NOTICES, HISTORICAL AND ARCHITECTURAL, OF THE ROUND TOWER OF BRECHIN. By RICHARD ROLT BRASH, Esq., Architect, Cork.

After quoting some historical notices of Brechin given by Boece, Gordon, Pennant, Grose, Gough, and D. Black, Mr Brash states that he visited Brechin in May 1858 for the express purpose of examining its Tower, and was delighted beyond measure with this truly ancient and interesting monument, which, in its proportions and symmetry, rivals any he has seen in Ireland. The Round Tower immediately adjoins the south-west angle of the nave of the cathedral, a portion of its circular wall being incorporated with it. It presents to the beholder a circular tapering pillar, of large irregular blocks of a hard reddish-grey sandstone, crowned with a roof or spirelet octagonal on plan. The masonry is of admirable character, the surface of the stones truly worked to the curve of the tower. The material seems to have been carefully selected, as the surface is not much weather-worn, while the stone-work of the west end of the cathedral adjoining is considerably disintegrated and eaten away, though not so old, certainly, by several centuries.

Externally, the appearance of this tower is peculiarly symmetrical and graceful; and, as we shall presently see, its proportions are similar to our best examples in Ireland. Mr Black describes the masonry as of large stones cut to the circle, but not squared at top or bottom, nor laid in regular courses, but running round the building in sloping courses in brick, rise above each other like a screw, forming one spiral course from top to bottom. The character of the masonry is correctly described, but I failed to discover the spiral courses running from top to bottom.

Mr Black describes the tower as leaning over to the west side. He says, " While it stands perpendicular to the east, it appears to be about 3 feet off the plumb on the west side, apparently an error in the architecture, as no sit in the building can be detected, and apparently arising from the difference in the thickness of the wall on the east and west side."

I must confess that I also failed to discover this overhanging of the tower at the west side; instead of that, it appears to me to have a regular batter, or nearly so, from bottom to top; the east side is certainly not exactly perpendicular, but it has a symmetrical batter. In fact, the dimensions at bottom and top show a considerable diminution as the tower rises, quite opposed to Mr Black's statement. As to the difference of the thicknesses of wall at the east and west sides, that does not exist: the tower is perfectly circular, and the difference of the external and internal diameters, with the thickness of wall at doorway subtracted, shows an equal thickness of wall all around. Were matters as stated by Mr Black, the tower would be oval on plan instead of circular.

At the foot of this tower is a plinth or offset 18 inches high, and about $2\frac{1}{2}$ inches thick.

The stones in the base of this tower are of large size; they are inlocked into each other in several places, as is observable in almost every example of Irish towers. The joints of the masonry have been pointed with cement, which gives the work a comparatively smooth and fresh appearance. Before pointing it must have had a very ancient and time-worn look; the breadth of pointing in the joints indicates that the arrises of the stone were much weather-worn.

The height of this structure has been variously stated. Gordon says 85 feet, Pennant states it to be 80. Gough, in his additions to Camden, makes it 85 feet. Grose says that the whole height, including the spire, to the top of the vane, was 108 feet exactly, as measured by a mason who was at work at the church at the time of his visit. Mr Black says the height from ground to roof is 85 feet. Having unfortunately lost some of my own notes, I applied to Mr Andrew Jervise of Brechin, who in the kindest manner supplied me with the measurements I required. From personal survey, he also states the height to be 85 feet.

The most remarkable feature in this tower is its doorway. It faces the

west, and the top of its sill is 6 feet 6 inches from the present ground level; it is semicircular-headed, and has converging jambs; its dimensions are—Breadth at sill, 1 foot 10½ inches; breadth at springing, 1 foot 8 inches; height to soffet of arch, 6 feet 4½ inches. Gordon commits an error in stating that this door faces the south, and that it is of the same size as that of Abernethy, whereas it is much smaller. (See my paper on Abernethy, Proc. Soc. Ant. Scot., vol. iii. p. 303.) This doorway is composed of four stones; the sill and the two jambs are all the entire thickness of the wall; the semicircular head is hollowed out of the blocks forming the lintel, which is in two thicknesses; the jamb stones, though deep, are narrow on the face, and are ornamented by a raised band 16 inches wide, which runs all round the ope; it is ornamented on the internal and external edges by a small pellet, between narrow fillets. Over the apex of the arched head, and on the lintel, is a much defaced figure, with outstretched arms, obviously intended to represent the Saviour's death; but there is no appearance of a cross. On each of the sides are the almost defaced remains of two figures; in their present state, it is impossible to ascertain what or whom they were intended to represent. There is an almost obliterated lozenge with a patera in the centre, surrounded by the pellet ornament on the face of the sill; and on either end of the same is some defaced carving, quite unintelligible. The interior diameter of the tower at the base is 7 feet 8 inches, the thickness of walling 4 feet 2 inches, the interior diameter at top is 6 feet 5 inches, thickness of wall 2 feet 9 inches; this gives the entire diameter at bottom 16 feet, thus giving a difference of 4 feet 1 inch, which halved makes the entasis, or batter of the tower, 2 feet ½ an inch, or in the ratio of 1 in 41½. There was also a doorway from the tower leading from the south aisle, which is now closed up; and it is stated to have been made for the use of the bellringers before the bell was removed to the tower of the church.

There are six internal string-courses running round the tower; they average about 10 inches deep on face, and 6 inches projection from wall. The first of these is immediately under door-sill; the height from basement floor to top of string-course is 5 feet 3 inches; from the top of first string-course to top of second, 13 feet 9 inches; to top of third, 14 feet 3 inches; to top of fourth, 14 feet 9 inches; to top of fifth, 11 feet 8 inches;

to top of sixth, 18 feet 9 inches; height of the upper storey, 6 feet 10 inches.

The interior of this structure is very insufficiently lighted. The first window ope is in the third storey; it is quadrangular, and faces the east; its dimensions are, breadth at sill 11 inches, at head 10 inches, height 20 inches. In the fourth storey, facing the south, is another ope of similar form and dimensions; the jambs slightly converge, and each ope is formed of three stones. In the upper storey are four window opes facing the cardinal points; they also are quadrangular; their dimensions are, 3 feet 8 inches high, by 1 foot 9 inches wide. It is to be remarked that all these opes are perfectly plain and unornamented.

This tower has an octangular roof or spirelet, the perpendicular height of which is 18 feet according to Mr Black. Mr Andrew Jervise informs me that it is 25 feet. Grose, in his "Antiquities of Scotland," has the following on this subject (vol. ii. p. 94):—" A mason who was at work at the church when I saw it said he had measured this tower for a wager, and found its height to the top of the vane to be 108 feet exactly." The tower to the eave is certainly 85 feet, and allowing the vane to be 5 feet, it would leave the spire 18. This roof is of small ashlar, the courses diminishing as they rise to the apex. It is constructed thus: the upper part of tower is corballed out over the attic window heads, so as to form an octagon, from which springs the spirelet, having a projecting eave, supported by moulded corbals. The line of the roof is not perfectly straight; it is rather convex, or slightly bulbous. This can be discerned by looking upward along the line of the hips or angles of the octagon. There are four Lucerne windows, angular headed, terminated by triangular gabelets; they alternate with the attic windows underneath, and are constructed in the usual manner of spire windows. This roof is evidently an addition or a reconstruction of the more ancient and simple roof-covering of the Celtic builders. Mr Black thinks it to have been erected about A.D. 1360. Mr Hay, architect, in a paper read before the Liverpool Architectural Society, gives it as his opinion that it cannot be later than the twelfth century, in which opinion I am not disposed to agree. That it is not the original roof of the tower is evident to the practical eye, from the unartistic way in which it starts from the upper storey. The original builders of the round towers never used any roof

covering but the cone, which started naturally and gracefully from the circular eave of the structure; the medieval architects used the octagon spire, but almost invariably from a square substruction, by throwing in the broach on the angles. I think we must therefore refer this reconstruction to the sixteenth or seventeenth centuries. Mr Black's authority evidently refers to the erection of the medieval tower and spire now standing at the west end of the cathedral. The tower is at present provided with floors, and can be safely ascended by ladders.

Having described its general arrangements and dimensions, I will now enter into a comparative analysis of its structural peculiarities, and illustrate the same by reference to the Scoto-Hibernian examples.

In its dimensions and proportion, it bears a close resemblance to the round tower at Clondalkin, county Dublin; both are 85 feet high to eaves; thickness of wall at door sill, Brechin, 3 feet 10 inches—Clondalkin, same; thickness of wall at attic windows, Brechin, 2 feet 10 inches—Clondalkin, 2 feet 8 inches; internal diameter at door sill, Brechin, 7 feet 9 inches—Clondalkin, 7 feet 4 inches; internal diameter at attic storey, Brechin, 6 feet 7 inches—Clondalkin, 6 feet 6 inches. This identity of dimensions gives the towers an identity of proportion and symmetry truly startling; and when we follow out the analogy, and find that both towers have string-courses of the same form, that the attic windows of both are quadrangular, that in fact all the opes in both structures are of the same form, the door of Brechin only excepted,—and if the latter is an insertion, as I believe it to be, the probability is that even these were alike,—surely the above coincidences are too remarkable to be the result of mere chance; they are startling facts, which give us grounds for asserting that they are kindred structures, erected about the same era, according to the same design and proportions, by the same race, and for the same uses. The external masonry of Brechin Tower is of much similar character to that in the round tower at Oran, county Roscommon, and in the basements of the towers at Kildare, Kilmacduagh, and Kilalla. The dimensions of the tower at Tulloherin, county of Kilkenny, very closely coincide with those of the Tower of Brechin; the heights, internal dimensions, and thickness of walling are the same.

The most remarkable feature in the Brechin example is the doorway, the sculptured decorations of which have excited much attention, as

stamping a Christian character on this tower, it being one of the three upon which such emblems are found, and one of five whose sculptured details are supposed to be of early medieval date. As so much stress has been laid on these almost solitary instances by the advocates of their Christian origin and uses, I propose to make some remarks upon these particular examples.

The first I shall instance, as exhibiting Christian emblems, is the Round tower at Antrim, county Antrim. All the openings are quadrangular. The doorway is of this form: its dimensions are, height, 4 feet 4 inches; width at sill, 2 feet; at head, 1 foot 10 inches. This doorway, with its converging jambs and massive stone lintels, is perfectly Pelasgic. On a block of stone over the lintel is carved a cross of most ancient type, which is rather imperfectly delineated in Dr Petrie's work, p. 400, who gives it as an undeniable evidence of the Christian origin and uses of the Round towers. But this, in my opinion, is a weak argument, as the idea will naturally suggest itself, could not this cross have been carved on the tower, or on a stone inserted over the doorway, centuries after its erection? That this custom was general in early Christian times is undeniable. The ancient temples of Egypt and Lybia bear unmistakable evidences of Christian appropriation, in the sacred emblems portrayed thereon; even the pagan pillar stones of Scotland and Ireland evidence the anxiety of the early converts to sanctify by such holy emblems the rude but revered monuments of their ancestors. On the enormous stone lintel which covers a Cyclopean doorway of exactly the same form at Alatrium, in Latium, is carved a cross of ancient type. Will any one from thence assert that these massive works of the Pelasgic colonists of ancient Italy were of Christian times and uses? See Dodwell's " Cyclopean and Pelasgic Remains of Greece and Italy."

The cross on Antrim tower was formed by sinking the centre of the stone all round, and leaving the subject in low relief, not quite half an inch. Many persons have thought that this stone was inserted over the lintel; the original bonding stones having been cut away, that it had been placed to relieve the lintel. This idea receives some confirmation from the fact of both the stones being cracked across, on account of the original disposition of the superincumbent weight having been altered in the above process. A portion of an oak lintel has also been inserted,

evidently showing some subsequent alteration, as no such material as wood exists in any other tower, forming an original and integral portion of the structure.

The next example exhibiting a Christian emblem is that at Donough-more, county of Meath. It has a doorway, semicircular headed, with converging jambs, and is 2 feet 3 inches wide at sill, 2 feet wide at springing of arch, and is 5 feet 2 inches in height. The arched head is formed of three stones; in front, partly on the centre one, and on the stone over it, is a very diminutive rude figure, with extended arms and legs crossed. There is no appearance of a cross. On Dr Petrie's drawing, page 407 of his great work, this figure is shown in greater relief than it actually is. That gentleman admits, that many persons have asserted that this doorway " plainly appears to an observing eye to be an after work."

In the Doctor's opinion, it is of course original; but there is one significant fact, *the legs of the figure are crossed.* Now we know that in early Christian art, and down to the commencement of the fourteenth century, the Crucifixion was never so represented; the legs and feet of the Redeemer were invariably represented straight and parallel. The custom of delineating the figure on the rood with crossed ankles pierced with one nail was an untruthful innovation of later times. (See De Agincourt's " History of Art by its Monuments.") In the diversity of opinions as to this doorway being an original or an inserted one, and in the teeth of the artistic treatment of this mutilated figure, if so be that it really was intended for a representation of the Redeemer's death, I think it would be rather hazardous to found an hypothesis thereon. The treatment of the subject of the Crucifixion, in ancient Irish sculpture, is also consistent with the mode of treatment adopted by artists of other countries; thus the stone crosses at Kells, Monasterboice, Killaloe, and Clonmacnoise, exhibit the figure of the Redeemer with parallel limbs.

These facts establish incontestably, either that the sculpture is of later date than the commencement of the fourteenth century, or that it never was intended to represent the Saviour's death. If the latter, the doorway must have been an insertion, or the tower must have been erected in or subsequent to the fourteenth century—a juvenility which neither Dr Petrie nor his admirers will, I am sure, admit. These two, then,

amongst the one hundred and twenty or thirty towers existing in Ireland, are the only ones exhibiting Christian emblems.

The towers at Kildare and Timahoe have also been relied on as furnishing testimony to the medieval era of these structures, on account of the architectural character of their doorways, and which, indeed, are the only entrances to towers in this country exhibiting any positive style or era of art.

The doorway of Kildare is, however, a most palpable insertion, as is apparent to any practical eye. It is composed of pieces of Romanesque arch mouldings, taken from the doorway of some other building, and put together in a very clumsy and inartistic manner : not only do they not properly fit, but the doorway is quite unfinished and imperfect. I examined this doorway myself, and at the first glance detected the fact of its being composed of portions of a former door of some other building, endeavoured to be fitted into the ope of the tower. It appeared to have belonged to one of the more ancient churches of Kildare, very probably of the one which formerly existed on the site of the present cathedral, which is in the first pointed style.

The doorway of the tower at Timahoe is, however, a perfect doorway congruous in all its parts, and very interesting from its sculptured ornaments, and very beautifully illustrated by Dr Petrie. This feature is undoubtedly the work of the twelfth century, and, unlike the one at Kildare, was most certainly executed for the tower. I take the following extract from my notes made on the spot respecting this structure :—

" The doorway faces the east; its sill is 13 feet 9 inches from the ground. It is built of the material already described as a dark, buff-coloured freestone. It has been asserted that this door is an insertion : it may be ; there is nothing in its structure that can militate against the idea. It is rather remarkable that there is not a single stone of this entrance bonding into the wall of the tower; the joints of the stones of the external pilasters are one over the other, having no bond or tie into the walling. The stones are exceedingly small, almost like bricks, and seldom exceeding nine inches in height; in fact, the doorway could this moment easily picked out, and again replaced, without any detriment to the stability of the edifice." I should consider it indeed very unlikely, if this entrance was coeval with the tower, that its builders should have

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neglected the very easy, natural, and necessary condition of substantially bonding its frame-work with the general masonry.

I come now to consider the sculpture on the doorway of Brechin tower. The figure over the archway is evidently a representation of the Redeemer's death; and its position, in conformity with the principles already laid down, indicate that it was certainly executed before the fourteenth century. What then? does it follow that the whole tower was erected at the same time the door was constructed? By no means. I have already, in my former paper on Abernethy, shown the alterations and insertions to which these structures were subjected, in order to assimilate them to the adjoining buildings subsequently erected in proximity to them, or to adapt them to ecclesiastical uses. I have instanced the rebuilding of Kildare tower, the great tower at Clonmacnoise, and sundry other instances of alterations, reparations, and adaptations of towers. That the structure under consideration has undergone reparations is undeniable; these are, the reconstruction of the present roof, and the insertion of the doorway.

My reasons for believing it to be an insertion are as follows :—

1st, The incongruity between this highly ornamented doorway, and all the other opes in the tower, which are of massive simple character, being merely quadrangular opes, without a trace of even the plainest moulding, while the entrance is a semicircular-headed ope, with a broad architrave, enriched with a double row of the pellet ornament, and beautified with sculpture on the archway, the sides, and even the sill. Surely a people acquainted with ornamental design, and equal to the production of sculptured detail at once so chaste and ornate, could never have erected a building of so plain, severe, and unornamented a character. 2dly, The detail of the door ope favours the idea of its insertion; the jambs are composed each of one stone, which is narrow on the face, having no bond in the wall, and could have been inserted without the smallest difficulty, even without the usual shoring. I have had in my professional capacity much larger opes inserted in old buildings, without any injury whatsoever to the fabric. The introduction of such a doorway as this is one of the simplest operations imaginable, particularly where the stones of the masonry are so large.

Mr John Hay, in a paper read before the Liverpool Architectural and

Archæological Society, in speaking of this doorway, says, " There is some worn-out carving round the narrow entrance, which is about six or seven feet from the ground, and seems to be of Saxon or Eastern character; the symbols of the cross said to be on this carving, I must confess, I could not alone have discovered." (*Builder* for 1855, p. 155.) Mr Hay also states it as his opinion, that the roof is not earlier than the twelfth century.

Of this doorway there has been the most extravagant and distorted representations; Ledwich, in his "Antiquities of Ireland," gives a plate of it that has not the smallest resemblance to the original. Godfrey Higgins has reproduced it in his "Celtic Druids." The descriptions of the sculptures are equally amusing. One writer gravely argues, that the lozenge panel on the sill is a heraldic device—but whose, he is unable to divine.

The doorway, as I before stated, is semicircular-headed, with converging sides. It is composed of four stones, one forming the sill, one the arched head, being cut out of the solid block. A single stone forms each side. Over the head, or where the key-stone would be of a regularly formed arch, is a sculptured representation of the Crucifixion, the figure having simply its arms extended, but no appearance of a cross that I could discern. At each side of the springing of the arched head is a block of stone, projecting about $2\frac{1}{2}$ inches, and evidently intended to have been carved into some device, but which was never carried out. About midway between the sill and the springing of the semicircular head, and on the centre of the architrave, is a mutilated figure in low relief, represented as standing upon a corbal. These figures are so defaced, that I could not dogmatically pronounce upon their appropriation. I have before me a drawing, forwarded to me by Mr Andrew Jervise[1] of Brechin, representing these figures in the habits of ecclesiastics, one holding a crosier, the other some sort of a staff with a hammer-head; but I must confess, that when I examined this tower I could not discern upon the sculptures these insignia.

On the extremities of the sill, and outside the architraves, are carved representations of some nondescript animals, similar to some found on the sculptured stones of Scotland. On the centre of the sill is a lozenge

[1] See communication by Mr Jervise, Proc. Soc. Ant. Scot., vol. iii. p. 28, with plate and woodcuts.

panel, with traces of the pellet ornament. The whole, however, are so much defaced, that no honest antiquary would pretend to give any elucidation of them. Dr Wise, in his paper on the Pillar Towers of Scotland, published in the "Ulster Journal of Archæology," vol. v. p. 215, gives an excellent and truthful sketch of this entrance.

I am strongly of opinion, that the insertion of the doorway may have been at any time between the tenth and twelfth centuries. The roof is decidedly not original; it has no affinity to the roof coverings of the Irish towers, which are simple cones, and not so highly elevated. There is also a peculiarity in the Brechin example: the lines of the roof are curved outwardly, so that it is slightly bulbous.

If I might hazard a conjecture, I would say that these reparations took place immediately after the sanguinary inroad of the Danes into Forfarshire, as quoted from Hector Boece in the commencement of this paper. It is there stated, that all the houses and ecclesiastical buildings were destroyed, and that this tower alone escaped, "Mira arte constructam," as if the admirable manner in which it was constructed, and the solidity of its masonry, preserved it from the fate of the more fragile erections. No doubt, after the retirement of the invaders, the ecclesiastical buildings at Brechin were reconstructed in a more substantial manner, and according to the prevailing taste of the times. This would be in the first or second quarter of the eleventh century, when the Romanesque style of architecture prevailed in these countries; and, doubtless, when the Cathedral Church of Brechin was re-erected in this ornate style, the contrast between the new buildings and the old simple, severe, and unornamented pillar tower was so great, that it induced them to diminish the contrast by the insertion of this highly ornamental entrance. We have one fact certain, that the tower was in existence in A.D. 1012, and was then looked upon as being constructed with wonderful art, a mode of expression usually adopted towards any building of considerable antiquity, and that has successfully resisted the ravages of time.

The present trim appearance of Brechin Tower may, in the opinion of some, militate against the great antiquity I would be disposed to assign to it; but let it be remembered, that it has not long since been pointed with cement, and every joint and crevice carefully filled, which now

gives the whole a smooth and uniform appearance. I have before stated the fact of the existence of pagan remains and traditions in the neighbourhood of, and in connection with these structures, and have shown the existence of such in connection with Abernethy. Brechin is certainly not without evidences of a similar association. See " Black's History of Brechin," p. 264. Mr D. D. Black has kindly communicated to me the only traditions in connection with this tower. It is stated to have been erected by those weird people the Peghts, in some exceeding short space of time, their fee being only one hundred merks Scots, and being even cheated out of a portion of the same. The great Cashel or stone-fort of Caterthun, not far from Brechin, was erected in one night by a witch ; there is in one spot a small gap which was left incomplete, in consequence of the witch's apron having given way as she was fetching the last load. I have in my paper on Abernethy tower alluded to the sepulchral remains found therein, as well as in many of the Round towers of Ireland ; and I consider that I am perfectly justified, from the amount of evidence obtained in the course of the excavations made in those which have been already examined, in entertaining the theory of the sepulchral uses of those ancient structures. The idea, originally suggested by the talented though visionary Edward O'Brien, was adopted by the South Munster Society of Antiquaries, who determined practically to test its accuracy, by excavating the interiors of these edifices. The fact of the elevation of the doors from the ground levels, suggested to them where they were to make these explorations ; they surmised that the height of these entrances from the ground was owing to the retention of the basement storeys for the purposes of sepulture.

The first tower examined by them was that at Ardmore, in the county of Waterford, an ancient see, whose founder was the celebrated Deglain, one of the three precursors of St Patrick. In 1841, Mr Odell of Mount Odell, the proprietor of the tower and lands adjoining, at the suggestion of Mr William Hacket, an active member of the Society, commenced operations within the base of the structure. The excavation was made to a depth of 8 feet below the door-sill, through a stratum of earth, small stones, &c. At this depth they came to a floor formed of large and small stones, closely and solidly packed, and covered over with a layer of exceeding hard *concrete*, the whole being 3½ feet in thickness. Beneath

this were four courses of large flags, breaking joint one over another, and closely fitted; great difficulty was found in breaking through this impediment, underneath which was found another layer of *lime concrete* over a stratum of fine mould, in which were imbedded two skeletons. The first lay right in the centre of the tower, east and west, about a foot under the layer of concrete; the second lay at the south side of the former, but a little nearer the concrete floor, and occupying the same position; these skeletons were perfect, no weapons, utensils, nor ornaments of any description accompanied them; the whole depth excavated was 15 feet 3 inches below the sill of doorway.   I would wish here to call attention to the extraordinary care and precaution manifested in the entombment, and in the provision made for the inviolability of the bodies placed therein; the coating of *lime concrete*, the mass of packed rubble, and the four tier of bonded flagging; and, finally, the second layer of *concrete* immediately over the bodies.   The lime concrete we must particularly remark, as it is a recurring feature in almost every succeeding example of Round tower sepulture.   (See Plate VI., fig. 1, Section of Tower Base.)

The success attending the excavation of Ardmore tower stimulated the zeal of the South Munster antiquaries, and induced them to open the base of the Round tower at Cloyne, county of Cork, an ancient see, founded by St Colman, the son of Lenine.   This fine specimen *is based upon the solid rock*, and the public road or street of Cloyne runs between it and the Cathedral church.

The excavation was commenced on the 23d day of September 1841, in the presence of several clergymen and members of the Society, amongst whom were the Rev. Mathew Hogan, Messrs Windle, Hacket, Sainthill, and the late Mr Abraham Abell.   The level of ground inside the tower was about 2½ feet below door-sill.   After sinking about the same distance through a debris of rubbish, they came to a concreted floor of broken stones so compacted together that the pickaxes of the labourers could scarcely penetrate it.   After cutting through this floor, which was 1 foot 4 inches in thickness, the major part of three skeletons was found imbedded in fine loose mould, the bodies lying from N.W. to N.E., two of the skeletons lying above the others, but all having the same direction.   The floor of tower, immediately under the remains, was a

layer of large heavy stones, the smooth sides being turned upwards and set in coarse gravel; under this were two layers of flags. I state these minute particulars to show that Dr Petrie's objection, namely, that the towers were built in cemeteries, and the bodies accidentally enclosed in laying their foundations, meets in the above instances a most palpable refutation, the entombments in both cases being the results of most careful forethought and preparation. The entire depth excavated in this instance was 13 feet below the sill of doorway. (See Plate VI., fig. 2, Section of Tower Base.)

About the same time Mr Edward Wall explored the beautiful example situated at Roscrea, county of Tipperary. Roscrea was the seat of an ancient see, founded by St Cronan in the seventh century. The tower stands similarly circumstanced as that at Cloyne, at some distance from the graveyard—the public road running between; the only remains of the ancient church is a fine Romanesque gable, the original west doorway of which forms the entrance to the burial ground. That gentleman communicated the results of his researches in three letters to Mr William Hacket; they were subsequently published by Sir William Betham in his " Etruria Celtica," from which I take the following particulars :— " I have had two men at work at the tower these two days. They have sunk 8 feet within the foundations; three feet consisted of earth and loose stones, intermixed with human bones. We then met a floor of *rich mortar*, which had the appearance of *grouting;* it was about 6 inches thick. Beneath it was *a layer of tenacious clay* about 15 inches thick, with *similar layers* to the bottom; all through there were human bones sparingly interspersed. I found three under-jaw bones of aged persons, but one head, the teeth in good preservation, with several thigh bones. . . . Portions of skulls were also found, and the rib of a child. At the bottom we found a bed of clay, in the centre of which was a small round hole about $2\frac{1}{2}$ inches in diameter." In a second letter he says,—" When I wrote last, I had got about eight feet below the door, or within a foot of the exter-nal base ; I have now proceeded four feet deeper, and could not proceed lower, as the water flowed in on us. (The tower at present stands in close proximity to a mill stream.) As we proceeded, the human bones became more numerous and longer, imbedded in the tenacious clay. The round hole before described did not reach the length of the shovel handle, and

terminated in a hard, impenetrable substance. . . .. I shall examine the round hole at bottom if the water abates, as I think it curious." In his third letter he says,—" Since I last wrote, I have carried my researches still deeper in the tower, and found the opening to terminate in seven large round stones, which we raised. . . . . I can only say we met many more human bones than before in the same space, but much *decayed* from the damp." In the progress of the excavation, as we have seen, Mr Wall was much impeded by the water rising in the interior of the base of tower.

From the above account it is quite evident that this tower has been used as a sepulchre. We first find three feet of the usual debris and some bones ; these, probably, casually thrown in. We then find the *concrete floor of lime mortar,* or, as Mr Wall terms it, " grouting," so usual in the northern towers, as we shall hereafter see, and found also at Ardmore. Beneath this a layer of tenacious clay, 15 inches thick, for the further protection of the sacred deposit ; beneath this were found human bones imbedded in layers of tenacious clay, down to the stones forming the foundation of the structure.

It is quite evident to me, that the tower was not originally built in such close proximity to the stream ; such a proceeding would be unwise, motiveless, and extremely difficult of execution. It is more than probable that the stream has partially changed its bed, and has come close to the tower by the wearing away of its banks. But it is quite evident that the ancient builders of the tower, on excavating the foundations, found a dampness in the soil, and consequently, in depositing human remains therein, took the precaution of protecting them by layers of puddled clay, which every practical person knows is impervious to moisture, and is used in forming dams, cisterns, and other water-works, to exclude and prevent the filtration of water. The fact of there being no whole skeleton is easily accounted for by the extreme dampness of the situation ; for the gravediggers' experience in " Hamlet " held good in ancient as well as more modern times.

The above researches, therefore, incontestably establish the fact of the sepulchral character of this example. The tower at Cashel was opened by the South Munster Society of Antiquaries ; the members present were the late Rev. Mathew Hogan, Messrs Windle, Hacket, Kelle-

her, Abell, Willis. Dr Cotton, Dean of Cashel, also attended, and gave every assistance to the Society in the prosecution of their examination; but in this instance, as in others hereafter to be referred to, they ascertained the tower had been previously excavated; human remains were found scattered through the debris thrown out in the process.

Some exceedingly interesting and important papers have been published in the " Ulster Journal of Archæology," giving an account of several Round tower explorations, carried out principally at the suggestion of the the late Mr Edmund Getty of Belfast.

I shall not extend this article by giving the particulars of these examinations, but would briefly state the results :—

Drumbo Tower, County of Down.—At a depth of about 9 feet below the sill of doorway was found a floor of *lime concrete*, under which lay an imperfect skeleton in a direction east and west. " No appearance of dress or covering of any kind accompanied these remains, which, *fossil-like in appearance*, lay imbedded in the soil."

Clones Tower, County of Monaghan.—At a depth of $6\frac{1}{2}$ feet below the sill of doorway, the explorers found a regular floor of *puddled clay of great tenacity*, and 18 inches in thickness. Beneath this were found two flags having on the upper surface traces of fire, with some *charcoal or burned bones*. Under this was a second floor of *lime concrete*, beneath which was found five human skulls, and considerable portions of a skeleton.

Armoy, County of Antrim.—In the excavation was found a human skull, which bore marks of decapitation; the writer gives several instances of the custom of interring heads. In this instance a niche or hollow was formed in the foundations, and the skull deposited therein, on a bed of peat ashes and charcoal.

Devenish Tower, County of Fermanagh.—The excavators penetrated through two floors of *lime concrete*, but no human remains were discovered.

Drumlahan, County of Cavan.—The sill of doorway is 10 feet 2 inches above the present level of ground. The usual floor of concrete was discovered, *but broken in several places*, and underneath a skull and the principal bones of a human skeleton. It was the opinion of the explorers that this tower had been *previously excavated*, which was confirmed by the statement of one of the workmen employed, who informed

them that in consequence of a dream it had been dug into previously by some gold-seekers.

Inniskeen tower, county Monaghan, was opened on the 16th November 1852. Beneath the usual floor of *lime concrete* was found the principal portions of a human skeleton *in situ.* It was particularly remarked that the mortar forming the floor was exactly of the same composition *as that in the body of the building.*

Tory Island tower, county of Down, was examined on 7th and 8th August 1845. Under the *lime concrete* floor was found another of large blocks of stone, laid without order. Between the two floors was found a fragment of a sepulchral vase. The stone flooring or pavement was removed, beneath which was found some pieces of querns, but no further indications of human remains.

Round Tower at Timahoe, Queen's County.—Sir William Betham, in his "Etruria Celtica," p. 200, gives an account of the finding of an urn, containing calcined human remains, within the base of that tower.

A Round tower anciently existed at Raphoe, county of Donegal, which has long since disappeared. Bishop Leslie excavated the foundations, and found the skeleton of a man of large stature under it.

I shall conclude these notices with a reference to the excavations made in the Round tower at Kilkenny, the particulars of which are given in "The History and Antiquities of St Canice Cathedral," by the Rev. James Graves, the talented and zealous secretary of the Kilkenny and South-east of Ireland Archæological Society, page 114. The usual *debris* having been cleared out, a *lime concrete floor* was exposed, under which was a pavement of stones. It is to be remarked that *a considerable breach was found in this floor,* as shown by the plan annexed to the account. Beneath this pavement was found a complete skeleton, in the very centre of the tower. At one side, and parallel to it, were the remains of two children enclosed in one oak coffin, put together *without nails or metal fastenings.* At the foot of this coffin was the skull and portions of the skeleton of an adult, the lower extremities of which were covered by the foundation of the structure. The oak composing the coffin was soft and pulpy, and had almost lost its character as wood.

Most of the above explorations have been made by individuals who seemed anxious to maintain Dr Petrie's theory on this question,

and I need not say that every particular calculated to support such views were carefully noted and recorded. Yet we have these irresistible facts placed before us, that in almost every tower examined human remains were found, in various stages of decay ; in some of them evidences of urn-burial. Others had been previously opened, which will account for the non-appearance of human remains in a few, though it is highly probable that in some of them, from the peculiarities of the soil or other local accidents, the bodies have totally decomposed and dissolved into the soil, as at Devenish and some other places where the skeletons were incomplete.

It would extend this article beyond reasonable limits, were I to go into a critical analysis of the various circumstances attending these excavations, and which establish the sepulchral character of these structures, so as also to answer some objections that have been made to what is indeed the only reasonable theory sustained by positive facts that has yet been broached on the Round tower question ; as well as to show, by the testimony of undeniable historical facts, that the custom of tower sepulture, and of erecting lofty monumental structures over the remains of the mighty or revered dead, is of remote antiquity and of general application, and by no means contrary to the genius and traditions of those Eastern tribes who colonised Scotia Major and Scotia Minor. I cannot, however, let this opportunity pass without noticing the manner in which Dr Petrie meets the array of facts laid bare by these various researches, and the mode in which he accounts for the presence of human remains within the towers. That learned gentleman was evidently startled at the unexpected evidence offered by the excavations undertaken in the south of Ireland, and attempts to get rid of them in a jocular manner. (See pp. 79, 82 of his "Inquiry," &c.) But a subsequent communication made by the late Mr Edmund Getty of Belfast respecting the opening of Drumbo tower, and the finding of human remains sepulchred therein, convinced the Doctor that such reiterated facts could not be treated with levity, and he accordingly attempted a solution of the difficulty. Referring to the discoveries in the tower of Drumbo, he says, " In the preceding account I see nothing to object to. But what is the conclusion to be fairly drawn from it ?—not surely that it proves the tower to have been raised as a sepulchral monument in

pagan times, or even that the bones found within it were a deposit cotemporaneous with its erection. To me, it appears the only rational conclusion to be drawn from the discovery of these bones would be unfavourable even to the very early Christian antiquity of the tower; for—like the discovery of the imperfect skeleton at Ardmore —it indicates that the tower was erected on a spot which had been used as a Christian cemetery, as the position of the remains clearly shows.   And this, too, would account for the imperfection of the skeleton; for though it is obvious that in digging the foundation of the circular wall of the tower it would have been necessary to penetrate to the virgin clay, and thus run the chance of removing a portion of a skeleton or skeletons, yet, from the respect always paid to the remains of the dead among Christians and Pagans, it would have been an object to leave the area enclosed within the circle undisturbed." (Petrie's " Inquiry into the Origin and Uses of the Round Towers of Ireland," page 91.) Now, I perfectly agree with the learned author that the finding of these human remains does not establish that the towers were raised for sepulchral purposes in pagan times, but I do contend that it establishes their sepulchral and monumental character. The pagan era of these structures will require a different mode of argument and illustration   I hope shortly to give some aid towards elucidating the probable age and builders of these edifices. Dr Petrie states that the discovery of an imperfect skeleton indicates that the tower was erected on a spot which had been previously used as a Christian cemetery, " as the position of the remains clearly show." Now, this is a simple assumption without a shadow of evidence. How can the fact of finding an imperfect skeleton indicate that it was built in a cemetery at all; or, further, how does it indicate that the cemetery, if such existed, was either Pagan or Christian? Where are the evidences of Christian interment—the sarcophagus of stone; where Christian symbols, where a fragment of an inscription? We have inscribed monuments of various dates, some of them as old as the sixth century : has a fragment of any such been found in a Round tower interment? Again, if, for argument sake, the towers were erected in cemeteries, why may they not have been pagan cemeteries? are not such numerous in the country, such as were discovered at Ballymacus? See Kilkenny Archæo-

logical Society's Transactions, vol. 1852–53, page 230; Glenaish, *ibid.* page 213; Ballonhill, *ibid.* page 297. A class of these ancient burial grounds are called Cealuraghs, and are at present appropriated to the burial of unbaptised infants and suicides. But the Doctor's great argument is the position in which the remains were found; in two instances, Ardmore and Drumbo, the bodies lay E. and W. This is with the Doctor a triumphant argument in favour of the Christianity of these interments; but I would remind that gentleman that the customs of worshipping towards the east, and of burying east and west, are of Pagan origin—that human interments, both Pagan and Christian, have been found lying towards all points of the compass, and that neither Pagans nor Christians ever systematically observed any particular rule in the matter. I know well that in the Middle Ages laying a dead body east and west was the usual custom, but I know equally well that it was far from being the universal usage. So casual and trifling an occurrence cannot, therefore, be taken as an irrefragible proof either of the era or creed of the peoples who caused these interments to be made. But again, Dr Petrie lays a particular stress upon the fact of the skeletons being imperfect. It could not have been an interment cotemporaneous with the tower unless it was perfect in every part—not a bone or a tooth wanting. Surely this is weak, admitting his own age for these structures. Could perfect skeletons be expected to exist in every case through a lapse of 1100 or 1200 years? Does not the preservation of human remains depend upon the physical constitution of the deceased, upon his age at death, and, above all, upon the circumstances attending the deposit, and the nature of the soil in which the body is placed? How many perfect skeletons will be found in any of our cemeteries after the lapse of even one century? There is no doubt that the skull, teeth, and portions of the large bones will be found, and have been found, comparatively firm and compact after the lapse of two thousand years and more; but I have never known or heard of perfect skeletons being found *in situ* of anything approaching that age.

Dr Petrie goes on to state, that in building the tower in a Christian cemetery, the body or bodies may have accidentally lain undisturbed in the central area within the tower; "may have," but very unlikely, and next to an impossibility, for, as before stated in the Drumbo excavation,

the skeleton, if entire, would have occupied the centre of the tower.
Now, if the latter was founded upon the site of an ancient burial-ground,
either Pagan or Christian, it was an extraordinary coincidence and feat
of chance which, in the necessary excavation of the wall of the tower,
left this relic exactly in the centre of a confined circle of 8 or 9 feet
diameter. But I maintain that, in laying the foundations of a tower,
such a circumstance could not occur; that the whole area must of
necessity have been excavated down to the bottom of the first course of
masonry. Every architect and builder knows, that in excavating
foundations for walls the trenches are always opened considerably wider
than the foundation walling, in order to give the workman an oppor-
tunity of setting out his work properly, also sufficient standing-room for
himself and his building materials. Thus, in a foundation 4 feet below
the surface, with a wall 4 feet thick, a trench of at least 3 feet at each
side would be required. This, in most instances, would leave a ring of
the native earth but of 2 or 3 feet diameter standing, a piece of folly
that no skilful workman would perpetrate. He would rather excavate
the whole site at once, being a saving of time and labour, and giving
him more facilities for his work; at all events, a full-grown adult skele-
ton could not accidentally or by chance be left unheeded in this ring of
2 or 3 feet diameter.

And it is utterly absurd to suppose that the builders of these lofty,
symmetrical, and age-enduring structures, should have pitched their
foundations at random upon rotten skulls and bones, and the soft and
yielding soil of a teeming burial-ground. Would such a folly be perpe-
trated by the most unskilful of the present day in the erection of a struc-
ture of far less pretensions and importance? Does an architect proceed
to the erection of a tower or a factory chimney of 100 feet in height,
how carefully will he select his site, how anxiously examine the ground,
removing all loose earth and unsound strata, so that the foundations
may sit firm and stable upon the hard soil. The builders of the Round
towers were no tyros in their art. I know of no buildings of the class
that approach the old pure examples in symmetry of form and sound-
ness and stability of construction. The sections of some of these towers
solve a practical problem in construction, of great utility to the builders
of such edifices in the present day; and I am very certain that such

careful professors of their art as were the builders of our round towers were not likely to commit such palpable blunders as are implied in Dr Petrie's reasoning. Several of these structures are based upon the solid rock. What becomes of the cemetery theory at Cloynes, where the tower is so circumstanced, being based upon a rock above the soil, and a considerable distance from the burial-ground, the public street being between? There could have been no graves dug in the rock, or bodies interred there. Far from it; for we find, by the section of the base as given by the explorers, that the skeletons lay upon a bed of solid masonry, surrounded by a shallow layer of mother earth (a touching sentiment), over which again was a layer or flooring of rubble masonry.
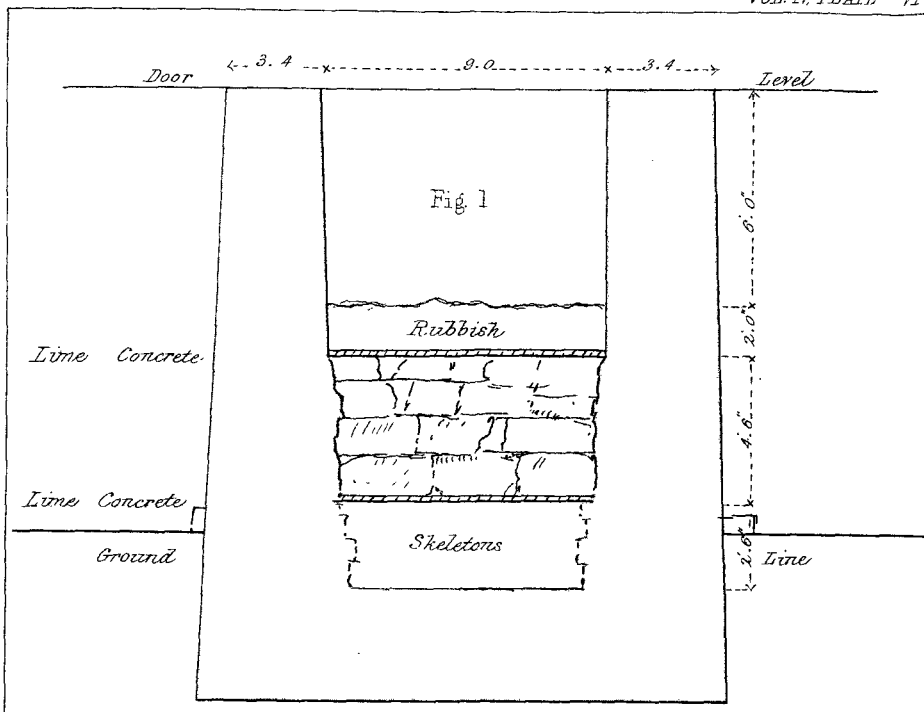
Upon the fact of a sepulchral urn having been found in the base of the round tower of Timahoe, Dr Petrie adopts much the same style of reasoning; first attempting to impugn the fact as stated by Sir William Betham, in his ' Etruria Celtica,' and then arguing that the tower may have been erected upon the site of a pagan burial-ground. (Dr Petrie's work, page 414.)

I must now bring this paper to a conclusion, hoping that I have thrown some few rays of light upon the uses of these curious structures. The facts that I have adduced are any way suggestive, and I have not the slightest doubt upon my mind but that further examination will entirely set the question of their original destination at rest. Their era and builders will require a different mode of treatment. The solution of these questions will not be so easily accomplished, yet I hope at some future time to lay the result of several years of labour and research upon all the questions involved in the Round Tower controversy before the public.
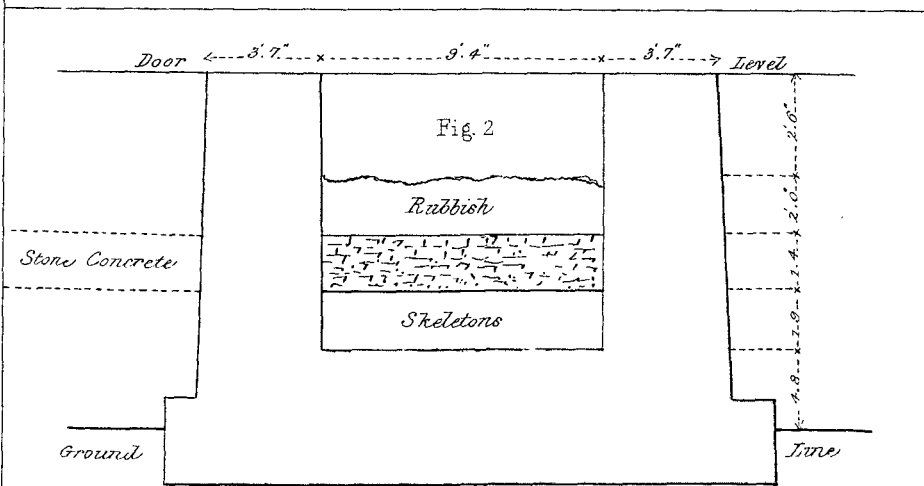
Mr JOHN STUART, in expressing the acknowledgments of the Society to Mr Brash for his laborious paper, stated that he was not disposed to accept his arguments or conclusions. He examined the question of the supposed insertion of the doorway, for which he could see no solid reason, and which was against all the analogies of a somewhat later architecture, where the doorways of old churches were frequently preserved when the rest of the building was renewed. He referred to the styles of masonry of British walls, as recently illustrated by Sir Gardiner Wilkinson,

to the walls of underground chambers and other early buildings in Scot-
land, and to those of Cashels, Duns, and Cloghauns in Ireland, where
a recognised style appeared; but it appeared to him to be entirely dif-
ferent from the architecture of the round towers, nor did he believe
that the early Irish were acquainted with the construction of the arch,
and the use of mortar, both of which were found in the towers, until the
knowledge of these had been brought from the great reservoir of know-
ledge at Rome by the Christian missionaries. He believed that the
subsequent use of the towers must be allowed to determine their original
design. Now, it abundantly appeared, from the Irish annals, that they
had been used as belfries, and as places of abode or refuge for the eccle-
siastics of the churches, in the vicinity of which (and sometimes incor-
porated with them) every tower in Ireland had been placed. The lofty
position of the doorway, so like to the entrances of our ancient keeps,
would alone suggest their use as places of refuge. The occurrence of
sepulchral deposits in these towers was, in his view, only a development
of the taste for burying in churches, their porches, and other buildings
connected with them, which was so strong at an early period of our
Christian history; but he could not see any reason for recognising a
heathen connection in this. The modes of Pagan interment in Ireland
were known from descriptions in early manuscripts, and from the many
remains still to be found in the country, and bore no analogy to that of
burial in the towers.

The same view as to the supposed insertion of the doorway was main-
tained by Dr HUIE and Mr JOSEPH ROBERTSON—the latter of whom ad-
verted strongly to a school of antiquaries who seemed to overlook the
accumulated evidence which had already been brought to bear on this
subject by Dr Petrie, whose position had not yet been seriously im-
pugned, and which, indeed, he believed to be unassailable. He also
strongly condemned the views of those by whom the round towers were
regarded as Priapeian monuments, and pointed out the many Roman-
esque features which were clearly to be discovered in them.

Door ←- *3. 4* --×---------- *9. 0* ----------×--- *3. 4* ---→ Level

Fig. 1

6'. 0"

2'. 0"

Lime Concrete

Rubbish

4'. 6"

Lime Concrete

Ground

Skeletons

2'. 6" Line

SECTION OF BASEMENT OF ARDMORE TOWER.

Door ←--- *3'. 7"* --×----------- *9'. 4"* -----------×--- *3'. 7"* --→ Level

Fig. 2

Rubbish

2'. 0"

2'. 0"

Stone Concrete

1'. 4"

Skeletons

1'. 9"

Ground

4'. 8" Line

SECTION OF BASEMENT OF CLOYNE TOWER.

W & A.K Johnston, Edinburgh.