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Deposition, Discovery and Dispersal:
A Viking-Age Hoard from Castlelohort Demesne

JOHN SHEEHAN

Silver was a principal economic exchange medium throughout the Viking world. In Viking-age Ireland it was generally used in non-numismatic form in a metal-weight economic system, though coin usage did progress and culminate in minting by the end of the tenth century. Ingots and ornaments of various forms, chiefly rings, served as a form of bullion currency within which imported coins were generally valued by weight and both ingots and ornaments were occasionally reduced to hack-silver – pieces of silver that are deliberately cut and broken to be used as smaller means of payment. Given the nature and duration of Scandinavian settlement and activity in Ireland it is no surprise that a large amount of Viking-age silver has been found here. In fact, no less than 125 silver hoards of ninth- and tenth-century date are now on record, representing a concentration of finds which is unequaled outside of Scandinavia during this period.[1] Just over half of these are 'coinless' hoards, finds composed exclusively of non-numismatic silver, while the remainder comprises either 'mixed' hoards, finds in which coins occur alongside non-numismatic material, or coin hoards. The great bulk of the considerable amount of silver wealth present in Ireland during the ninth and tenth centuries, in terms of weight, is represented by the non-numismatic material found in the first two categories of these hoards.

Most of Ireland's Viking-age silver hoards are from the early medieval kingdoms of Mumu (Munster), Southern Uí Néill and Northern Uí Néill.[2] It is evident that there are sometimes correlations between individual hoards, and occasionally groupings of hoards, with particular locations that are associated with the dominant dynasties of the Irish kingdoms. It is also clear, from both general distributional considerations and from the tendency for many of the finds to derive from Irish sites, such as royal centres, ecclesiastical foundations, ringforts and crannógs, that a great many Viking-age hoards represent Irish, rather than Scandinavian, wealth.[3] Reflections on how this wealth was acquired frequently focus on the economic relationships that must have existed between the Irish and the Scandinavians. While this is undoubtedly an appropriate approach it must be considered alongside other potentially important mechanisms for silver exchange, such as the formation of alliances, the practice of gift-exchange, the conventions of ransoming and, perhaps most importantly, the exercise of tribute.

There are twenty-four Viking-age silver hoards of ninth- or tenth-century date on record from Mumu, representing almost twenty per cent of the total number from Ireland (Fig. 1). The significance of this impressive quantity dims somewhat when it is contrasted with the large number of hoards from Southern Uí Néill,[4] but it nonetheless remains sizable when compared with the amounts known from Ireland's other early medieval kingdoms. Most of the Mumu finds are coinless hoards, comprising seventeen examples, four are 'mixed', in which coins occur together with non-numismatic silver, and three are coin hoards. All of the mixed and coin hoards were deposited during the tenth century, from *c.* 930 onwards, and most contained only small numbers of coins,

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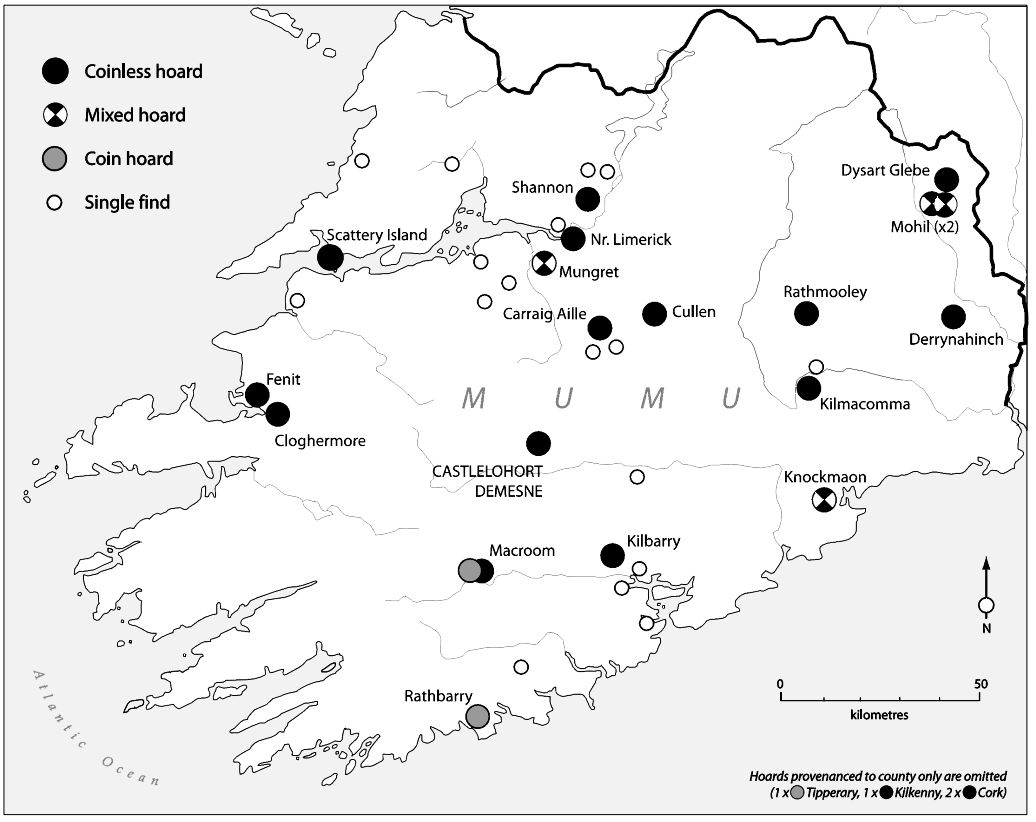


Fig. 1: Distribution map of silver hoards and single-finds, of ninth/tenth century date, from the kingdom of Mumu (early medieval Munster)

mainly Anglo-Saxon issues. In purely bullion terms, however, it is the non-numismatic material – ornaments, ingots and hack-silver – which accounts for the great bulk of the wealth represented in the hoards from Mumu during the ninth and tenth centuries. The hoards do not form a consistent grouping, varying in size, composition, date and in the presence or absence of coins and hack-silver, as well as the extent of hack-silver fragmentation, when present. This paper focuses on one of these kingdom of Mumu hoards, a coinless example from Castlelohort Demesne, near Cecilstown, Co. Cork. It is a nineteenth-century discovery, with a somewhat complex but interesting antiquarian history, which was composed of six rings of the type known as Hiberno-Scandinavian 'bullion-rings'.

THE DISCOVERY

In 1848 six Viking-age silver rings were discovered together close to Lohort Castle,[5] probably in the townland of Castlelohort Demesne,[6] midway between Kanturk and Mallow. Word of the discovery reached Charles Haines, of Mallow, who informed Richard Sainthill, the Cork numismatist, in a letter dated 4 July 1848. Sainthill seems to have shared this information with John Windele, the Cork antiquarian, as the transcribed text of Haines' letter now forms part of the Windele Mss, with Windele's annotations,[7] along with sketches of four of the rings (Fig. 2).[8] The letter reports that the discovery was made:

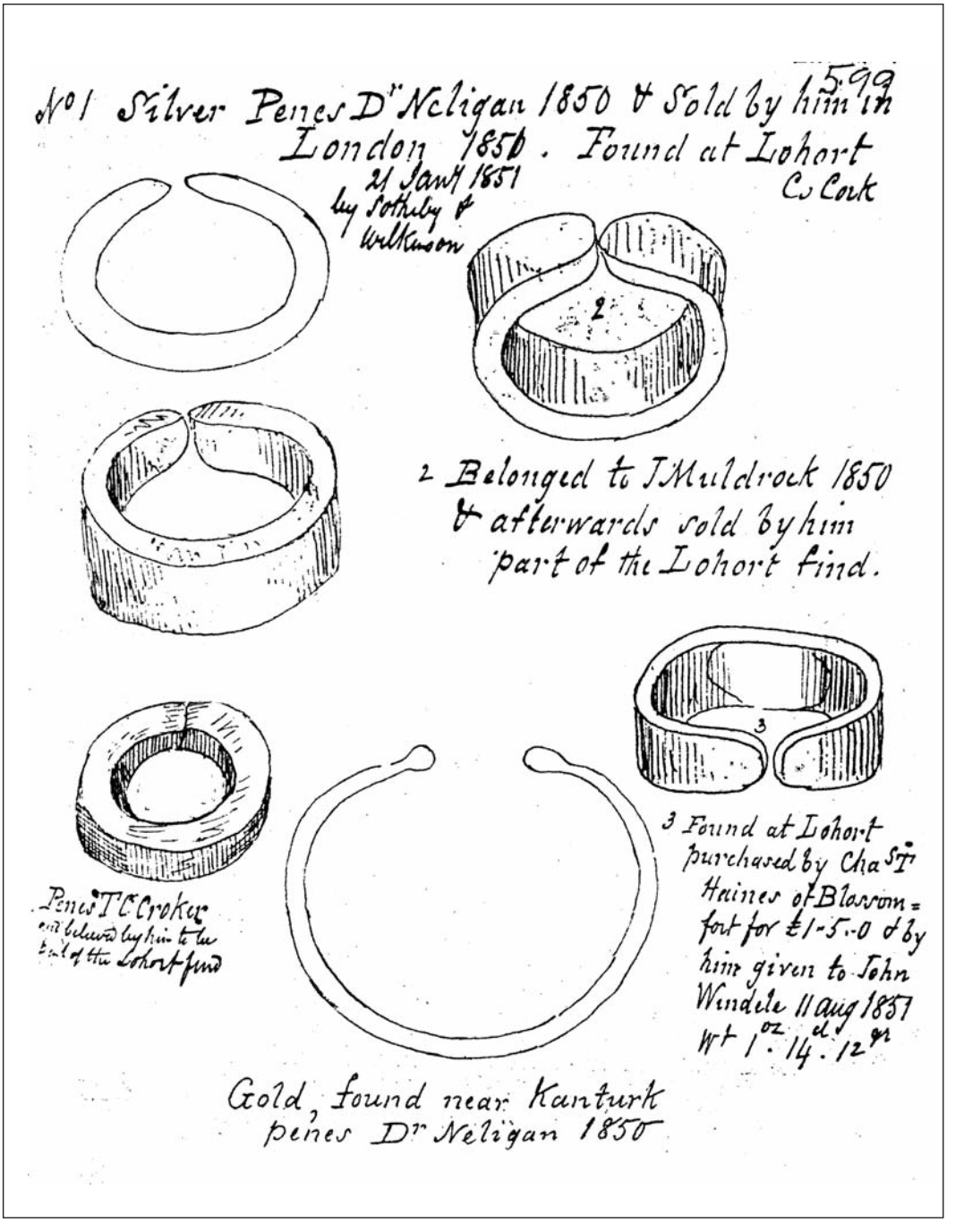


Fig. 2: Sketches of four of the rings from Castlelohort Demesne, from the Windele Mss (Royal Irish Academy MS. 12. C. 2, fol. 599)

> . . . within a field or two of Loharth Castle . . . about 3 or 4 feet under the Surface when opening a quarry there. This person then had five of them, and stated he has Sold one in Buttevant . . . The average weight of the five rings which were linked together but could easily be detached as each ring was only closed, not actually joined, was about two oz each, but Some exceeded and others were less.

The author of the letter may be indentified with certainty, on the basis of a note on the Windele Mss illustration, as Charles Haines of Blossomfort, Ballyclogh, about 9 km from Mallow. Blossomfort is a townland adjacent to Castlelohort Demesne, and there is a record of Charles Haines being resident there, in Blossomfort House, in 1850.[9] Living less than two kilometers from Lohort Castle, it is not surprising that he, who belonged to a merchant, land-owning and milling family with Castlemagner and Mallow connections, would have learned of the discovery of the hoard and informed Sainthill about it.[10]

Windele annotated his transcription of the Haines letter as follows: *Haines got 2 / Neligan 1 / Muldrock 1 / 2 more at Buttevant one of these afterwards went to C.T. Haines Blossomfort Ballyclogh who presented it to J Windele Aug 1851.*This clearly indicates that within three years of its discovery, at most, the components of the Castlelohort hoard had been dispersed. The details of this initial dispersal are confirmed and added to in a brief account of the hoard included in Windele's paper on the 'ring-money of ancient Ireland', which was published around this time.[11] This paper includes a lithographed illustration, entitled 'Irish silver ring-money, found in Co. Cork', which features three of the Lohort rings (Fig. 3). It also accounts for the find's dispersal, as follows:

> Two of them (the second specimens in the engraving) are now the property of Mr. Haines; a third (that of Mr. Muldrock) has been disposed of in London. Dr. Neligan, also, obtained a fourth, since also disposed of in the same City, by Messrs. Sotheby and Co., in January 1851. Mr. Crofton Croker has got a fifth, and I, myself, possess the sixth, which is nearly similar to that of Mr. Muldrock, but not so close, and weighs 1 oz. 14 dwts. 2 grs.

The information in Charles Haines' letter, together with that contained in John Windele's publication and illustrations, comprise all that is known to have been recorded about the circumstances of discovery, find-location, contents and initial dispersal of the Castlelohort Demsene hoard. In summary, it was discovered during quarrying,[12] probably within this townland, comprised six penannular rings, of which at least five were linked together, and reportedly weighed at least 284 gm (based on the ten-ounce estimate in Haines' letter). The hoard's components appear to have been quickly dispersed, all within less than three years, by which time some had changed ownership twice and at least two had been sold into the antiquities trade through auction houses in London. Three or four examples were acquired by established Cork-based or Cork-linked antiquarians, Crofton Croker, Windele and Neligan, while a pair was retained by Haines, a local resident.

THE DISPERSAL

The pair of rings owned by Haines is depicted, interlinked together, on the Windele lithograph where it is captioned *Found at Lohart, Wt. 3 oz. 9d. 1g. Penes C. Haynes Esq. Mallow* (Fig. 3, top right). Graham-Campbell and Briggs suggested that these rings may have been submitted by Haines to the Belfast Exhibition in 1852.[13] This does not appear to be the case, however, for two reasons. Firstly, the relevant entry in the exhibition catalogue concerns only one piece of silver ring-money, not a pair.[14] The following year, Haines again exhibited a single example of 'ring-money', presum-

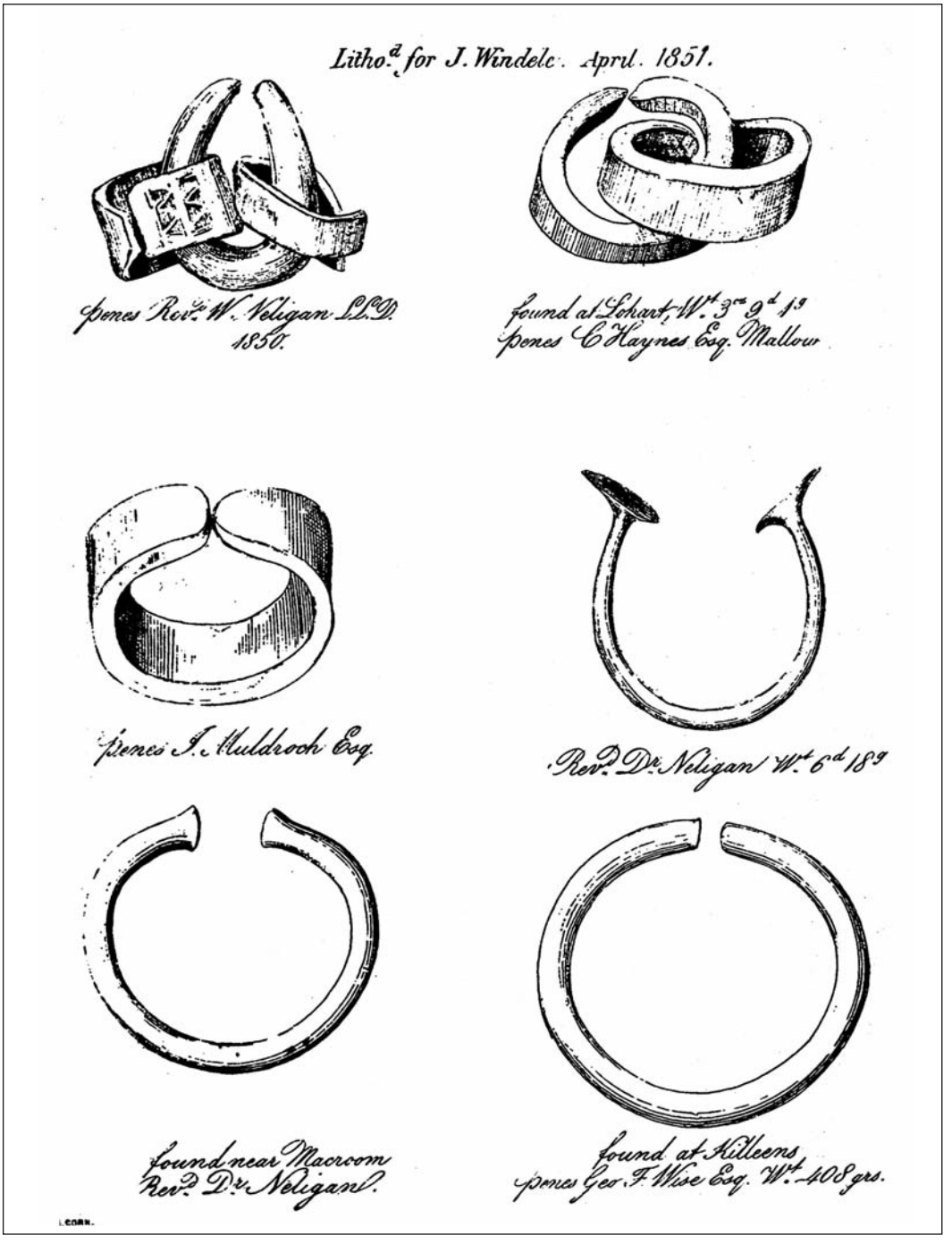


Fig. 3: Lithograph, entitled 'Irish silver ring-money, found in Co. Cork', commissioned by John Windele, which features three of the Castlelohort Demesne rings

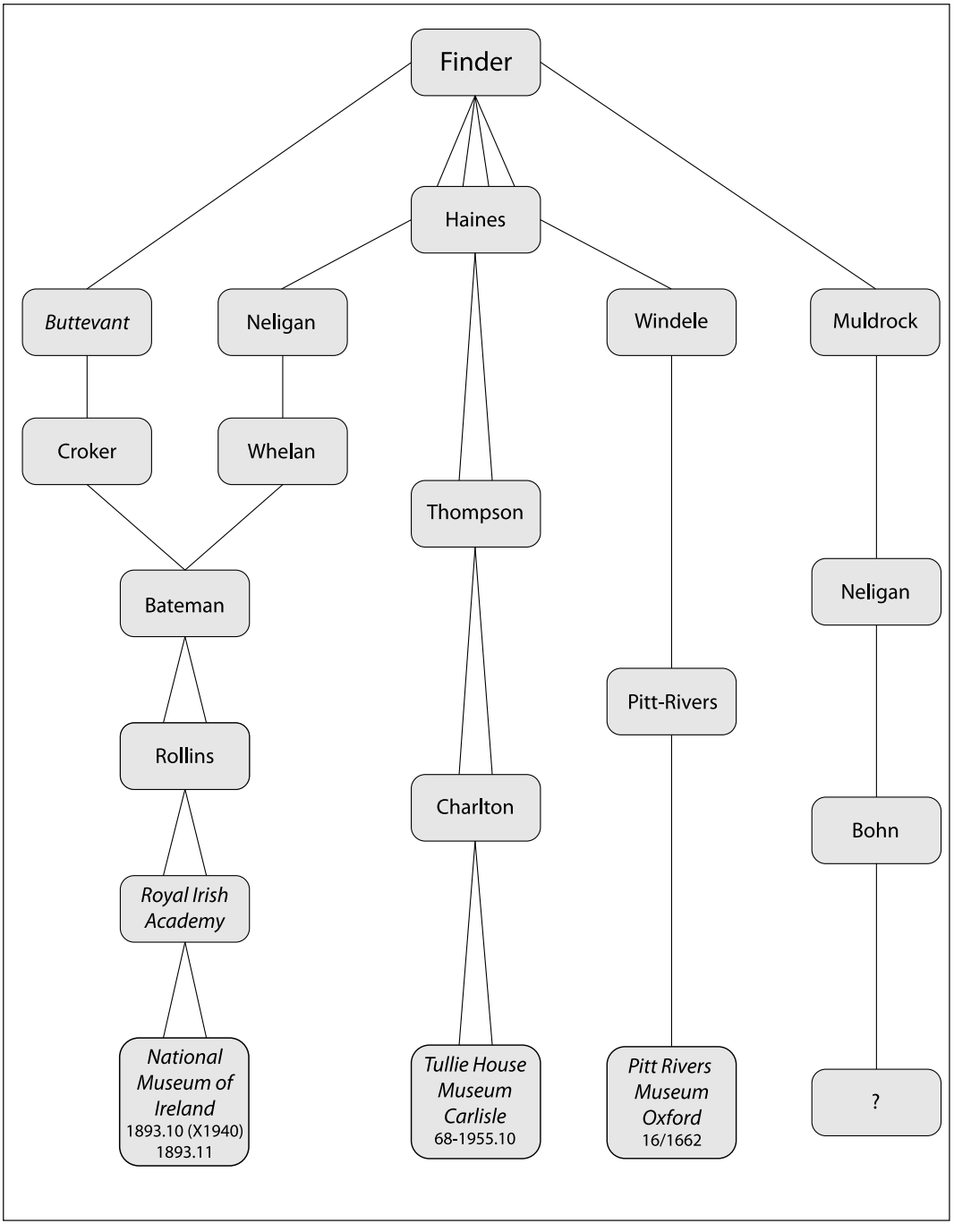


Fig. 4: Flow-diagram depicting the dispersal of the Castlelohort Demesne hoard (each link-line represents one ring)



Fig. 5: Pair of interlinked silver rings, from Castlelohort Demesne, in the collections of Tullie House Museum, Carlisle

ably the same piece, at Dublin's Great Industrial Exhibition,[15] and also exhibited 'ring-money' at an event organized by Cork's Cuverian Society at the Athenaeum in 1855.[16] Secondly, the exhibitor in these instances is named as Dr C.Y. Haines, of Cork, who may be identified as Dr Charles Yelverton Haines, of Warren's Place, Cork, a former president of Cork's Cuvierian Society, who is a different individual than Mr Charles Thomas Haines Esq., of Blossomfort House, Ballyclogh, Mallow.[17] From the annotation of the Windele Mss illustration of the find (Fig. 2, bottom right), it is clear that the Charles Haines involved with the Castlelohort Demesne find was the latter, not the former, and consequently it is not possible to link the otherwise unknown ring exhibited at the Belfast, Dublin and Cork exhibitions between 1852 and 1855 with this hoard.

Unfortunately, there is a century-long gap in the subsequent history of Haines' pair of rings. However, it has now been identified by Graham-Campbell as a pair of interlinked silver rings, of the Castlelohort Demesne type, in the collections of Tullie House Museum, Carlisle (Fig. 5).[18] The combined weight of these rings is 103.8 gm, which is sufficiently close to Windele's recorded weight of Haines' rings, 3 oz. 9 dwt. 1 gr (*c.* 107.7 gm), to inspire confidence in the identification of these rings as being those from the Castlelohort Demesne find. The museum records show that they formed part of a 1955 donation from Mr. E. Thompson, Carlisle, and that he had acquired them from O.J. Charlton, Newcastle upon Tyne. The latter individual may be identified as Oswin J. Charlton, F.S.A. (1871-1941), a barrister and antiquary. Unfortunately, there is no

known record of where or when Charlton acquired the objects. However, it may be worth noting that most of his antiquarian pursuits, particularly the amassing of his important collection of brass rubbings, were carried out during his student years at Cambridge.[19]

Sketches of the Muldrock ring appear in both the Windele Mss (Fig. 2, top right) and in his 1851 lithograph (Fig. 3, middle left). In the former it is annotated *Belonged to J Muldrock 1850 & afterwards sold by him part of the Lohort find*, while on the latter is the caption *Penes J. Muldroch Esq*. Muldrock is possibly to be identified as John Muldrock, an accountant, of Wellington Lodge, Cork city.[20] The ring is recorded as weighing 1 oz. 14 dwts. (*c*. 53 gm). Windele noted that it was subsequently sold in London,[21] and, presumably on this basis, Graham-Campbell and Briggs identified it as a ring that is now in the Pitt Rivers Museum, Oxford.[22] It seems more likely, however, that the Pitt-Rivers ring is that which formerly belonged to Windele, as argued below, and consequently the fate of Muldrock's ring is unresolved. It is possible, however, that it was acquired by Neligan, for which the evidence is presented below.

Windele's ring was presented to him in August 1851 by Haines, who had acquired it in Buttevant, as recorded in Windele's annotation on Haines' letter to Sainthill. It may well, subsequently, have been among the 'two cards of ring-money' submitted by Windele to the antiquities section of the Cork National Exhibition of 1852.[23] Windele described it as being *nearly similar to that of Mr. Muldrock, but not so close, and weighs 1 oz. 14 dwts. 12 grs*.[24] These two rings, Muldrock's and Windele's, appear to be virtually identical in weight, varying from one another by



Fig. 6: Silver ring, from Castlelohort Demesne (*photo: Pitt Rivers Museum, Oxford*)

less than a gramme. However, Windele's text does draw attention to one distinguishing feature of his ring, that its terminals are 'not so close' as those on Muldrock's ring, while, in addition, the sketch of his ring seems to indicate some cuts on the edges of the terminals (Fig. 2, bottom right). Muldrock's ring, on the basis of its illustrations (Fig. 2, top right; Fig. 3, centre left), seems virtually flawless.

The ring in the Pitt Rivers Museum (Fig. 6) has an associated label with the inscription *Silver ring Found at LOHORT Co CORK. 1848. P.R. Coll* [*16/1662*]. The museum records do not document from whom, or when, it was acquired. However, it is clear that it was in Pitt-Rivers' ownership by 1874 when it was sent as part of his anthropological collection to Bethnal Green Museum, a branch of London's South Kensington Museum.[25] Another item in the collection with a 1662 registration number may have been obtained by Pitt-Rivers at the sale of Purnell Bransby Purnell's collection in 1872, and it has been suggested that the silver ring may have been obtained on the same occasion.[26] Purnell, of Gloustershire, was a collector of art and antiquities, including some from Ireland, whose collection included the brooches that constituted the Viking-age silver hoard from Scattery Island, Co. Clare.[27] However, it seems far more likely that Pitt-Rivers obtained this ring from Windele during his period of military service in Cork, 1862-66. In her research on Cork antiquarianism, Rockley outlines his involvement with the antiquarians of the city and his interest in acquiring antiquities there.[28] She notes a letter from Robert Day to Windele, dated August 1863, in which he wrote, on the subject of Pitt-Rivers' account of his visit to Windele:

> The excellent Colonel told me he made a deep dip into your Museum. It is not often we find Englishmen valuing Irish productions & when we do they should be made to pay for their taste.

The artefacts purchased by Pitt-Rivers on this occasion included a lot comprising '*Silver ring money, Bone ring, 3 silver crosses*', for which £3.10s was paid.

Given that it is known that Windele acquired one of the Castlelohort Demesne rings in 1851, and that Pitt-Rivers had acquired one by 1874, with which came accurate information on its find-spot, information which had been primarily documented by Windele, it seems very probable that the silver 'ring money' acquired by Pitt-Rivers from Windele in 1863 was the latter's Castlelohort Demesne piece. This clear-cut probability is further strengthened by two additional details: firstly, the weight of the Pitt Rivers Museum ring, 54 gm, is very close to the weight recorded by Windele for his ring, 1 oz. 14 dwts. 12 grs (*c.* 53.7 gm) and, secondly, the edges of the terminals of the Pitt-Rivers ring feature a number of cuts in the same general position, on the edges, as those indicated on the sketch of Windele's ring. It is therefore proposed, *a contrario* the suggestion by Graham-Campbell and Briggs, that the Castlelohort Demesne ring in Pitt-Rivers' collection was obtained from Windele.

Dr Neligan is referred to as the owner of one of the Castlelohort Demesne rings in an annotation to the Windele Mss sketch (Fig. 2, top left). Undoubtedly this is Rev. Dr William Chadwicke Neligan, rector of St. Mary Shandon, a noted Cork collector and dealer in antiquities and manuscripts.[29] Although not expressly indicated in the documentation relating to the hoard, it seems quite likely that Neligan obtained this ring through Charles Haines, as both men also had dealings concerning a Bronze Age hoard the following year.[30] The Windele Mss sketch is captioned *Silver pence Dr Neligan 1850 & Sold by him in London 1851* to which is appended, in the same hand, *21 Jan'y 1851 by Sotheby & Wilkinson*. This ring was described in Neligan's sale catalogue as *Another* [example of silver 'ring-money'] *. . . found in a field in the Parish of Castle Magna, County of Cork, very rare*.[31] It was purchased by Whelan, presumably a dealer,[32] apparently on behalf of Thomas Bateman, the Derbyshire antiquarian, who also acquired arm-rings from

another of Cork's Viking-age silver hoards, that from Lackaduff (Macroom Castle), through Whelan, on this occasion. The Castlelohort Demesne ring was subsequently included in the published catalogue of Bateman's museum where it is described as a *Specimen of Silver Ring Money, made from a flat bar bent into an oval form, found in the parish of Castle Maqua, County of Cork. Weight 2 oz. 8 dwt. 20 gr. Dr. Neligan*.[33] It later formed part of a lot at Bateman's sale in Sotheby's, in 1893,[34] which also included another of the Castlelohort Demesne rings (see below), as well as the Lackaduff arm-rings. This lot was purchased by Claude Camille Rollins, of the London/Paris dealers, Rollins and Feuardent, apparently on behalf of the Royal Irish Academy. On arrival in Dublin it was entered in the museum's register as 1893.10, where it was described as a *Silver unclosed ring. Quadrangular section. Ext. diam 1¾ and 1¼. 2 oz. 5 dwt. 19 grs. Found at Castle Magner, Co. Cork*. There is now no object in the National Museum of Ireland's collections bearing this registration number. However, there is a plain penannular ring, bearing the registration X1940,[35] which weighs 71.32 gm (Fig. 7, right). This may be confidently equated with the 'Castle Maqua/Castle Magner' ring acquired at the Bateman sale, ex-Neligan, the recorded weight of which in the Academy's acquisitions register, 2 oz. 5 dwt. 19 grs, converts to 71.4 gm.

A second example of 'ring money', described as *Another, found in a field near Lohort Castle, County of Cork, of the same degree of rarity*, was included in Neligan's London sale.[36] According to Windele's statements, however, Neligan owned only one of the Castlelohort Demesne rings,[37] and this has been identified, above, as a ring in the National Museum of Ireland. The second Neligan ring, with its Lohort provenance, may well have been acquired from Muldrock, as all of the other rings from the hoard are satisfactorily accounted for. In the Windele Mss the sketch of Muldrock's ring is annotated *Belonged to J Muldrock 1850 & afterwards sold by him part of the Lohort find*. It seems possible that this sale was to Neligan, which would explain his acquisition of a second example. At the Sothebys auction the ring was purchased by a H. Bohn,[38] who is possibly to be identified as Henry George Bohn, a London publisher and rare-book dealer who may have been drawn to the sale by the inclusion in it of some of Neligan's manuscripts.[39] The fate or present whereabouts of Bohn's ring, putatively ex-Neligan and -Muldrock, is unknown.



Fig. 7: Two silver rings, from Castlelohort Demesne, in the National Museum of Ireland

The final of the Castlelohort Demesne rings is sketched in the Windele Mss with the caption *Penes TC Croker and believed by him to be part of the Lohort find* (Fig. 2, bottom left).This is Thomas Crofton Croker, the Cork-born antiquarian resident in London.[40] The illustration shows that the ring was smaller and less well-formed than the other examples from the hoard. It has been suggested, by Graham-Campbell and Briggs,[41] that it formed part of lot 97 of the Croker sale, which was described as comprising *Small specimen, twisted (rare), 3 other specimens*.[42] This lot was purchased by Thomas Bateman, and the four pieces were included in his catalogue and later formed part of a lot at the sale of his collection.[43] The entry for the relevant item in the latter source is *Small silver penannular ring of square section, wt 16 dwts, from the neighbourhood of Cork*. This lot was purchased by Rollins, as noted above, and subsequently acquired by the Royal Irish Academy, where the ring was registered as 1893.11 (Fig. 7, left). It weighs 24.84 gm, virtually the exact equivalent of the 16 dwts weight recorded for it in Bateman's sale catalogue. It seems certain that this ring is the first one that was sold in Buttevant, in 1848, by the person who discovered the hoard, as it seems clear from Haines' letter to Sainthill that the other rings were heavier than it.

The present locations of five of the six rings that constituted the Castlelohort Demesne hoard may now be identified, all of which form part of museum collections. The exception is the ring formerly associated with Muldrock, which was sold in London in 1851 and subsequently appears to have vanished. Fortunately, however, good information on the nature and form of this ring was documented by Windele, who not only sketched it but also recorded its weight. As a result of this, and of information pertaining to other elements of the find that have been recognized in antiquarian sources, auction catalogues and museum records, a reasonably satisfactory overview of the hoard and its components may be arrived at. It comprised six penannular rings, unornamented, at least five of which were linked together, with a total bullion weight of *c*. 307 gm. All are made from a thick band of silver, of approximately rectangular cross-section, and some feature a concave outer face. These rings may be identified as Hiberno-Scandinavian 'bullion-rings'.



Fig. 8: The 'Ireland no. 2' hoard (*courtesy: National Museum of Ireland*)

HIBERNO-SCANDINAVIAN 'BULLION-RINGS'

A 'bullion-ring' may be defined as a small penannular ring made from a thick band of silver of approximately rectangular cross-section, often with a concave outer face; examples are invariably unornamented. The majority of examples vary from 4-6mm in thickness and taper in width towards the terminals, which may end convexly or angularly and frequently overlap for a short distance. They are far too small to function as arm-rings and are generally too large and cumbersome for use as finger-rings. These simple rings, like ingots, appear to have served primarily as convenient way of storing bullion. Their occurrence in ring-form may reflect the fact that several types of Viking-age silver arm-rings were manufactured to a weight-unit standard, but the fact that they could not be worn as ring ornaments suggests that they were primarily viewed as bullion in ring form.[44]

'Bullion-rings' are known to occur in at least five hoards from Ireland. These comprise those from Castlelohort Demesne, the subject of this paper, Derrynahinch, Co. Kilkenny, Cushalogurt, Co. Mayo, Carraig Aille II, Lough Gur, Co. Limerick, and an unprovenanced find, known as 'Ireland no. 2' (Fig. 8). In addition, one further hoard, an unlocalised find from Co. Kilkenny, now lost, may also have been composed of such rings.[45] Probably the most important of these hoards was that from Derrynahinch, which was discovered in 1851 during the construction of a railway cutting. Described as comprising 'about a quart full of rings and pieces of silver', it was undoubtedly one of Ireland's largest hack-silver hoards. The records indicate that it comprised twelve or fourteen penannular rings, some of which were of 'bullion-ring' type, as well as 'many' pieces of hack-silver derived from ornaments or ingots, or both. The weight of the hoard is unknown, but it appears to have been quite a substantial find. Unfortunately, with the exception of one item, a 'bullion-ring', the hoard was discarded by the finders.[46] The unprovenanced hoard, 'Ireland no. 2', was discovered sometime prior to 1837 and comprised at least six, but possibly as many as ten, 'bullion-rings'.[47] They appear, like the Castlelohort Demesne rings, to have been linked together. Passing through the collections of at least two nineteenth-century antiquarians, however, the rings appear to have been detached, re-attached and, perhaps, added to, and presently eight linked rings constitute the find. The Cushalogurt hoard was discovered in 1939 close to the shoreline of Clew Bay. It is of interest to note that the finder observed that its components were 'linked into each other',[48] which was also a feature of the Castlelohort Demesne and 'Ireland no. 2' hoards. The hoard comprised eleven complete or nearly whole rings, three of which were of 'bullion-ring' type, and fourteen pieces of hack-silver.[49] The Carraig Aille II hoard was discovered in 1948 during the archaeological excavation of a stone fort which forms part of the Lough Gur complex, concealed in an interstice on the inner face of its rampart.[50] It comprised one 'bullion-ring', two ingots and four pieces of hack-silver. Excavation demonstrated that the site's occupation, which possibly started in the eighth century, continued well after the hoard's deposition. While the find has recently been interpreted as representing either 'a stockpile of silver intended for use in the manufacture of items on site' or as 'merely fragments of objects broken after loss',[51] it is far more likely that it is a hack-silver hoard of standard Scandinavian character.

'Bullion-rings' are only definitely represented in one recorded hoard from Britain, that from Cuerdale, Lancashire, which contains about a dozen complete and hack-silver fragments, making it the largest known collection of such rings.[52] The occurrence of such a large proportion of the total number of recorded 'bullion-rings' from Britain and Ireland in this single hoard is not surprising given its immense size, it being the largest known hoard from the western Viking world. The find, deposited *c*. 905–10, represents the only coin-dated hoard context for 'bullion-rings'. A lost

hoard from the Isle of Skye, Scotland, was composed of three rings which may reasonably be identified as 'bullion-rings' on the basis of details contained in a mid-nineteenth-century illustration and account of their discovery.[53] Like several of the hoards containing 'bullion-rings' from Ireland, as noted above, the Isle of Skye rings were interlinked together. As in the case of the Cuerdale hoard, in which the bulk of the non-numismatic silver is of Hiberno-Scandinavian origin, it is possible that the Isle of Skye hoard ultimately derived from Ireland, as most of the hoards deposited in Scotland during the period between *c*. 850 and *c*. 950 display Hiberno-Scandinavian connections.

An example of what may be considered, at least, a prototype 'bullion-ring' forms part of the large assemblage of metalwork that has emerged in recent years from Torksey, Lincolnshire. Like the Hiberno-Scandinavian 'bullion-rings', this somewhat misshapen object is a small, plain, penannular ring made from a rather thick band of silver.[54] Torksey was the location of the winter-camp of the Danish 'Great Army' in 872-3, and Blackburn has drawn attention to the wide range of finds from the site, which includes coins, polyhedral weights and hack-silver. The Torksey ring find is of significance because of the apparent likelihood that it was current in the early 870s. In addition, it provides an indicator of the potential occurrence of prototype 'bullion-rings' within the Danish cultural context of ninth-century southern Scandinavia, from where most of the Torksey silver must ultimately derive. The only parallel for the 'bullion-ring' form yet recognized within Viking-age Scandinavia lies within a small, coinless hoard, probably of mid-tenth-century date, from an unlocalised findspot on Gotland.[55]

The date and location of the Torksey assemblage probably indicates both the main period and the route by which prototype 'bullion-ring' material travelled westwards and initiated the development of the type in Ireland. It is interesting to note that Viking-age Ireland's dominant arm-ring type, the Hiberno-Scandinavian broad-band type, was also of southern Scandinavian inspiration.[56] This reinforces the connections that existed between the Hiberno-Scandinavian and southern Scandinavian silver-working traditions, connections which, ultimately, were due to the primary importance of southern Scandinavia and the Baltic region as the source for the imported silver that was used to supply the silver-working tradition that developed in Ireland during the second half of the ninth century.[57]

It is unfortunate that 'bullion-rings' are not recorded from coin-dated hoards in Ireland. The Cuerdale hoard, deposited *c*. 905-10, therefore, represents the only coin-dated hoard context for this type of object. The only other method of establishing its date range is by associative dating but, here too, problems arise from the fact that 'bullion-rings' are not known to have been associated with other material in most of their hoard occurrences. We are, therefore, confined to a consideration of the associated objects in the hoards from Carraig Aille II, Cushalogurt and the lost find from Derrynahinch.

Apart from their 'bullion-rings', the Cushalogurt and Carrig Aille II hoards share the occurrence of broad-band arm-rings. These represent the most important product of the Hiberno-Scandinavian silver-working tradition, occurring in twenty-nine hoards in Ireland. Three of these finds are known to have contained coins, each of which was deposited during the first decade of the tenth century. The type is also known from a number of coin-dated hoards in Britain and Scandinavia, the majority of which were deposited between *c*. 900 and *c*. 930. On this basis the currency of the broad-band arm-ring type is broadly datable to the period between *c*. 850 and *c*. 950, though the majority appears to have been produced in the decades closer to 900. The other arm-ring types represented in the Carrig Aille II and Cushalogurt hoards are of only limited

dating value. Another object type found in association with 'bullion-rings' is the ingot, as in the Carraig Aille II and, possibly, the Derrynahinch finds. Ingots, however, have a wide date-range. They are found in at least half of the Viking-age hoards from Ireland that contain non-numismatic material. Seventeen of these finds also contain coins, and in each instance these are of tenth-century date. Little is known about the content of the Derrynahinch hoard apart from the fact that it contained an impressive amount of silver, including hack-silver. It is possible, however, that it featured plaited or twisted-rod rings of some form.[58] Although twisted-rod arm-rings originated in the ninth century they are largely a tenth-century phenomenon, and are of rare occurrence in Ireland's hoards. The limited evidence of the Derrynahinch hoard, therefore, indicates that this find may have been deposited in the tenth century.

In overall terms, therefore, it may be proposed that 'bullion-rings', on the basis of a single coin-dated hoard occurrence combined with the date-ranges of associated material from a limited number of finds, as well as the proposed date for the Isle of Skye hoard,[59] were in circulation during the later ninth and early to mid-tenth century. Graham-Campbell has suggested that the type was a 'relatively short-lived development during the first half of the tenth century',[60] though the evidence from Torksey now raises the probability of a later ninth-century horizon.

In his consideration of the 'bullion-rings' in the Cushalogurt hoard, Hall suggested that they are 'most plausibly explained as ingots'.[61] This is a reasonable suggestion for, as noted above, their size effectively precluded them being worn as ring ornaments. Like ingots, these simple rings may have primarily functioned as a convenient way of storing and circulating silver as a form of currency in a metal-weight bullion economy. Their ring-form may be a reflection of the fact that several types of Viking-age silver arm-rings were manufactured to a weight-unit standard. This may also be a reason why some ingots from Britain and Ireland were bent into ring form.[62] It seems, however, that rings of the type found at Castlelohort Demesne may have been chiefly viewed as bullion in ring form, rather than as rings that could also serve a bullion function, hence the term 'bullion-ring'. The fact that these are invariably plain supports this distinction, as most types of Hiberno-Scandinavian silver arm-rings are ornamented.

If regarded as bullion, these rings may have been made to a specific weight standard. A number of metrological studies of various types of Viking-age silver ornaments and ingots from Britain and Ireland have been undertaken in recent decades. Kruse, for instance, conducted a study on ingots from hoards from England and Wales and, while no clear standard could be ascertained there was a focus in the weight range between 20 gm and 30 gm, with a basic 'fuzzy' unit of *c*. 25-26 gm seeming possible.[63] This closely approximates to the Scandinavian *eyrir*, or ounce, as identified by Brøgger.[64] Several weight units around the mid-20s gm, as well as multiples and sub-multiples of them, have been proposed following studies on scale balance weights and silver artefacts from various areas of the Viking world.[65] On this basis, therefore, although for various reasons it is incapable of definitive statistical proof, it seems a reasonable proposition that a target weight of *c*. 25-26 gm was in operation in the Viking-age silver bullion economy.

Unfortunately, it is not possible to conduct any sort of statistically-meaningful analysis of the weights of Hiberno-Scandinavian 'bullion-rings'. While about thirty examples of this type are represented among the Viking-age silver finds from Ireland a significant proportion of these are no longer extant, such as all but one of the rings from the Derrynahinch find, while others cannot be individually weighed given that they are linked together, as is the case with the 'Ireland no. 2' hoard. However, when the weights of all available examples are plotted on a scatter diagram the results show that a third of these lie within the 25 ± 2 gm range (Fig. 9), close to the target weight

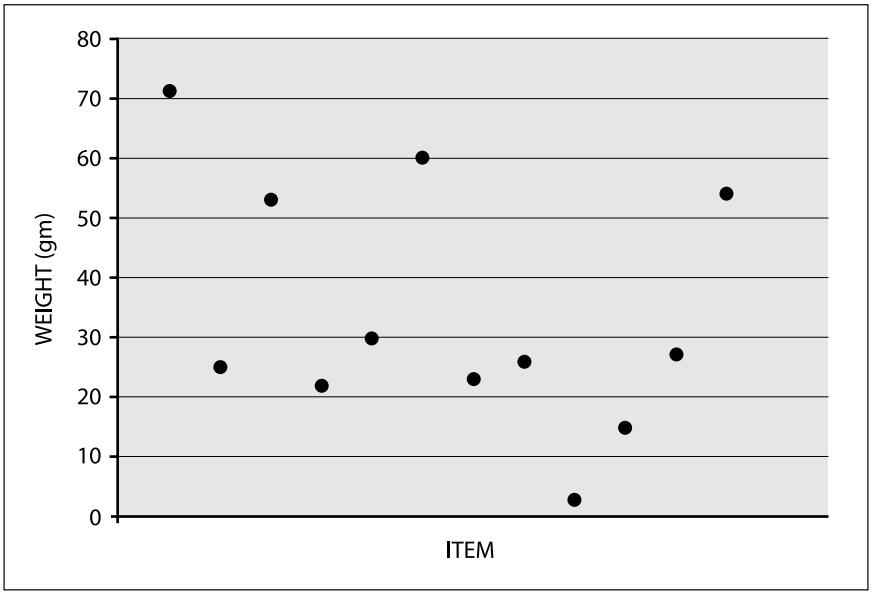


Fig. 9: Scatter diagram of the weights of 'bullion-rings' from Ireland (after Sheehan 2011, fig. 4, with additions; see fn. 44)

that is evident in other forms of non-numismatic Viking-age silver objects and weights, and that two further examples, weighing 53-54 gm, may represent two units of this weight. Each of the latter examples is from the Castlelohort Demesne hoard, and it may well be that there are two more examples of this weight in the hoard given that the combined weight of the linked pair is 103.8 gm. The suggested function of 'bullion-rings' as a convenient way of storing and circulating silver as a form of currency is supported, albeit in a general way, by this exercise, and it appears that the dominant weight unit represented in the Castlelohort Demesne find is the two-unit value of a target weight of *c*. 25–26 gm. This is a value that presents itself elsewhere in the material in hoards from Ireland, and it is interesting to note that the greatest number of Hiberno-Scandinavian broad-band arm-rings that conform to this weight unit also lie within the two-unit value range.[66]

The practice of 'nicking' and 'pecking' silver objects – ornaments, ingots and coins – is a feature of some Viking-age silver hoards.[67] This was carried out to check silver quality and, alongside the phenomenon of hack-silver, is indicative of the manner in which silver circulated in pre-monetary economies. In the case of non-numismatic material the process of nicking normally involved cutting a small notch or slice on the edge of the object. Given the suggested function of Hiberno-Scandinavian 'bullion-rings' as a form of currency, it is not surprising to note that nicking is a feature of the type. It is difficult, however, to ascertain to what extent this was, partly because a fairly large proportion of the material is known only from the antiquarian sources. Nevertheless, a significant number of the extant rings feature nicking: four of the eight rings that currently constitute the 'Ireland no. 2' hoard exhibit this phenomenon, generally comprising a single slice; three of the five extant rings from Castlelohort Demesne are nicked, comprising both nicks and slices; and five of the seven objects in the Carraig Aille II hoard are nicked, with the 'bullion-ring' featuring a slice. On the other hand, nicking is not a feature of the three 'bullion-rings' in the Cushalogurt hoard, though it is noteworthy that only one of the twenty-five items in this find is

nicked (and that only once). The overall pattern of evidence demonstrates that 'bullion-rings' formed part of the circulation of silver represented in Scandinavian-type hoards.

'Bullion-rings' have occasionally been culturally attributed as 'Irish'.[68] While it is clear that Scandinavian activity in Ireland resulted in significant quantities of silver becoming available to Irish craftsmen for the first time, and that this led to the development of novel Irish brooch-types, it is also evident that there are differences between the specific find-contexts of these objects and those of Scandinavian-type hoards. Indeed, these brooches are usually only found as single-finds rather than within hoards, the characteristic context of Scandinavian and Hiberno-Scandinavian material. On this basis alone it seems rather unlikely that the 'bullion-rings' are of Irish origin. It is worth noting, furthermore, that the form of these object types are without precedent in Ireland, and that when Irish craftsmen did experiment through the medium of silver they tended to produce highly decorative and sophisticated forms that were far removed in technical accomplishment and style from these plain 'bullion-rings'. It seems more likely that these rings derive from a Hiberno-Scandinavian milieu. As has been demonstrated above, they tend to occur in hoards of Scandinavian character, sometimes in association with diagnostic Hiberno-Scandinavian object-types and, most importantly, in a number of instances they exhibit the nicking that is characteristic of Scandinavian-type hoards. It, therefore, appears reasonable to suggest that the cultural background of the 'bullion-rings' is Hiberno-Scandinavian rather than Irish. The recent Torksey find, noted above, provides a clear indicator that the ultimate origins of the type lie in southern Scandinavia.

The distributional pattern of 'bullion-rings' in Ireland is unusual. Of the five find-spots that have at least a county provenance, four are located in the southern third of the country, in counties Cork, Limerick and Kilkenny, all within the early medieval kingdom of Mumu. It is noteworthy that no examples are represented amongst the Viking-age silver hoards on record from the midlands, north Leinster and Ulster from where, collectively, much larger numbers of hoards are on record. This southerly distribution appears to be significant and suggests that the type originated away from the Dublin core of the Hiberno-Scandinavian silver-working tradition, presumably in one of the Hiberno-Scandinavian settlements of Limerick, Cork, Waterford and Wexford. The presence of examples of this ring type in the Cuerdale hoard, along with the Isle of Skye find, demonstrates that these objects gained some circulation outside the Munster area, both within Ireland and the Irish Sea region.

CONCLUSION

While it is likely that the Castlelohort Demesne hoard was deposited in the late ninth/early tenth century, it is not known by whom, or why, it was deposited. Nor is it evident why it remained buried. Hoards were buried for various reasons, and it is usually difficult to demonstrate these archaeologically. It is possible that some may have been ritually deposited, without any intention of recovery.[69] Given, however, that the great majority of hoards are composed of silver, an important means of exchange in the Viking Age, the phenomenon of hoarding is normally interpreted in economic terms. Many hoards may have simply been stores of wealth that were customarily buried for safe-keeping, and were perhaps added to or withdrawn from periodically, while others may have been deposited for security during a crisis. In both scenarios the hoards were not recovered: in the former instance possibly simply because they were ultimately forgotten about, for whatever reasons, and in the latter case probably because of some crisis-related misadventure. It is not possible to determine which scenario might apply to the Castlelohort Demesne hoard.

It is evident, from both general distributional considerations and from the tendency for many of the finds to derive from Irish settlement sites, that a significant number of Viking-age hoards from Ireland represent Irish, rather than Hiberno-Scandinavian, wealth. While it cannot be ruled out that the Castlelohort Demesne hoard was buried by Scandinavian hands, it would seem more likely that it was an Irish deposit. Given that sometimes there is a correlation between the find-spots of hoards and locations that are associated with the dynasties of Irish kingdoms – such as Cenél nEógain of Northern Uí Néill, at Ailech, Co. Donegal, and Clann Cholmáin of Southern Uí Néill, at Dún na Sciath/Cró Inis, Co. Westmeath – it is worth considering if this hoard may also reflect such an association. Its find-spot, Castlelohort Demesne, is situated within the pre-Norman local kingdom or *trícha cét* of Múscraige Uí Áeda, which later became the medieval cantred of Muscrydonegan.[70] Unfortunately, however, no royal centre associated with the Múscraige Uí Áeda, such as an assembly or *óenach* site, has been identified.[71] While the locations of important medieval tower-houses, such as Lohort Castle, sometimes reflect the endurance and continuity of earlier power centres, this is not known to be the case in this instance. It is not possible, therefore, to link the Castlelohort Demesne hoard with the Múscraige Uí Áeda beyond noting that it was deposited within their kingdom and that it may evidence a connection between them and the Hiberno-Scandinavians of Cork or Limerick. Whether this postulated link was economic, political or military in nature, or a combination of these, is unknown.

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NOTES AND REFERENCES

1 For published references to the coin and mixed hoards see Blackburn M. and Pagan, H., 'Checklist of coin hoards from the British Isles, *c*.450–1180', http://www.fitzmuseum.cam.ac.uk/dept/coins/projects/hoards/For the mixed and coinless finds see Sheehan, J., 'Early Viking-age silver hoards from Ireland and their Scandinavian elements', in H.B. Clarke, M. Ní Mhaonaigh, and R. Ó Floinn, (eds), *Scandinavia and Ireland in the Early Viking Age* (Dublin, 1998), pp. 166–202, Appendix at pp. 198–202 .

2 Mumu, early medieval Munster, was a region of shifting boundaries but the broad extent of the kingdom around AD 900 included Osraige, Lóigis and Uí Failge, now in the modern province of Leinster, in addition to the area covered by the modern province of Munster. Southern Uí Néill essentially comprised the northern half of the modern province of Leinster, while Northern Uí Néill comprised the modern county of Donegal and parts of Tyrone and Derry.

3 Kenny, M., 'The geographical distribution of Irish Viking-age coin hoards', *Proceedings of the Royal Irish Academy* 87c (1987), pp. 507–25, at pp. 511–19; Sheehan, 'Early Viking-age silver hoards from Ireland', at pp. 173–76.

4 Purcell, E. and Sheehan, J., 'Viking Dublin: enmities, alliances and the cold gleam of silver', in Hadley,

D.M. and Harkel, L.T. (eds), *Everyday life in Viking 'towns': social approaches to Viking Age towns in Ireland and England c.850–1100* (Oxford, 2013, pp. 35–60).

5 Lohort castle is a late medieval tower house (see Power, D. *et al.*, *Archaeological Inventory of County Cork*, vol. 4:2 (Dublin, 2000), pp. 528–29; Hajba, A.M., *Houses of Cork: 1, North Cork* (Whitegate, 2002), pp. 247–48. See also O'Keeffe this volume.

6 In Haines' letter the find location is described as being 'within a field or two of Loharth Castle'. This would place it within Castlelohort Demesne townland, on the assumption that it is the castle itself, rather than the walls of its surrounding octagonal enclosure, that is being referred to. If the latter is the case, however, the find location lies in either the townland of Lohort East or Lohort West. It seems more likely that the former is the case, and therefore the townland of Castlelohort Demesne is proposed as the more probable location of the hoard's find-spot.

7 Royal Irish Academy MS. 12.C.2, fol. 591–92.

8 Royal Irish Academy MS. 12.C.2, fol. 599.

9 Hajba, *Houses of Cork*, p. 82.

10 Charles Thomas Haines, presumably the Chas. T. Haines named in Windele's annotation of the 1848 Haines' letter, was born in 1818 at Clyda House, Kilshannig, Mallow. This house was built in 1805 by Charles Haines. Charles Thomas Haines died in Dublin in 1878, and was buried in Mount Jerome cemetery, where his headstone survives. Although not recorded as an antiquarian of any note, Haines, in addition to his connection to the Castlelohort Demesne hoard, also had dealings with Dr William Chadwicke Neligan, in 1851, in connection with a Bronze Age hoard from Moroe, Co. Limerick: see Cahill, M., 'Some unrecorded Bronze Age gold ornaments from Co. Limerick', *North Munster Antiquarian Journal* 35 (1993–4), pp. 5–23, at p. 19. He is listed as a subscriber to a testimonial to Rev. James Graves in *Journal of the Kilkenny and South-East of Ireland Archaeological Society* 4.2 (1863), p. 299. This may be the same Charles Haynes of Mallow whose burglary is reported on in the *Cork Examiner*, January 18th 1864, where among the items stolen were 'old coins of Elizabeth and Henry the Eighth'. Clearly Haines operated on the fringes of the strong circle of mid-nineteenth century Cork antiquarians. For information on the background of the Haines family see: P. Roche, 'Charles Haines of Malalow (1752–1831)', *Mallow Field Club Journal* 27 (2009), 111–120.

11 Windele, J., 'On the ring-money of ancient Ireland', *Transactions of the Kilkenny Archaeological Society* 1 (1849–51), pp. 328–33, at p. 332.

12 On both the first and second editions of the OS 6" maps a number of small quarry pits, as well as a lime kiln and associated quarry, are indicated in the fields to the north of Lohort Castle. It is possible that the hoard's discovery is related to one of these.

13 Graham-Campbell, J. and Briggs, C.S., 'Some neglected Viking-age silver hoards from near Athlone and Co. Cork', *Peritia* 5 (1986), pp. 309–16, at p. 311.

14 The relevant entry reads: 'Piece of silver ring-money weighing 31½ dwts': see *A Descriptive Catalogue of the Collection of Antiquities and other objects Illustrative of Irish History exhibited in the Museum, Belfast, on the occasion of the twenty-second meeting of the British Association for the Advancement of Science, September, 1852* (Belfast, 1852), p. 31. The author is grateful to Professor Peter Woodman for loaning him his copy of this work.

15 *Official Catalogue of the Great Industrial Exhibition 1853* (Dublin, 1853), p. 139. The relevant entry reads: 'Piece of silver ring money'.

16 *Report of the Cork Cuverian Society for the Cultivation of the Sciences for the session 1854–5 with an account of the conversazione held at the Athenaeum on the 29th and 31st May* (Cork, 1855), p. 14.

17 The author has failed to trace any family relationship between Charles Yelverton Haines, of Cork, and Charles Thomas Haines, of Mallow.

18 James Graham–Campbell (pers. comm.) is most grateful to Colin Richardson for having brought

these then unprovenanced rings to his attention in 1993. Tullie House Museum registration number: 68–1955.10.

19 His collection of brass rubbings, now known as the Charlton Collection, is held in Newcastle University. He may also have been a wider collector, and there is a fifteenth-century monumental brass plaque acquired from him in the Victoria & Albert Museum (M.5-1943). His obituary notice appears in *Archaeologia Aeliana* 4:20 (1942), pp. 8–10.

20 John Muldrock is included in *Aldwell's General Post Office Directory of Cork* (1845), a list of traders, public officials and some of the prominent citizens of the city. This is a very unusual surname in the Cork context, and there are no Muldrocks listed as resident in either the city or county in the 1901 census. This would suggest that John Muldrock of Wellington Lodge is to be identified as the 'J. Muldrock Esq.' who was associated with the Castlelohort Demesne ring.

21 Windele, 'On the ring-money', p. 332.

22 Graham-Campbell and Briggs, 'Some neglected Viking-age silver hoards', p. 311.

23 Mitchell, G.F., 'Antiquities', in T. Ó Raifeartaigh (ed.), *The Royal Irish Academy: a bicentennial history 1785–1985* (Dublin, 1985), p. 115.

24 Windele, 'On the ring-money', p. 332.

25 See *Rethinking Pitt-Rivers: analyzing the activities of a nineteenth-century collector http://web.prm.ox.ac.uk/rpr/pages/RPR5709* [accessed 07/11/12].

26 Ibid., *research notes*.

27 Sheehan, J., 'The character and cultural context of the Inis Cáthaig/Scattery Island silver hoard', *The Other Clare* 34 (2010), pp. 23–28, at p.26.

28 Rockley, J., *Antiquarians and Archaeology in Nineteenth-Century Cork*, BAR British Series 454 (Oxford, 2008), pp. 73–74. See also: Shee Twohig, E., 'A.H. Lane Fox Pitt Rivers and Ireland', in P. Ní Chatháin, S. Fitzpatrick and H. Clarke (eds), *Pathfinders to the Past: the antiquarian road to Irish historical writing 1640–1960* (Dublin, 2012), pp. 106–14.

29 See Rockley, J., *Antiquarians and Archaeology*, p.152, passim.

30 Cahill, 'Some unrecorded Bronze Age gold ornaments', p. 19.

31 *Catalogue of Some Highly Interesting Antiquities, and other Works of Art, the Property of the Rev. Dr. Neligan . . . which will be Sold at Auction by Messrs. S. Leigh Sotheby & John Wilkinson, January 20th, 1851*, (London, 1851) p. 6, lot 70. Castlelohort Demesne is located in the parish of Castlemagner. Consequently the hoard or its components are sometimes referred to in the antiquarian sources as being from 'Castlemagner', 'Castle Magna' or 'Castle Maqua'.

32 'Whelan' is noted in an annotated copy of *Neligan Catalogue*, p. 6. It is possible that this was Peter Whelan, who is listed as a correspondent of Bateman's on *Vestiges of an Antiquarian: the Thomas Bateman Archive* (*http://www.bateman.dept.sheffield.ac.uk/*) [accessed 30/11/2012].

33 *A Descriptive Catalogue of the Antiquities and Miscellaneous Objects preserved in the Museum of Thomas Bateman at Lomberdale House*, Derbyshire, 1855, p. 22, no. 218.

34 *Catalogue of the Bateman Collection*, Sotheby's April 14th, 1892, London, p. 22, lot 166.

35 Objects with registration numbers with an X-prefix in the National Museum of Ireland are those whose original registration numbers are lost.

36 *Neligan Catalogue*, p. 6, lot 71.

37 Windele, 'On the ring-money', p. 332.

38 This name is recorded in an annotated copy of *Neligan Catalogue*, p.6.

39 See *Oxford Dictionary of National Biography*, http://www.oxforddnb.com/view/article/2770

40 See Rockley, *Antiquarians and Archaeology*, p. 145, passim.

41 Graham-Campbell and Briggs, 'Some neglected Viking-age silver hoards', p. 314.

42 *Croker Sale Catalogue*, Puttick and Simpson, London, 21st December 1854, p. 6.

43 *A Descriptive Catalogue . . . Bateman*, p. 303, nos. 321–23, p. 168, no.144; *Catalogue of the Bateman Collection*, p. 22, lot 166.

44 For an overview of these rings see Sheehan, J., "Bullion-rings' in Viking-age Britain and Ireland', in S. Sigmundsson (ed.), *Viking Settlements and Viking Society: Papers from the Proceedings of the Sixteenth Viking Congress, Reykjavík and Reykholt, 16–23 August 2009* (Reykjavík, 2011), pp. 393–406.

45 See Windele, 'On the ring-money', p. 332. From Windele's description of the size of these rings it seems probable that they were 'bullion-rings'.

46 Graves, J., 'Proceedings of the Kilkenny archaeological society 1853', *Transactions of the Kilkenny Archaeological Society* 2 (1852–53), pp. 349–90, at pp. 355–56.

47 See Sheehan, "Bullion-rings", p. 397, and J. Graham-Campbell, 'The Viking-age silver hoards of Ireland', in B. Almqvist and D. Greene (eds), *Proceedings of the Seventh Viking Congress, Dublin 1973* (Dublin, 1976), pp. 31–74, at p. 69, fn. vi.

48 Recorded in a letter in the National Museum of Ireland's topographical file: (Cushalogurt).

49 Hall, R.,'A hoard of Viking silver bracelets from Cushalogurt, Co. Mayo', *Journal of the Royal Society of Antiquaries of Ireland* 103 (1973), pp. 78–85.

50 Ó Ríordáin, S.P., 'Lough Gur excavations: Carraig Aille and the 'Spectacles", *Proceedings of the Royal Irish Academy* 52C (1949), pp. 39–111, at pp. 62–64.

51 Comber, M., *Native evidence of non-ferrous metalworking in early historic Ireland*. British Archaeological Reports, International Series 1296, Oxford, 2004, pp. 38–39.

52 Sheehan, J., 'Bullion-rings', in J. Graham-Campbell, *The Cuerdale Hoard and Related Viking-age Silver and Gold, from Britain and Ireland, in the British Museum* (London, 2011), pp. 87–88 and pp. 209–10.

53 Graham-Campbell, J., *The Viking-age gold and silver of Scotland (AD 850–1100)* (Edinburgh, 1995), p. 30, 105, no. 20. Containing only three probable 'bullion-rings', this hoard is not independently datable. Graham-Campbell, however, has noted that its presence in the Isle of Skye recalls the Irish connections of another Skye find, the Storr Rock hoard, 'with which it must be broadly contemporary'. This latter find, a coin-dated example that was deposited *c*.935–40, is comparable with hoards from Ireland on the basis of both its numismatic and bullion contents.

54 Blackburn, M., 'The Viking winter camp at Torksey, 872–3', in M.A.S. Blackburn, *Viking Coinage and Currency in the British Isles*: *British Numismatic Society, Special Publication* 7 (London, 2011), pp. 221–64, at p. 233, fig. 4 (top left).

55 Stenberger, M., *Die Schatzfunde Gotlands der Wikingerzeit II: Fundbeschreibung und Tafeln* (Stockholm, 1947), pp. 258–9, pl. 189.4, no. 676.

56 Sheehan, J., 'Hiberno-Scandinavian broad-band arm-rings', in Graham-Campbell, *The Cuerdale Hoard*, pp. 94–100, at pp. 98–99.

57 Sheehan, J.,'Ireland's Viking-age hoards: sources and contacts', in A.C. Larsen (ed.), *The Vikings in Ireland* (Roskilde, 2001), pp. 51–9, at pp. 58–59.

58 The contemporary antiquarian account of its discovery noted that among the twelve or fourteen rings that formed part of the find were some that were 'twisted like a curb-chain' (Graves, 'Proceedings . . . 1853', p. 356). This term, of unusual occurrence in the antiquarian literature, may have been meant to denote a chain formed with loops linked end-to-end, with each loop being angled slightly so that they fitted together smoothly. Viking-age twisted-rod arm-rings could reasonably be described in this manner.

59 See endnote 54.

60 Graham-Campbell, *Viking-age gold and silver of Scotland*, p. 30.

61 Hall, 'A hoard of Viking silver bracelets', p. 83.

62 See, for instance, ingots from hoards from Co. Cork (no.2), Ladestown, Co. Westmeath, and, possibly, Kilkenny West, Co. Westmeath: Sheehan, J., 'Colonel Sempronious Stretton and the re-provenancing of a Viking-age hoard', in J. Sheehan and D. Ó Corráin (eds), *The Viking Age – Ireland and the West: Proceedings of the XVth Viking Congress, Cork, 2005* (Dublin, 2010), pp. 380–389, at pp. 387–88.

63 Kruse, S.E., 'Ingots and weight units in Viking Age silver hoards', *World Archaeology* 20.2 (1988), pp. 285–301, at p. 294.

64 Brøgger, A.W., *Ertog og Øre*, Videnskapsselskapet skrifter 2, Hist–philos Klasse 3 (Kristiania, 1921), p. 95.

65 See, for instance, Warner, R., 'Scottish silver arm-rings: an analysis of weights', *Proceedings of the Society of Antiquaries of Scotland* 107 (1975), pp. 136–43, at p. 141; Sheehan, 'Hiberno-Scandinavian broad-band arm-rings', p. 99; Wallace, P.F., 'Weights and weight systems in Viking Age Ireland', in A. Reynolds and L. Webster (eds), *Early Medieval Art and Archaeology in the Northern World: studies in honour of James Graham-Campbell* (Leiden, 2013), pp. 301–16.

66 Sheehan, J., 'The Huxley hoard and Hiberno-Scandinavian arm-rings', in J. Graham-Campbell and R. Philpott (eds), *The Huxley Viking Hoard: Scandinavian Settlement in the North West* (Liverpool, 2009), pp. 58–69, at pp. 66–68.

67 Graham-Campbell,*Viking-age gold and silver of Scotland*, p. 33; Archibald, M., 'Testing', in Graham-Campbell, *The Cuerdale Hoard*, pp. 51–64.

68 Graham-Campbell and Briggs, 'Some neglected Viking-age silver hoards', *passim*; Graham-Campbell, *Viking-age gold and silver of Scotland*, p. 30.

69 For a discussion on the concept of Viking-age ritual silver hoards and hoarding see: J. Graham-Campbell and J. Sheehan, 'Viking-age gold and silver from Irish crannogs and other watery places', *Journal of Irish Archaeology* 18 (2009), pp. 77–93, at pp. 87–90.

70 MacCotter, P., *Medieval Ireland: territorial, political and economic divisions* (Dublin, 2008), at pp. 156–57.

71 I am grateful to Paul MacCotter and Patrick Gleeson for consultations on this point.