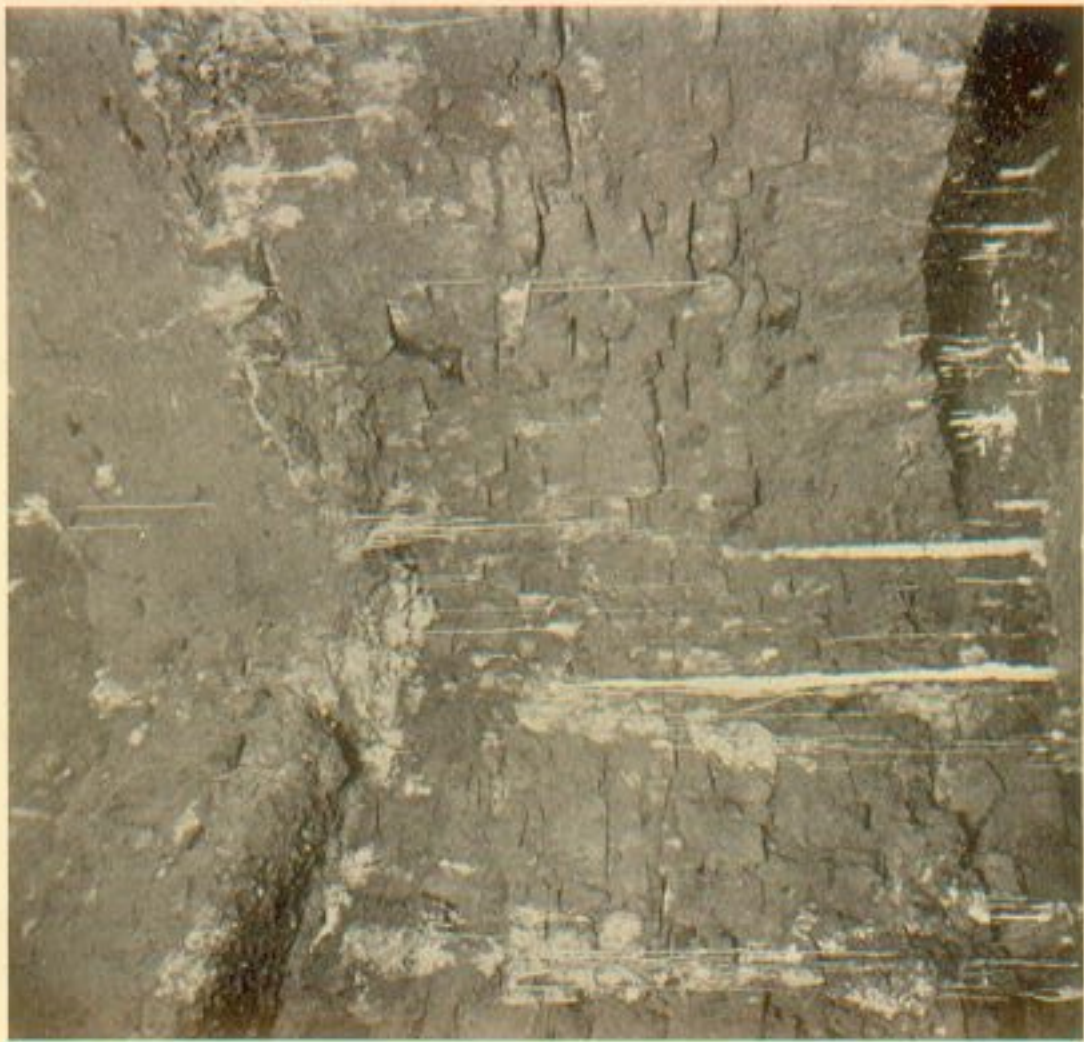


Fig. 11. Outer Vault with Stalagmites rising from debris.

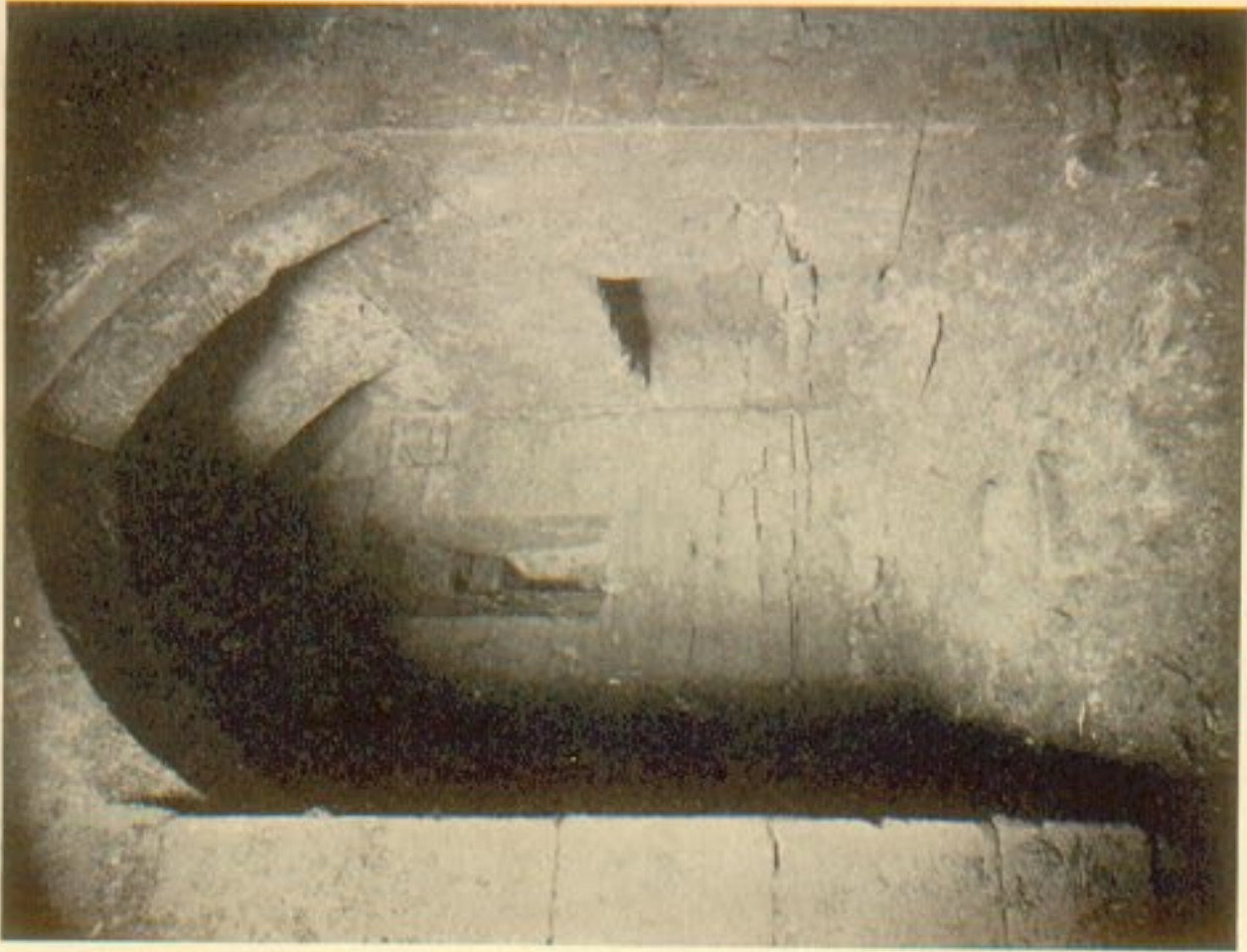


Fig. 13. Recess on west side of Hall.



Fig. 12. Door on south side on higher level. (Believed to be later.)

On clearing away the soil at the north end of the entrance hall a doorway (fig. 14) was found at the top of a flight of three steps, the doorway having been built up with rubble masonry.



Fig. 14. Doorway on north side of Entrance Hall.

On the surface of the stonework of this part of the building a number of masons' marks were found (fig. 15). These masons' marks are similar in type to what have been found in many mediæval buildings, and so far as I am aware they cannot, though interesting in themselves, be relied upon to indicate the date of the building.

Cutting through the rubble infilling of the doorway at the north end of the lobby, communication was obtained with the southmost of three disused water-tanks, which, however, contained about 3 feet of water. The water was pumped out of the tanks, and it was found that each tank was constructed in a different manner. The southmost tank was lined with brick and coated with asphalt about 1 inch thick; the middle tank was lined with wood boards covered with sheet lead; while the northmost tank was lined with rough stone slabs rendered with Roman cement.

It was with great difficulty that the north wall of the tower could be traced. The bottom of the middle tank had been formed directly upon the wall so as to leave no indication of its existence. By careful trenching, however, and by following the slight clues which were found, we were at last successful in tracing it. Steps at the north-west interior angle were found leading to an external doorway of later date. This apparently communicated externally, before the tank was formed, by steps upward to the courtyard, and by steps downward to the basement of the palace building. By reducing the width of the flight of steps upward a convenient entrance has been obtained to the vaults (fig. 37).

Outside the lines of the ancient tower, but joined to it at the north-east corner at an angle of 110 degrees with the north face of the tower, the remains of a massive masonry wall were revealed; within this is a vaulted recess (fig. 16), with a stone-built gun platform 5 feet above the present level of the floor of the tank. In the external wall, formed by carefully tooled ashlar, is a tapered loop-hole (fig. 17). It is oval in section and trumpet-mouthed at the interior face of wall. The axis of the loop-hole is carefully aligned so as to point directly down the High Street (fig. 18). The building of the Half-Moon Battery wall had covered up this ancient loop-hole, but it has now been exposed permanently to view (figs. 19 and 20).

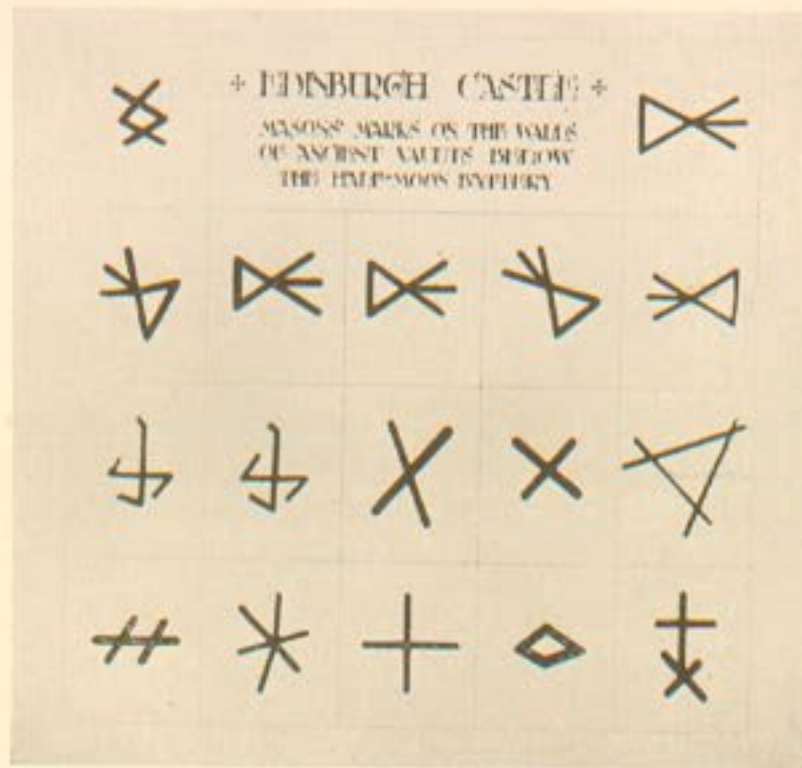


Fig. 15. Masons' Marks on stonework.



Fig. 16. Vaulted Recess of Battery with Shot-hole.



Fig. 17. Tapered Loop-hole of Battery.

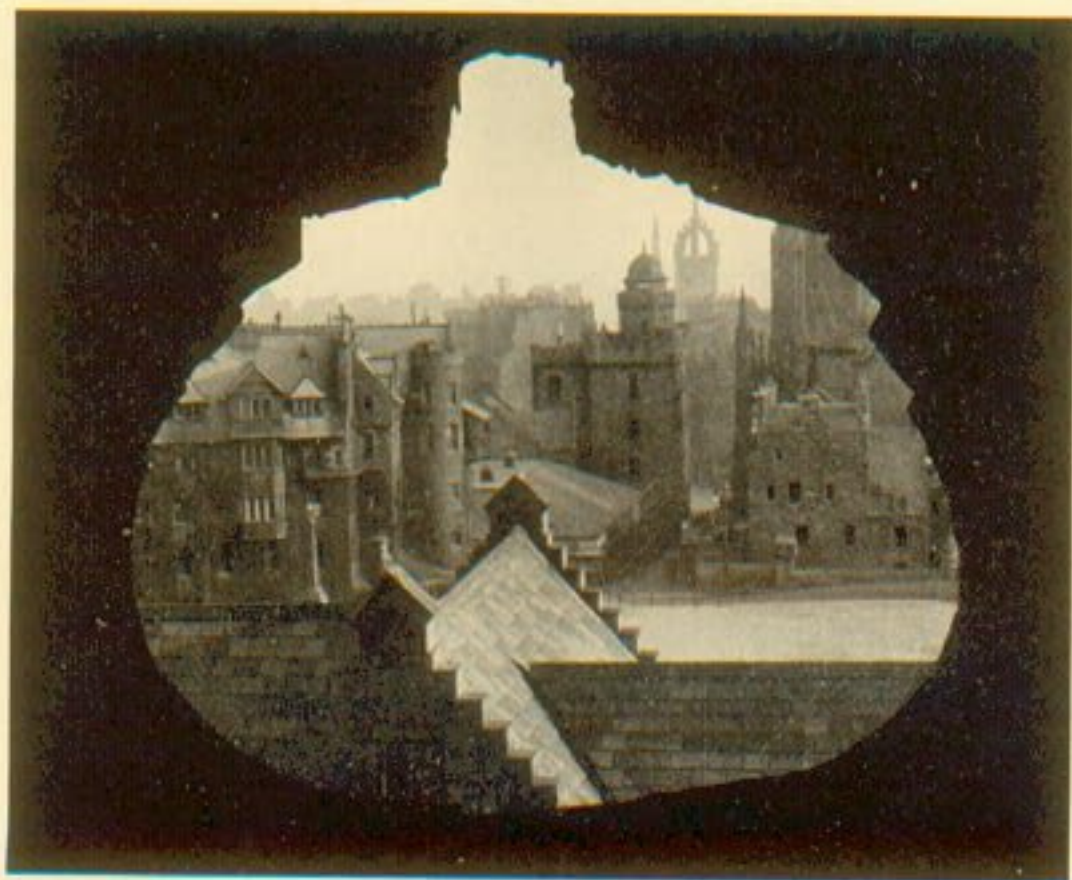


Fig. 18. View through Loop-hole showing alignment with High Street.

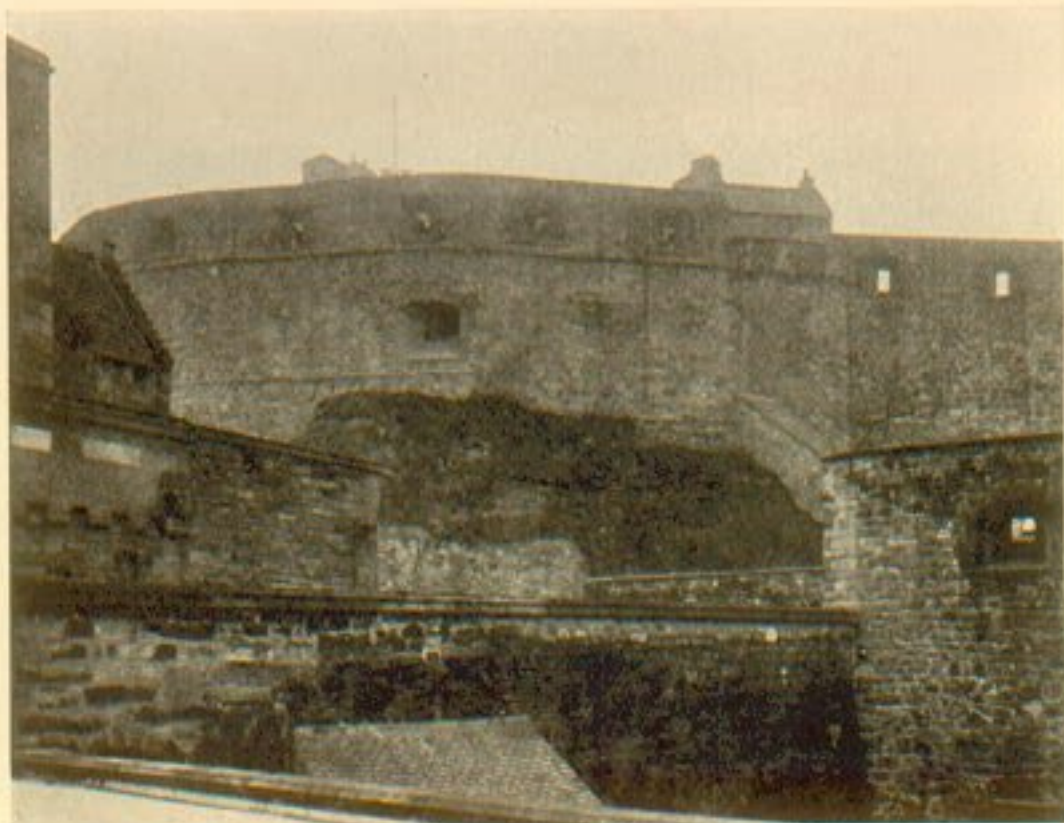


Fig. 19. Half-Moon Battery with the ancient Loop-hole exposed.

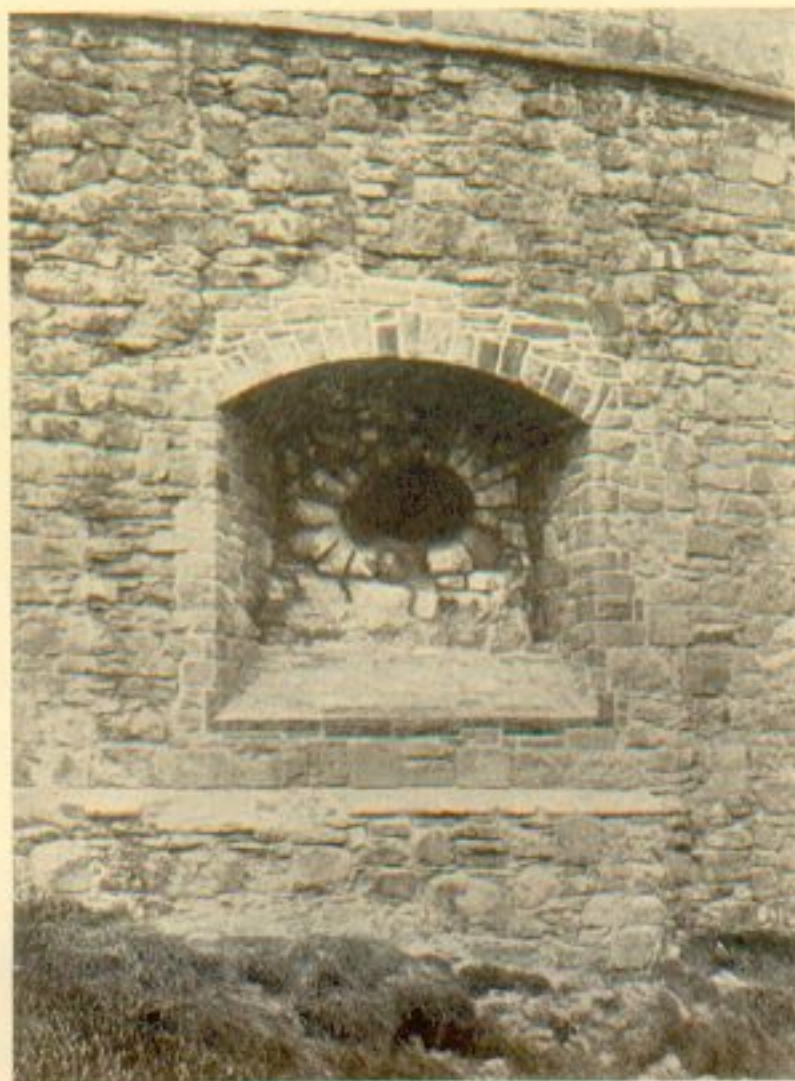


Fig. 20. Recess on outer face of Half-Moon Battery showing original Loop-hole.

The western end of the northmost tank is formed by a 3-foot wall of apparently sixteenth or seventeenth century work. In this wall are two small windows and a doorway, the sill of which is level with the gun platform. It seems probable that this was the original floor level, and that this doorway opened upon the courtyard, which, in that case, must have been about 8 feet lower at this point than it is at present. *There is little doubt that the general plans and levels of the earlier palace buildings adjoining David's Tower differed very considerably from the buildings as we now know them.*

The work of clearing out soil and rubbish from the vaults was completed in October last, since which date a wood stairway has been constructed to give easy access for visitors to the tower from the ground-floor level of the palace to the lower vaults, a depth of about 40 feet.

The following articles were found during the excavations. They have been arranged in tabulated form so as to show the date when found, and the exact position :—

Date when found.	Description of Articles found.	Approximate Distance below Half-Moon Battery.	Position where found.
Aug. 1912	Four fragments of burst iron shell (fig. 21)	15 feet	Over vaulting of outer chamber.
"	Two solid iron 6-inch cannon balls (fig. 22)	"	"
"	Six explosive 6-inch cannon balls	"	"
Sept. 1912	Four fragments of freestone 6-inch shafts and bottle mouldings (fig. 23)	"	"
"	One $\frac{3}{4}$ -inch lead bullet	32 feet	In outer chamber.
"	Three small stalagmites	"	"
"	One small tassel of gold lace	"	"

Date when found.	Description of Articles found.	Approximate Distance below Half-Moon Battery.	Position where found.
Sept. 1912	Two small coins ¹ (an English silver penny from London Mint of Edward I. or II., early fourteenth century; and a bodle or turner of Charles II. (copper))	32 feet	In outer chamber.
"	One small ivory toilette bottle with stopper, 3¼ inches long (fig. 24)	"	"
"	One clay tobacco pipe, whole, and twenty fragments of other similar pipes (fig. 25)	"	"
Mar. 1913	Six cannon balls, 6-inch diameter	"	"
May 1913	One forked bone or horn of small animal	"	"
July 1913	One moulded 8 by 8-inch mullion stone, section	"	"
Oct. 1913	Bones of animal, and small fragments of oak	"	In garde robe off outer chamber.
"	Two fragments of stone cannon balls, 8- and 3-inch diameter	"	"
Sept. 1912	Four fragments of glass wine flagons, one having crest of Earl's coronet above the letter "L" (probably Earl Lennox), and one having crest of ducal coronet above winged heart (probably Duke of Queensberry) ² (figs. 26, 27, and 28)	15 feet	In entrance hall.
"	Seven pieces of earthenware jars (fig. 29)	18 feet	"

¹ Dr George Macdonald, who has kindly identified these coins, states that they were the staple currency of Scotland at this period.

² Mr W. Rae Macdonald, Albany Herald, who has examined these fragments, states that William Douglas, third Earl of Queensberry, was created Duke of Queensberry, 3rd November 1584. The flagon therefore cannot be earlier than 1584. Lord Guthrie has suggested to me that it may possibly have belonged to the Duke of Queensberry who was Governor of Edinburgh Castle in 1682. Robert, seventh Earl of Lennox, resigned his earldom in favour of his nephew, Esme Stuart, who was created Duke of Lennox in 1581. It would therefore appear that the flagon of which this fragment formed a part is earlier than 1581.

Date when found.	Description of Articles found.	Approximate Distance below Half-Moon Battery.	Position where found.
Sept. 1912	Ten fragments of glazed earthenware, eight of which form part of a large platter, 14-inch diameter, decorated with a rude geometrical pattern (fig. 30)	18 feet	In entrance hall.
"	One fragment of yellow glazed brick	"	"
"	One fragment of glass ornament	"	"
"	One fragment of plain glass	"	"
"	One fragment of white stoneware jar	"	"
"	Three metal buckles, with fragments of leather strap	"	"
"	One soldier's iron helmet (fig. 31)	30 feet	In south vaults.
"	Two solid 6-inch cannon balls	"	"
"	One stalagmite, 7 feet 6 inches high	"	"
"	Forty-one stalagmites of small size	"	"
"	One stalactite, 5 feet long	"	"
"	One stalactite, 3 feet 6 inches long	"	"
Dec. 1912	Fragment of moulded stone (section, 12 by 11½ inches) (fig. 32)	40 feet	"
Mar. 1913	Two solid 4-inch cannon balls	"	"
"	Two moulded rybates, apparently parts of oriel windows of old palace (fig. 33)	50 feet	"
April 1913	Three solid cannon balls, 6-inch diameter	"	"
"	One piece of explosive cannon ball	"	"
"	Seven pieces of cannon balls	"	"
May 1913	One mason's iron hammer head, 10 inches long	52 feet	"
Mar. 1913	Three solid iron cannon balls, one 7 inches, one 6 inches, one 4 inches	18 feet	Below window in south tank.
April 1913	One white metal spoon	20 feet	In middle tank.
"	One lead washer	"	"
Mar. 1913	One solid iron cannon ball, 7½-inch diameter	15 feet	"
April 1913	Three fragments earthenware jars	"	"
"	Two small stalagmites	12 feet	In north tank.
Mar. 1913	Two solid cannon balls, 6-inch diameter	15 feet	"

Also a few shells and some bones of animals found in various parts of the excavations.



Fig. 21. Fragments of Explosive Shell found outside original Tower.



Fig. 22. Solid Cannon Balls found outside original Tower.



Fig. 23. Fragments of Stone Shafts.

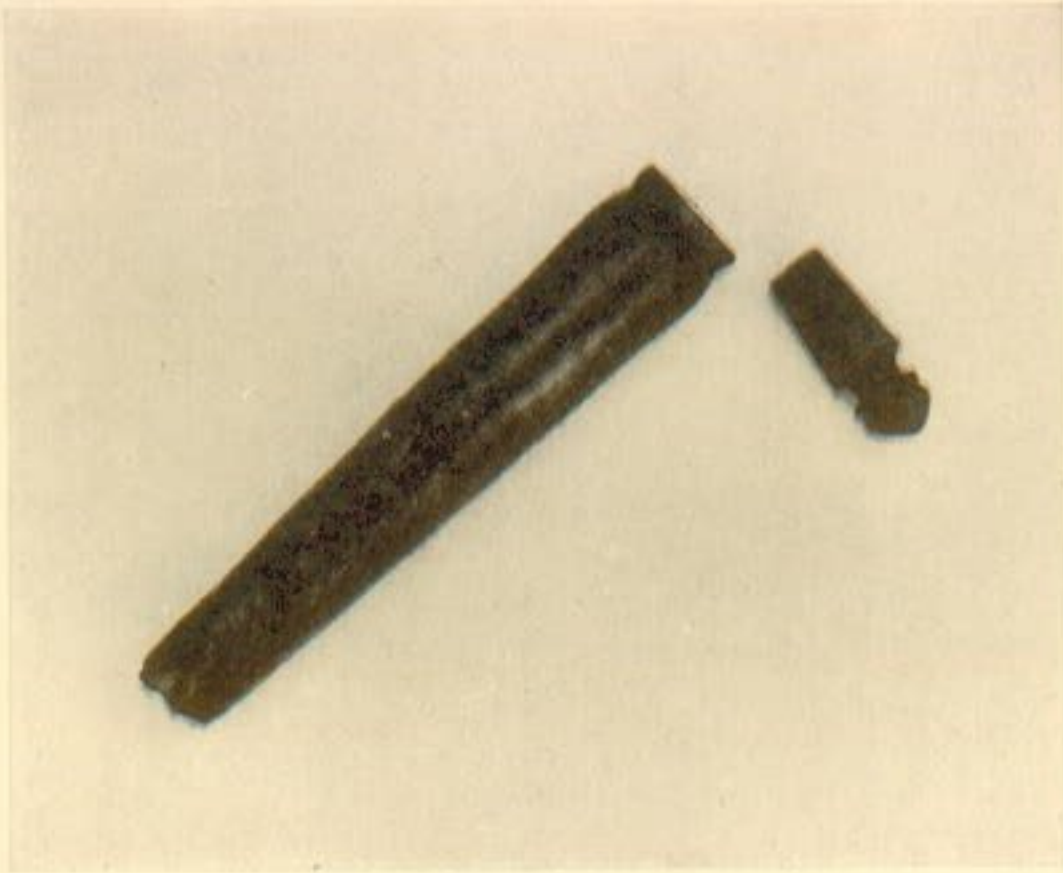


Fig. 24. Small Ivory Toilette Bottle.

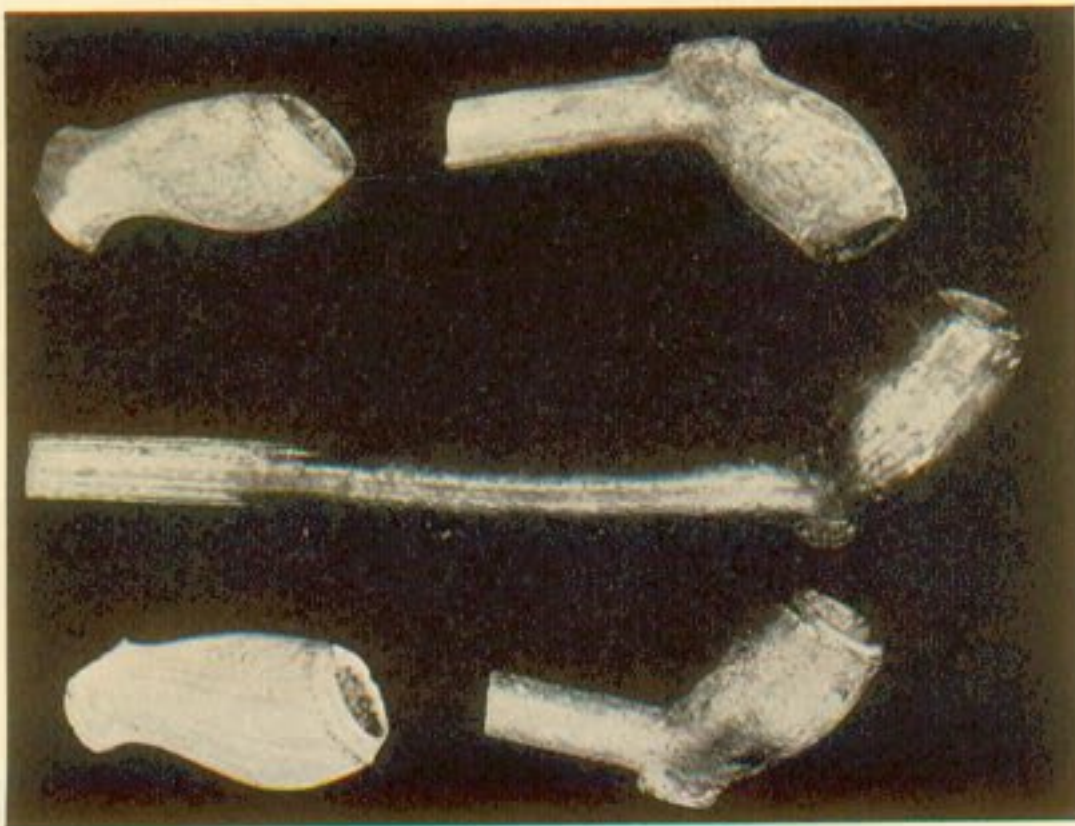


Fig. 25. Tobacco Pipes.

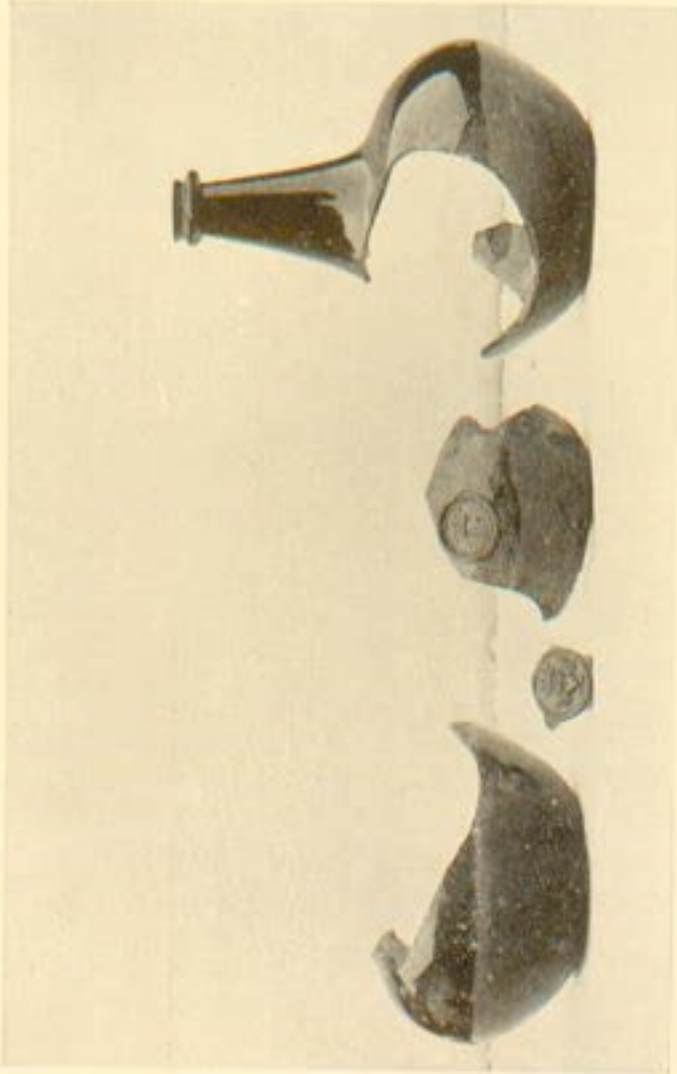


Fig. 26. Fragments of Wine Flagon.



Fig. 27. Impression on Wine Flagon, with coronet and initial (probably of Earl Lennox).



Fig. 28. Impression on Wine Flagon, with ducal coronet (probably of Duke of Queensberry).

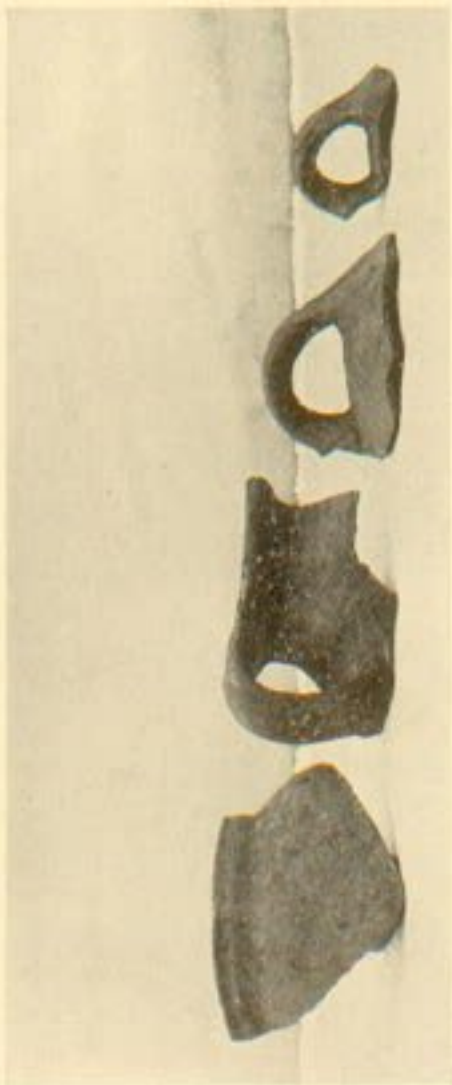


Fig. 29. Fragments of Earthenware Vessels.

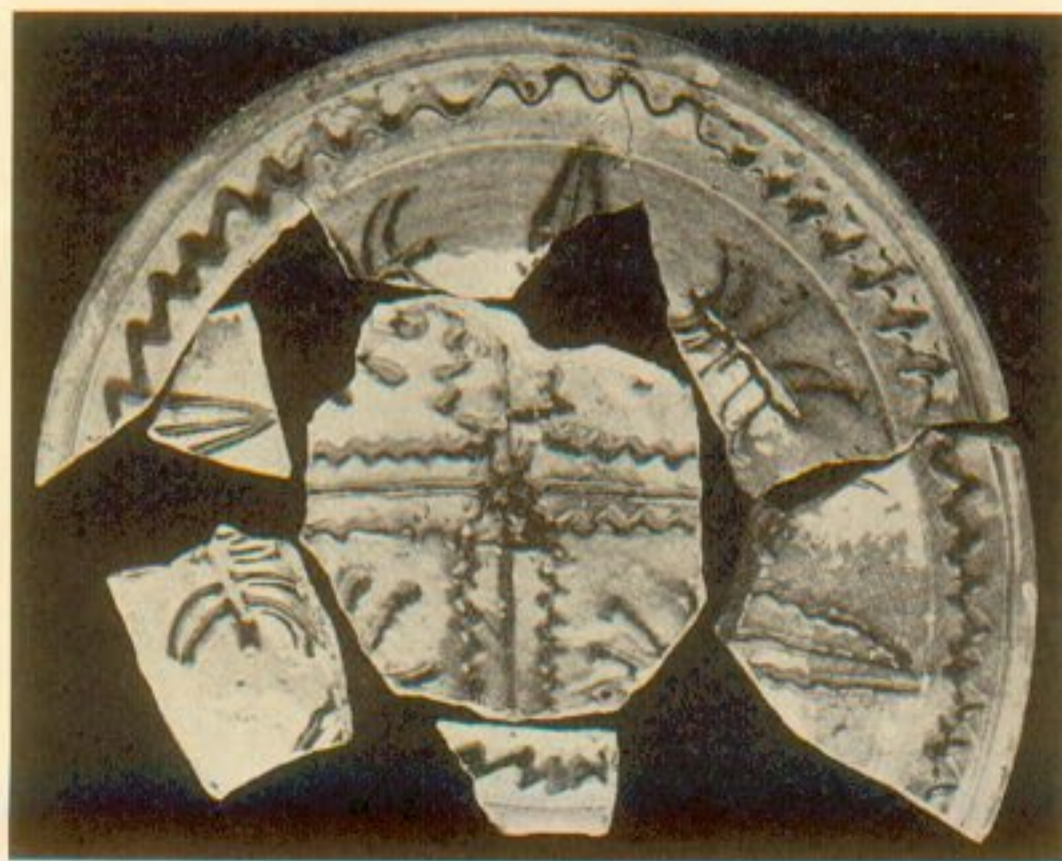
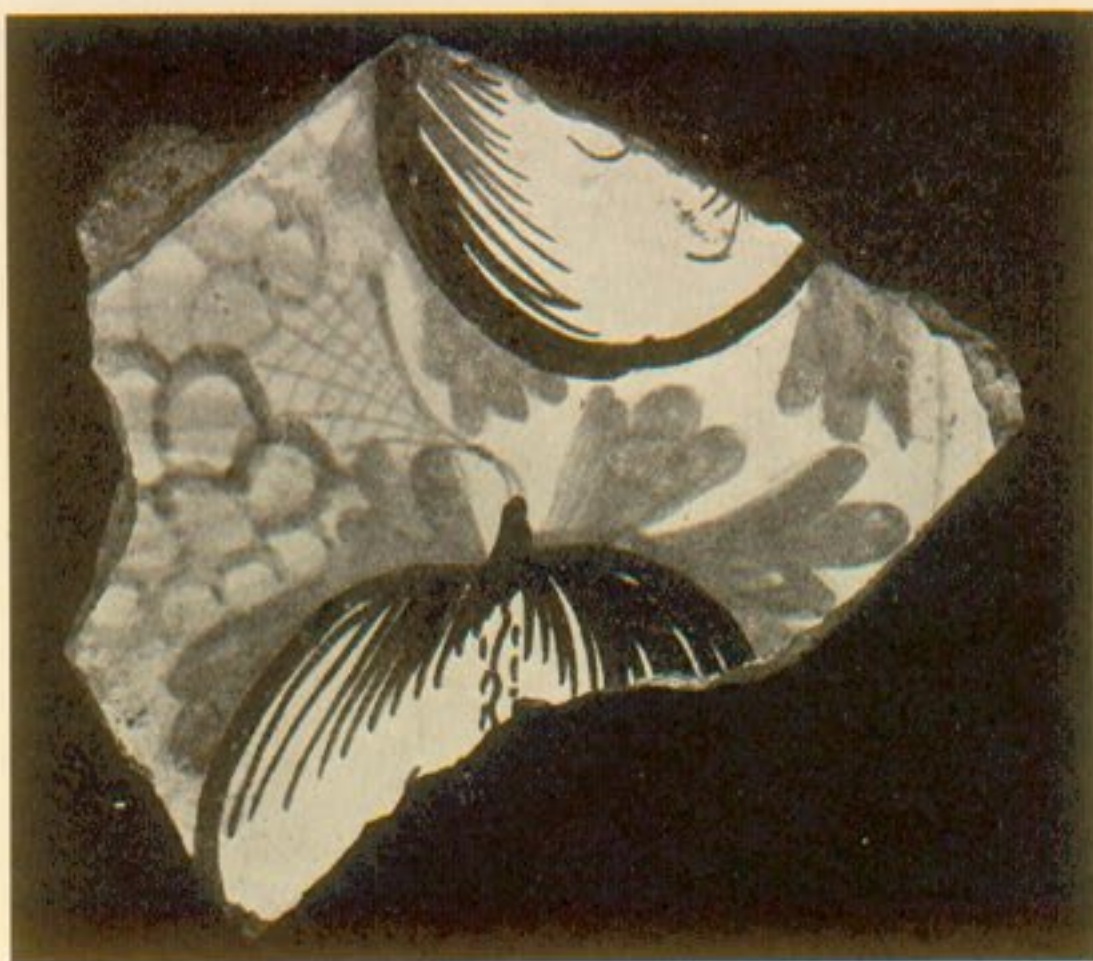


Fig. 30. Fragments of glazed Earthenware Vessels.



Fig. 31. Soldier's Iron Helmet.



Fig. 32. Fragments of Moulded Stone, apparently from mullions of windows.



Fig. 33. Moulded Stone Rybate, apparently from oriel window.

The Ancient Well.—Intimately connected with the fortunes of the Castle is the ancient well, lying about 16 yards to the north of David's Tower. When it was originally sunk is entirely a matter of conjecture, and, so far as I have been able to ascertain, no reference to it appears in historical records until 1313, when Ranulph, Earl of Moray, captured the Castle, and shortly afterwards demolished the buildings and filled up the well, obliterating the site of it so that the English might not be able to hold the Castle if ever they sought to occupy the position. It was not until 1381, *i.e.* sixty-eight years after, that the well was again found and cleaned out. For nearly two hundred years the well was used, and then it was again choked by the falling masonry and debris caused by the cannonading of Drury's artillery in 1573. The construction of the upper part of the well indicates that the Regent Morton, when forming the Half-Moon Battery, cleared out the debris, and, by an ingenious piece of stone vaulting, brought the irregular-square shaped, rock-cut, plan to a circular form, carrying up the well to the new level required—a distance of about 24 feet.

As no survey of this historical well, although probably one of the most interesting in Britain, appeared to exist, it was thought advisable, in connection with the exploration of David's Tower, to clean out and take measurements of it. It was, moreover, hoped that articles of interest might perhaps be found at the bottom.

On removing the flagstone cover on 20th October last, water was found in the well to the depth of 60 feet. By the aid of a pulsometer steam-pump the well was pumped dry, and the remains of a disused pump and other material removed, including a bed of sludge 1 foot 6 inches deep. The clearing out of the well was completed by the end of November, and I had the interesting experience of being let down in a bucket to the bottom—a distance of 110 feet.

For a depth of 23 feet 10 inches from the top, the well is circular in

section, 4 feet 10½ inches in diameter, and well constructed with coursed ashlar stone. At this depth there is a change in the form of the well, it being then roughly hewn in the rock, of an irregular square in section, about 10 feet from side to side. The well, however, does not continue of this section to the bottom, but diminishes irregularly until at the very bottom the size is about 4 feet square. It is estimated that the capacity for water storage, with 60 feet deep of water, would amount to about 28,500 gallons.

The level at which the roughly rock-hewn section changes to the circular section coincides with the level of the top of the exposed rock at the nearest point eastward on the outside of the Half-Moon Battery wall. Moreover, the general level of the rock surface on the nearer side of David's Tower also coincides with the same level. This seems to me to indicate that before the construction of the Half-Moon Battery after the siege of 1573, the level of the top of the well was about 24 feet lower than it is now.

The support of the circular masonry over the square space beneath is ingenious, though quite simple, and sound in construction. A barrel-vault, almost semicircular, covers one half of the square space, the centre of the remaining half being perpendicularly over the centre of the bottom of the well. Then a half barrel-vault is sprung from the rock side of the well, its crown line abutting against the exposed end of the barrel-vault first formed.

The pumping arrangements for filling the underground tanks already referred to were clearly indicated by what was found to exist. About 2 feet 6 inches from the top of the well a 3-inch diameter lead pipe led to the tank, the water having evidently been pumped into this pipe. An overflow channel of built stone leads from the nearest tank to the well, so that anyone working at the pump would at once be able to see when the tanks were fully supplied with water. The three tanks are connected by overflow openings.

In order that this historic well may be seen by visitors, a circular

raised stone parapet has now been provided, and a wrought-iron grille placed over the top (fig. 34).

The following is a list of the articles recovered from the well :—

One modern-pattern treble-barrel gunmetal pump, fixed on oak bearers about 85 feet from the surface, with 20 feet of 2-inch copper suction pipe (fig. 35).

A quantity of oak bearers used for pump.

Four modern gunmetal couplings for pump.

One sponge head of a rammer for muzzle-loading cannon, 4-inch bore.

One iron cannon ball, 4-inch diameter.

Four pieces of explosive cannon ball.

One piece of explosive cannon ball fixed by oxidation to flat stone.

Four modern hammer heads.

A few skulls and bones of small animals.

One Aylsham (Norfolk) Town halfpenny token, date 1795.

One silver coin, undecipherable. Probably a George III. shilling.

One brass uniform button, with initials R.L.M. 9.

Conclusions.—Having now related how we came to make these explorations, and having described briefly what has been found, I should like to state the grounds upon which I have come to the conclusion that what has been discovered is David's Tower. I wish first to say that I am indebted to Mr W. Moir Bryce for much information of historical interest, which has thrown light upon the subject. From his knowledge of records and his studies of history as relating to Edinburgh Castle, he has been able not only to impart some of his enthusiasm, but has been most kind in confirming or refuting my suggestions from time to time, as I have tried to unravel the problem.

It has long been known that the masonry of the little vaulted chamber formerly used as the canteen coal-cellar must have belonged to some building far earlier than the oldest part of the palace buildings as now seen above ground. Indeed, the connection of this chamber with David's Tower is not a new suggestion. Since commencing to write this paper, I have found that Mr Hippolyte J. Blanc, in conducting a party of the Edinburgh Architectural Association over the Castle in February 1891, said that he thought he had in this coal-cellar found



Fig. 34. View showing new Well-head to ancient Well.

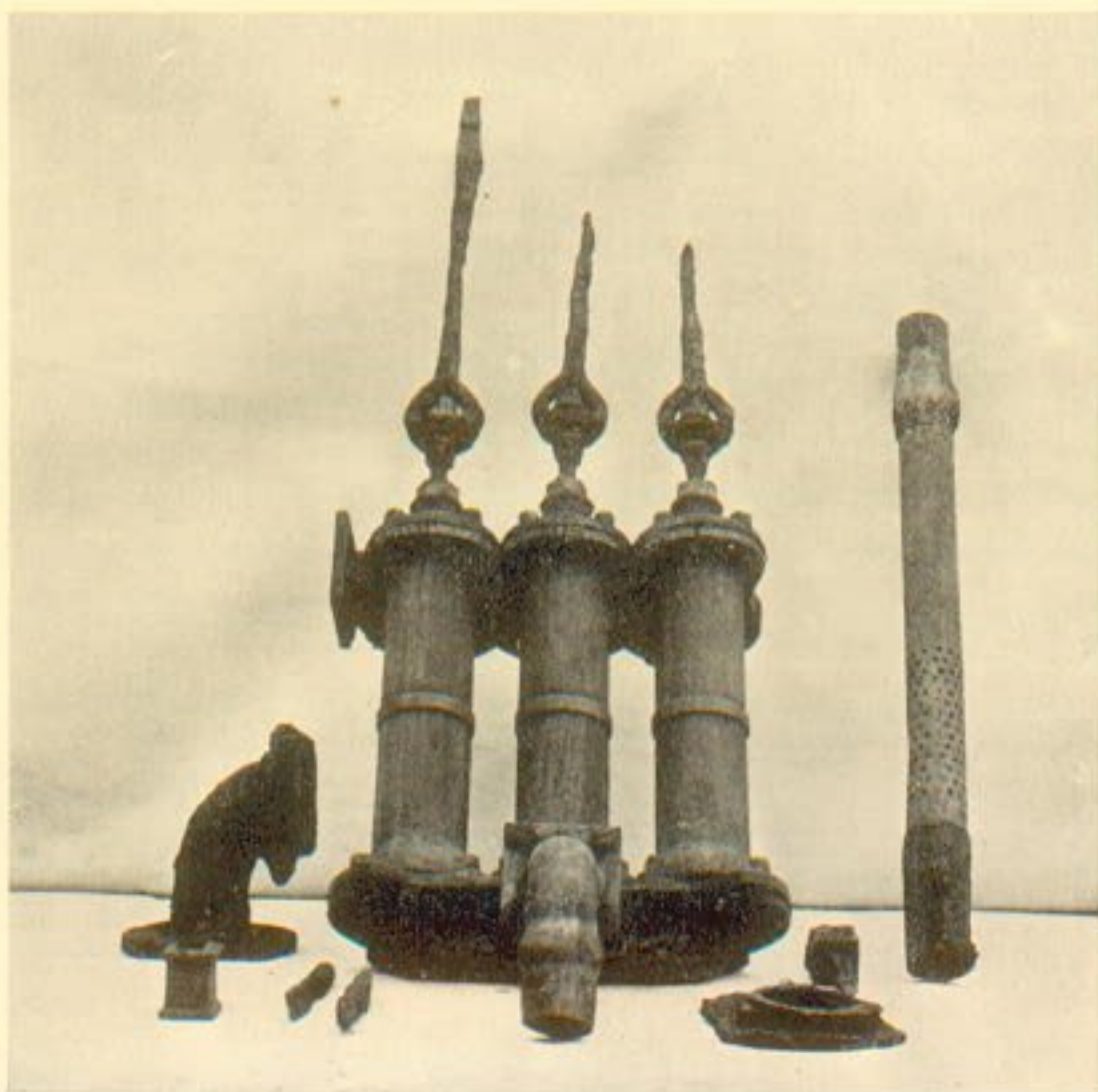


Fig. 35. Triple-cylinder Pump found at bottom of the Well.

traces of the foundations of David's Tower within the Half-Moon Battery. "He had seen there the remains of old masonry, and of a pointed arched doorway, indicating the architectural features of the period."¹

The earliest known view of the Castle is that which is found in the very imperfect bird's-eye view of the town of Edinburgh prepared for the Earl of Hertford's expedition in 1544. It cannot, however, be said to throw much light upon the subject. There is, however, an interesting contemporary description of the Castle which may be quoted. From this Military Report we learn that "The situation is of such strength, that it can not be approached but by one waye, whiche is by the hyghe strete of the towne, and the strongest parte of the same lyeth to beate the sayde strete. And consyderynge the strength of the sayd Castell, with the situation thereof, it was concluded not to lose any tyme, nor to waste and consume our munition about the siege thereof, all be it the same was courragiously and daungerously attempted, tyl one of our pieces with shotte out of the sayde castel was stroken and dismounted."²

A much more valuable view was prepared shortly after the siege of 1573 (fig. 36). Along with the account of the siege is annexed a facsimile of the curious and rare plan which belongs to the first edition of Hollinshead (*Chronicles*), printed in 1577, being a bird's-eye view of the town and Castle of Edinburgh at the time of the siege. It is stated in the *Bannatyne Miscellany* that there can be little doubt that it was engraved from a sketch made on the spot—probably by Rowland Johnson, who is stated to have been then engaged in "making of a platte" or ground-plan of the city.³

Although it is quite likely that the "platte" of the city prepared by Rowland Johnson would be made use of, it is probable that the

¹ *Trans. of the Edinburgh Architec. Assoc.*, vol. i. p. 163.

² *Bannatync Miscellany*, vol. i. p. 184.

³ *Ibid.*, vol. ii. p. 68.

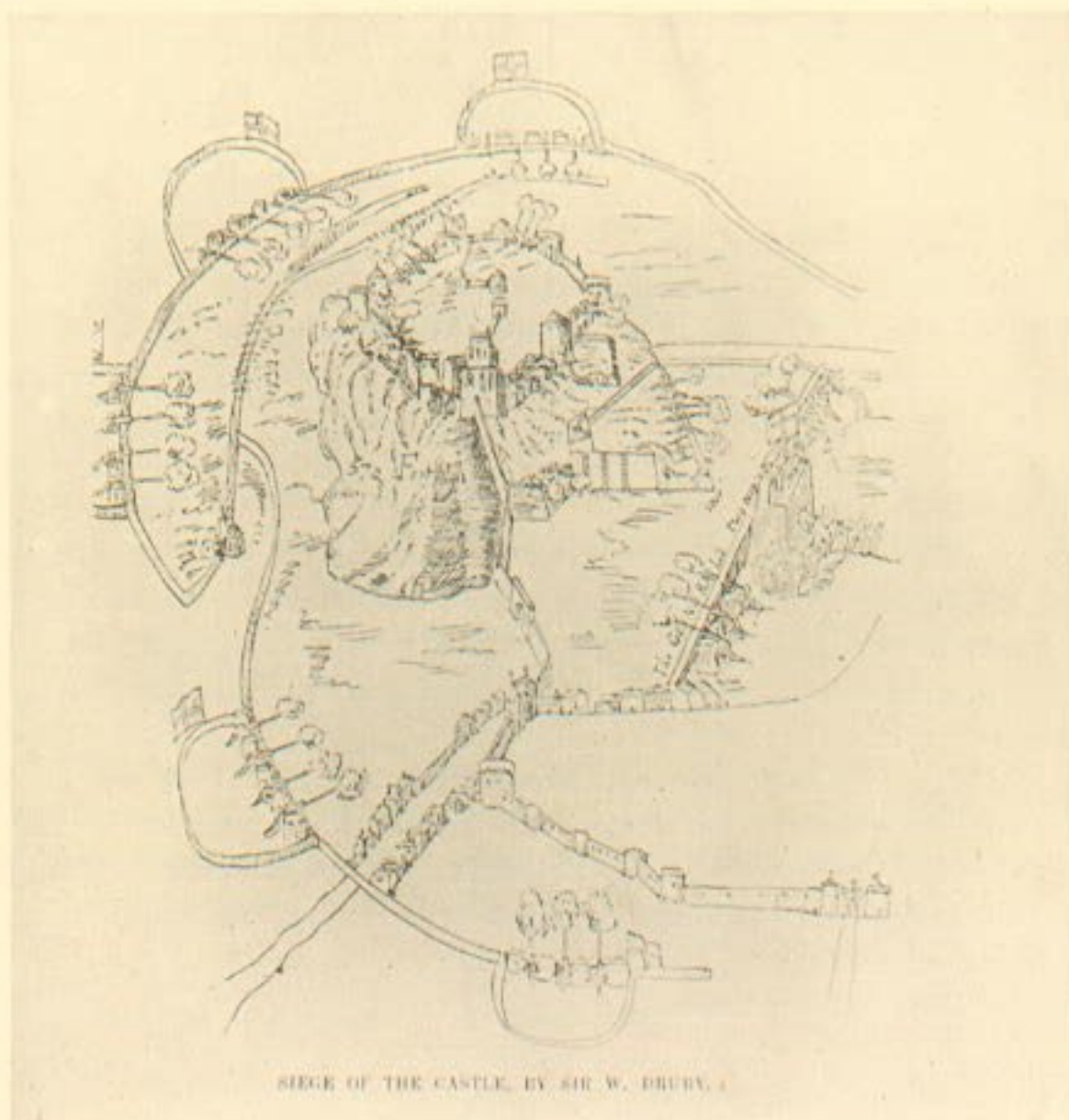


Fig. 36. Bird's-eye View of Castle from Plan drawn shortly after Siege of 1573.

bird's-eye view as published in 1577 was drawn by or under the direction of Churchyard the poet. However this may be, and despite its manifest inaccuracies, this view certainly helps us to identify David's Tower.

The following description of the Castle is given in the Survey "taken of the Castle and Town of Edinburgh in Scotland by us, Rowland Johnson and John Fleminge, Servants to the Queen's Majesty, by the Commandment of Sir Wm. Drury, Knight Governor of Berwicke, and Mr Henry Killigrave, Her Majesty's Ambassador, as followeth— (27th Jan. 1572-3) ¹ :—

"Furste, we find the Castle standing upon a natural main rock, on great heights, like 600 feet long and 400 feet broad.

"On the fore part eastward, next the town, stands like 80 *foote* of the *haule*,² and next unto the same stands 'Davyes Toure,' and from it a curtain with 6 cannons, or such like pieces in loops of stone looking in the street-ward: and behind the same stands another tier of ordnance, like 16 feet climb above the other, and at the North end stands the Constables' Tower, and in the bottom of the same is the way into the castle with (XL) steps.

"Also we find upon the said east side a 'spurre' like a bulwark, standing before the foot of the rock that the said curtain stands on, which spurre encloseth that side, flanked out on both sides: (and) on the South side is the gate where they enter into the Castle, which spur is like 20 feet high, vamured with turf and baskets, set up and furnished with ordnance.

"The lowest part of this side of this curtain wall is 24 feet high, and the rock under the foot of the wall, where it is lowest, is 30 feet. Davyes Tower is about 60 feet high, the Constables' Tower is like 50 feet."

¹ *Bannatyne Miscellany*, vol. ii. p. 68.

² In M'Gibbon and Ross's *Castellated and Domestic Architecture of Scotland* (vol. i. p. 451), the word is given as "waule," which is better understood.

The "80 foote of waule" may be that part of the lower curtain which was straight, and which ran parallel to the southern face of David's Tower. The curtain with six cannons "looking in the street-ward" was evidently the wall going northward from the tower, and the other "tier of ordnance like 16 feet climb above the other" appears to have been the further battery northward beyond the small tower on the wall. This seems quite clear from what follows:—"And at the North end stands the Constables' Tower, and in the bottom of the same is the way into the castle with 40 steps" (fig. 38).

It will be seen also that the raised doorway and the two small windows upon the lower floor looking south, shown in the bird's-eye view of 1573, agree with what we have found, while the small fragment of wall abutting upon the tower seems to mark the western termination of the wall of defence which was built so hurriedly after Flodden in 1513; or it may be of the earlier city wall of 1450.

The "curtain with 6 cannon" referred to as extending from David's Tower seems to be indicated at its junction with the north-east angle of the tower by the massive wall in which the shot-hole has been found as described, "looking in the street-ward," which it does. The level of the floor of the platform at this shot-hole as compared with the rock level nearer the position where the Constables' Tower must have stood confirms the 1572-3 account of the further "tier of ordnance like 16 foote clym above the other."

In Grant's *Memorials*¹ it is stated that "in 1638, on the 19th November—the birthday of Charles I.—a great portion of a curtain wall, which was old and ruinous, fell down and rolled in masses over the rock." There is also an entry in Sir Thos. Hope's Diary, under 20th November 1639, as follows:—"This day a part of the castel wall quhillk is toward the entrie on the south, fell in the nycht, with sich a noise that all within took it for a myne or surprize of the Castell of Edinburgh." The rebuilding of this "curtain wall"

¹ *Memorials of the Castle of Edinburgh*, 2nd ed., p. 105.

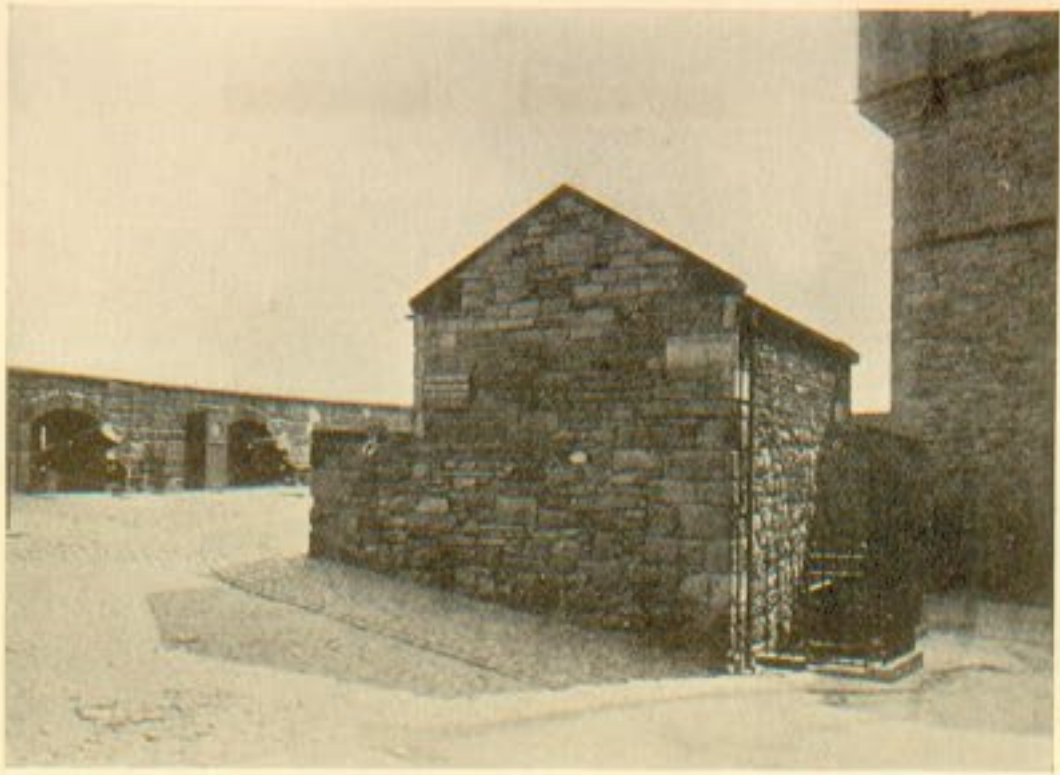


Fig. 37. New Steps for access to the Vaults of David's Tower.

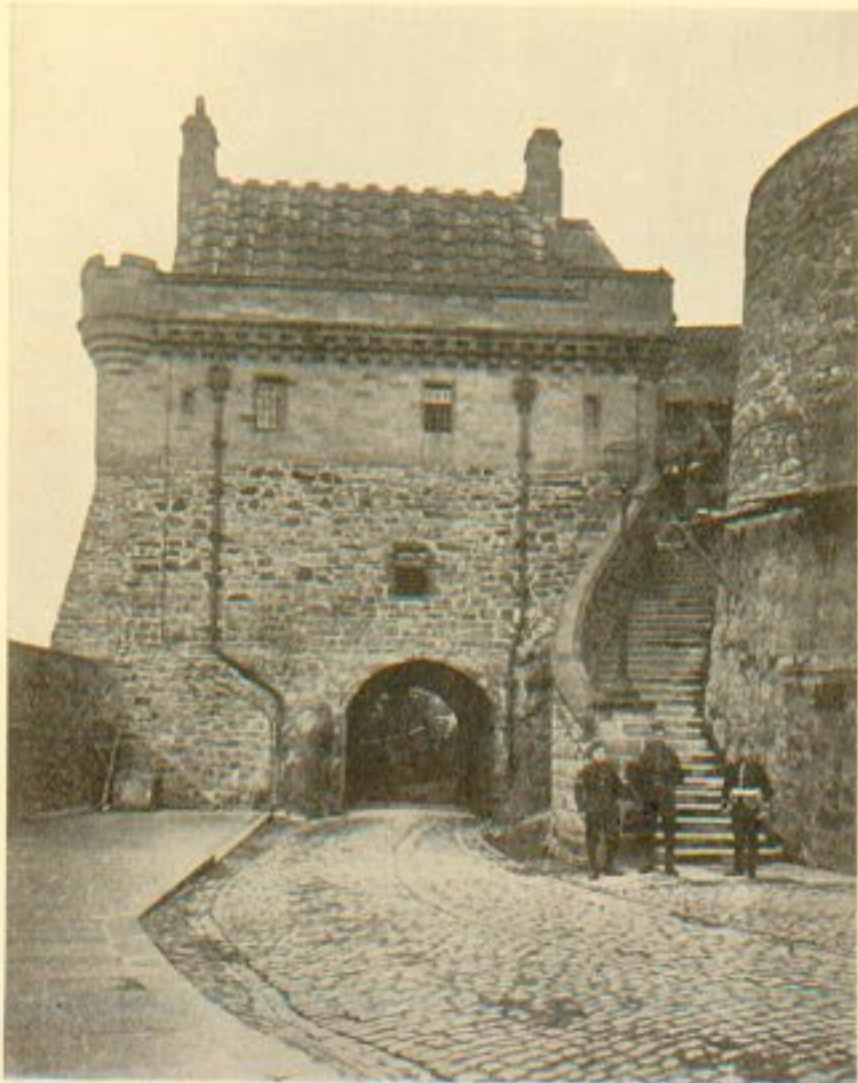


Fig. 38. Steps as they now exist near site of "Constables' Tower."

strengthened by a projecting batter, appears to me to probably account for a feature on the north-east face of the Half-Moon Battery wall (figs. 39 and 40) which has greatly puzzled architects and antiquarians. It was thought by some that this feature might indicate the position of a former important building, but in the light of the recent discoveries this now appears quite unlikely.

We can now form some idea of the plan of the tower, both as it was originally built in 1367 and as it existed in 1573 before the bombardment.

Originally the tower was, I think, L-shaped on plan (fig. 41), having an entrance on the lower level at the re-entering angle, and with one principal apartment on each floor about 36 feet 6 inches by 22 feet. There may have been an entrance also to the lower floor from the higher level of the rock surface at the north-west corner, or more probably there may have been a spiral stair here connecting the ground floor with the floors above, as in the case of the keep of similar date at Craigmillar, which was built some ten years after the building of David's Tower, and of similar plan and size.¹

It would appear that at a later date the lower entrance at the re-entering angle was found insecure, and that an addition was made at the south-east corner, making the plan almost a square (fig. 42). It seems, however, from an examination of the masonry, that before this outer chamber was formed the entrance was strengthened by the thickening of the walls as indicated by the plan. The building of this addition to the tower must, it appears, have been after 1544 and before 1573. The bird's-eye view of 1544 shows the tower not to be square on plan, while the view published after the siege of 1573 distinctly shows it to be square. Moreover, we found the masonry of the wall, which had originally an outside face, but which was after-

¹ Illustrated by M'Gibbon and Ross in *Castellated and Domestic Architecture of Scotland*, vol. i. p. 189.

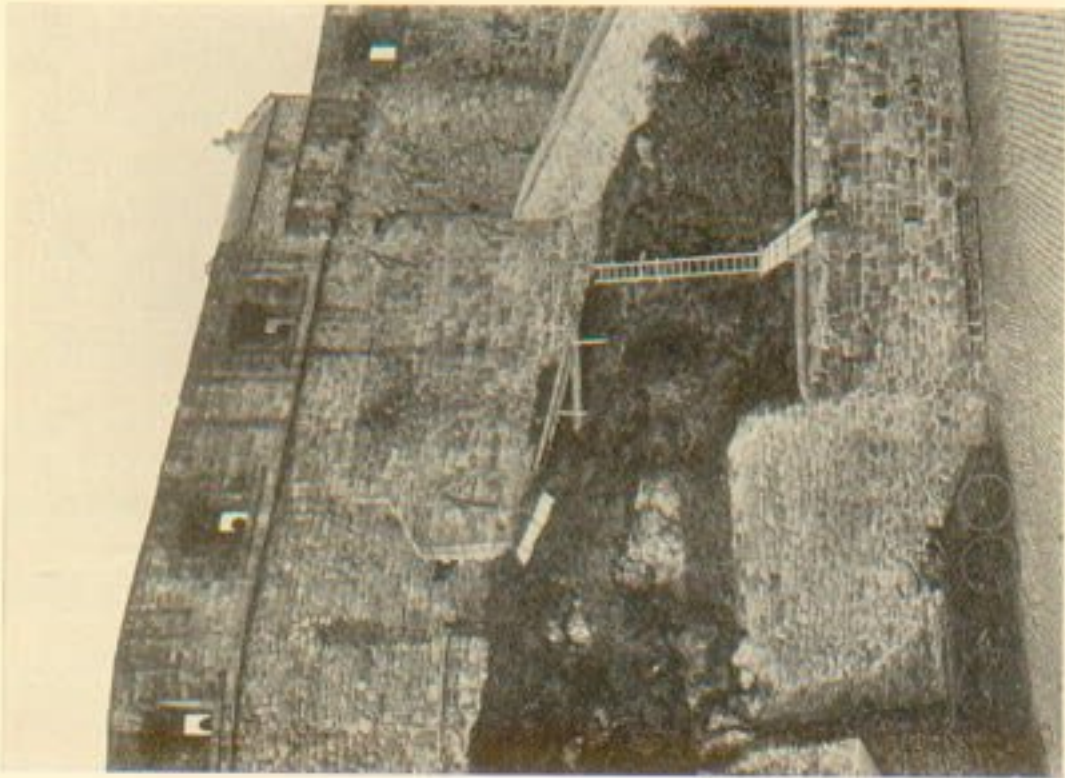


Fig. 39. North-east face of Battery Wall, showing part rebuilt with batter.

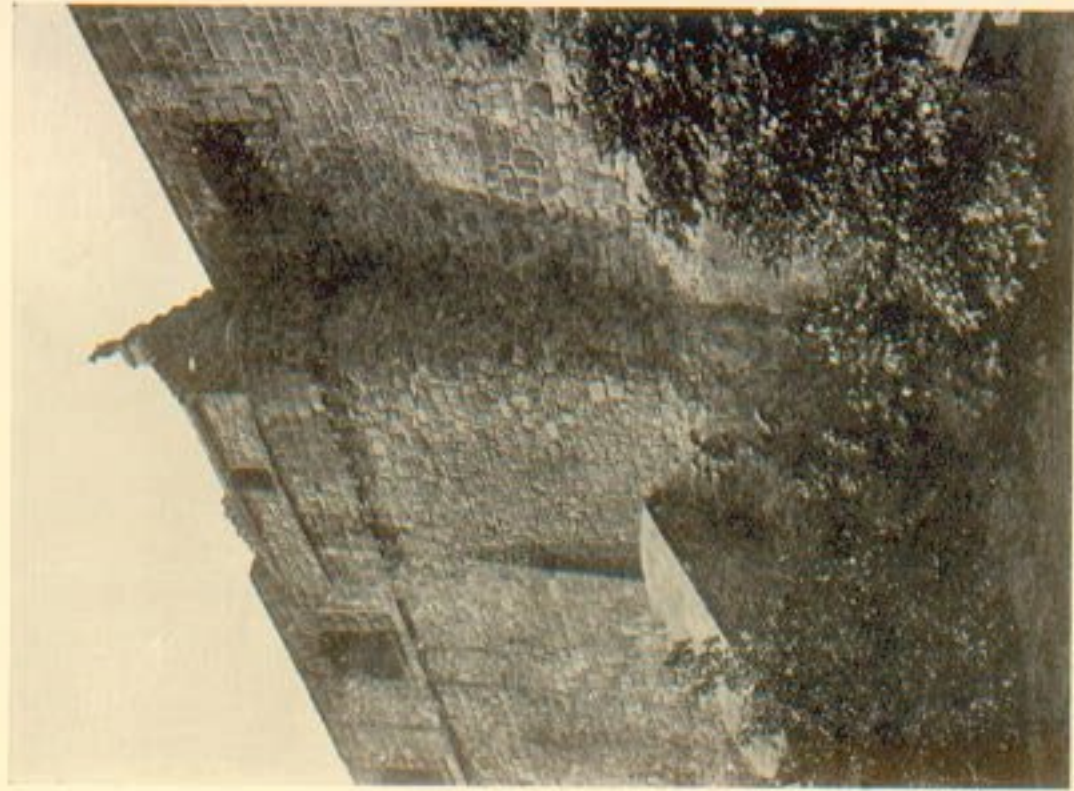


Fig. 40. View at junction of part rebuilt with older masonry.

wards enclosed, damaged by shell, the remains of the exploded shell lying amongst the debris beneath. Now, explosive shell was, as already stated, only introduced into England in 1543. Having abolished the lower entrance, the doorway on the south side was probably formed (if it did not previously exist) 21 feet above the

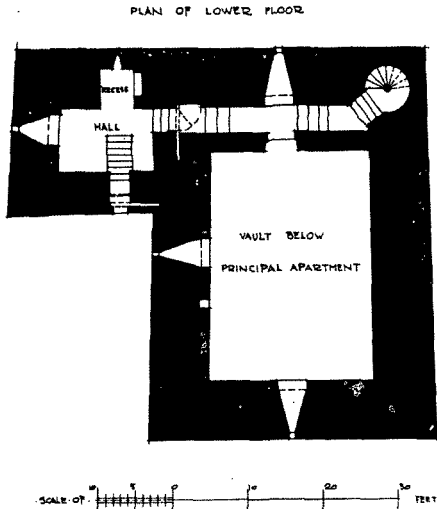


Fig. 41 Plan of David's Tower as it probably was originally.

surface of the rock outside, access being doubtless gained for greater security by a ladder or movable steps.

For defence this higher probably and later entrance is well planned. The hall, having recesses on either side, could accommodate men in positions of advantage to resist attack from assailants; while it is possible that the sunk pit on the inner side of the entrance (see fig. 12), while serving as storage space for a rope ladder, might be intended

as a trap into which unwary strangers attacking the fortress would be likely to stumble just as they were engaged with the defenders of the keep.

Reference has been made to the falling masonry of David's Tower having choked the well. It is interesting to note in this connection

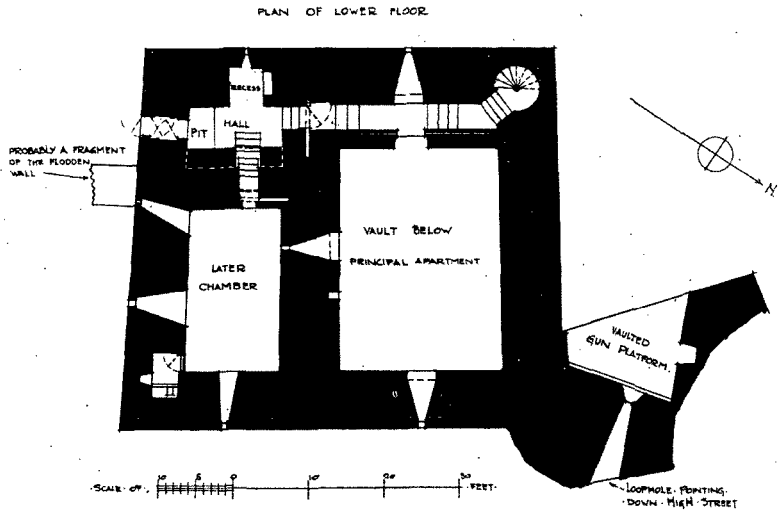


Fig. 42. Plan of David's Tower with the addition made later.

that it is that side of the tower nearest the well which has been found most demolished, while that part of the tower furthest from the well still exists to a height of nearly 50 feet above the original rock surface against the south side of the tower. It is difficult to realise, now that the Half-Moon Battery entirely covers up the remains of the tower, that so much of it still exists.

Perhaps the clearest way to indicate the extent of the tower which

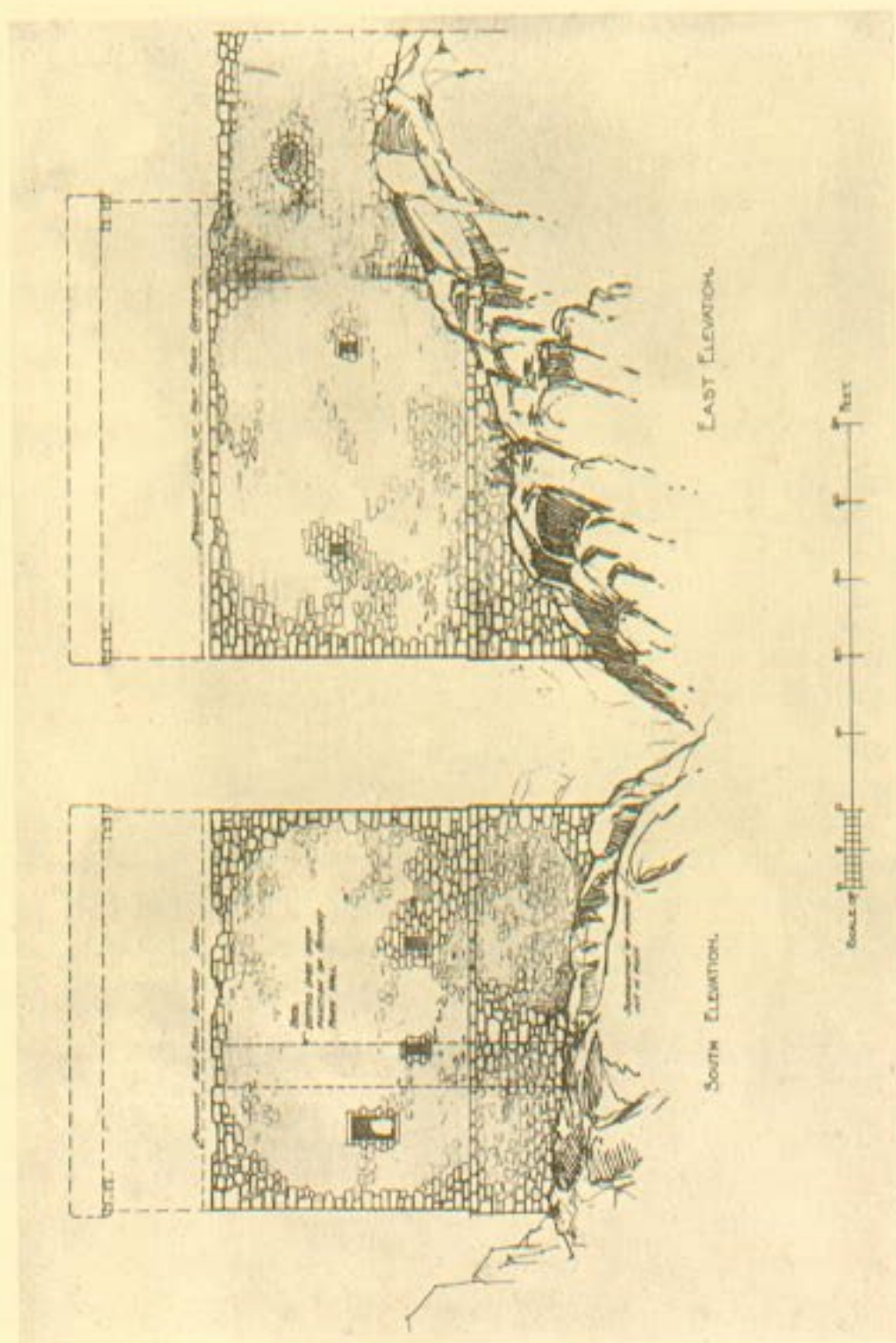


Fig. 43. View of the south and east elevations of David's Tower.

still remains is to show a view of the south and east elevations drawn to scale from actual measurements (fig. 43). Now that the actually existing remains of David's Tower have furnished a solid groundwork, it is to an architect a tempting subject for further studies of conjectural restoration. This is, however, neither the time nor the place to pursue the matter in that direction, but it is hoped that in future years other workers may be so fortunate in their researches that still more interesting discoveries may be made to illustrate and elucidate the chequered history of this ancient castle, so long the fortress, and still the pride, of our beautiful city.

It should, I think, be stated that the cost of this work of excavation and research, like much of similar character during recent years, has been borne upon the votes administered by the First Commissioner of Works.

MONDAY, 9th March 1914.

PROFESSOR THOMAS H. BRYCE, M.D., Vice-President,
in the Chair.

A Ballot having been taken, the following were duly elected Fellows :—

The Hon. THOMAS COCHRANE, Crawford Priory, Springfield, Fife.
PAUL GOBY, 5 Boulevard Victor Hugo, Grasse, Alpes Maritimes, France.

The following Donations to the Museum and Library were exhibited, and thanks voted to the Donors :—

1. By W. BALFOUR STEWART, F.S.A. Scot.

From the prehistoric dwelling at Skerrabrae, Skail, Orkney.—
Polished Stone Ball of Basalt, $2\frac{3}{8}$ inches in diameter, incised with

linear patterns ; Saw of Slaty Stone, $10\frac{1}{2}$ inches in length, with one edge regularly serrated ; Elongated Scoop of Bone, 6 inches in length ; Scapula of an Ox, worn at the end by use ; Small Fragment of a Perforated Stone Hammer.

[See the subsequent paper by Mr W. Balfour Stewart.]

2. By W. MOIR BRYCE, F.S.A. Scot., the Author.

St Margaret of Scotland and her Chapel in the Castle of Edinburgh. Sm. 4to. Edinburgh, 1914.

3. By THOMAS JOHNSON WESTROPP, the Author.

Reprint from the Proceedings of the Royal Irish Academy, vol. xxxii., Section C, No. 6. Fortified Headlands and Castles on the South Coast of Munster, Pt. I. 8vo. Dublin, 1914.

4. By THE LORDS COMMISSIONERS OF H.M. TREASURY.

Accounts of the Lord High Treasurer of Scotland, vol. x., A.D. 1551-1559. Edited by Sir James Balfour Paul, C.V.O., LL.D., F.S.A. Scot., Lord Lyon King of Arms. 8vo. Edinburgh, 1913.

5. By HERBERT B. MACKINTOSH, F.S.A. Scot., the Author.

Elgin Past and Present : a Historical Guide. 8vo. Elgin, 1914.

6. By JOHN ALEXANDER INGLIS, F.S.A. Scot., the Author.

The Family of Inglis of Auchindinny and Redhall. 4to. Edinburgh, 1914.

The following Communications were read :—