GLASS BEADS FROM IRON AGE AND EARLY MEDIEVAL SCOTLAND

Heather Christie

The dialog surrounding glass beads found in Scottish contexts is limited, particularly those found in Iron Age and Early Medieval contexts. These discussions focus largely on a narrative of diffusion from neighboring groups. This paper, however, examines the beads from a local perspective and finds that they differ significantly from those found in contemporary neighboring contexts. In fact, designs such as the triskele, marbled, and whirl beads do not appear elsewhere in the world and demonstrate significant skill and artistry on the part of local populations within Scotland. Colors also differ from neighboring groups, with deep blues and bright yellows favored over opaque reds and whites. These differences and the skill evident in the creation of these beads provide significant reason to examine the Scottish material in further detail.

INTRODUCTION

Glass beads found in Scotland are rarely studied from a local perspective, particularly those from contexts likely dating to the Iron Age and Early Medieval periods (800 BC-AD 800 for the purposes of this paper). Many who have studied these collections note the significant lack of beads in Scotland compared to neighboring regions and study the beads from a non-local perspective, such as the Irish, Romans, Norse, or Anglo-Saxons (Guido 1978, 1999). Yet, there were most certainly skilled glass beadmakers in Iron Age and Early Medieval Scotland as evidenced by the variety, intricacy, and relative uniqueness of many of the designs. This article serves as the first comprehensive discussion of Iron Age and Early Medieval glass beads in Scotland and hopes to serve as the catalyst for more research into these impressive collections.

While there are many faience and amber beads dating to this period in Scotland, this paper will speak specifically to the glass beads due to space limitations. I will first detail the current state of bead research in Scotland before examining regional distributions of glass bead colors and designs. The question of manufacture is considered briefly. In addition to providing the first published comprehensive study of this material, this paper also argues for further research into the Iron Age and Early Medieval glass bead collections in Scotland from a local perspective. There is much that cannot be explained well through the lens of neighboring groups, and the skill and designs of local craftspeople merits study in their own right.

THE STUDY OF SCOTTISH GLASS BEADS

Our current understanding of Scottish beads stems more from consultation of typologies designed for or focusing on neighboring regions rather than from studies of the Scottish material (Brugmann 2004; Callmer 1977; Guido 1978, 1999; Mannion 2015). Classification of glass beads from Scottish contexts using these typologies has helped our understanding of the Scottish assemblages significantly, but the lack of any systematic and comprehensive study or publication of Scottish beads from a local perspective has minimized acknowledgement and discussion of the ingenuity and creativity of the local Iron Age and Early Medieval glass bead industry.

Trends in bead studies in Britain coupled with theoretical discourses of acculturation, diffusion, and intercultural interaction also significantly influence our current understanding of Scottish beads. Beads were highly documented in Britain during the 19th century, and many beads in museum collections were donated around this time. Most published information about beads in Scotland, particularly from the Iron Age and Early Medieval periods, also dates to the 19th and early 20th centuries (Black 1891; Callander 1911; Matthewson 1877; Maxwell 1889). Much of this literature also pre-dates Beck's (1928) publication of a systematic method for documenting and identifying beads in the archaeological record.

The literature on glass beads in Scotland prior to the Second World War is entirely documentary in nature and often comprises lists of objects purchased by or donated to the National Museum of Antiquaries (now the National Museum of Scotland). Guido published her influential work on beads in Roman and Iron Age Britain in 1978, which contained the first lengthy account of glass beads in Scotland. It was also

heavily influenced by contemporary discussions of diffusion and acculturation (Foster 1960). Beads in Scottish contexts were generally assumed by Guido to be trade items, and the discussion clearly favors Continental or English origins for at least the design of most beads if not the beads themselves (Guido 1978:85-89). She often suggests that the Scottish "tribesmen" were incapable of making high-quality objects, and there is frequent discussion of the "poor quality" of examples from Scottish contexts (Guido 1978:85). While she does note the possibility that craftspeople in Scotland may have been able to obtain certain colors and create certain designs themselves and that they may have even done so intentionally, the general narrative of the book is that the technologically superior glass objects of what is now England and the Continent found their way north to Scotland to be imitated (often poorly) by the craftspeople there. Guido (1978) is currently the only published catalog of glass beads in Scotland for the Iron Age.

Two other major works on beads in Britain, both on Anglo-Saxon assemblages, are Brugmann (2004) and Guido (1999). These, plus Guido's (1978) volume, form the primary comparative texts used in Scottish archaeology to understand our own bead assemblages, along with Callmer's (1977) tome of Norse period beads in Scandinavian and, more recently, Mannion's (2015) catalog of much of the Early Medieval Irish material. There is no currently published catalog of Scottish Early Medieval glass bead assemblages. Given the extent to which Scottish archaeologists have had to rely on typologies and catalogs created for use in neighboring regions, it is little wonder that the narrative of objects and designs originating elsewhere and diffusing or travelling to Scotland has become commonplace.

There are, however, several published and unpublished studies of Scottish beads currently available in the literature. Henderson (1991:125) has studied small yellow annular beads at length and identified a clear chemical distinction between the glass found in Scottish contexts such as Culbin Sands, and those found further south, such as those at Meare. Bertini et al. (2011, 2014) have analyzed large numbers of objects referred to here as triskele (triple spiral) beads and whirl beads (Guido 1978, Classes 13 and 14) and found significant evidence for local manufacture using glass waste and cullet. Guido (2000) conducted a study of glass beads found at Dunadd and concluded all were either Irish, Norse, or Continental in origin. Hoffman's (2008) unpublished report on beads in the Perth Museum provides valuable information about the context of the objects where possible and its significance in wider interpretations. Blackwell and Kirk (2015) have presented strong arguments cautioning against the common practice of assuming glass beads are ancient when recovered as stray finds in Scotland and have reclassified numerous beads as post-medieval instead of Anglo-Saxon in origin. Finally, Foulds (2017) has critically evaluated the use of Guido's typology for Iron Age glass beads found in northeastern Scotland, and created a new typology for use in the region, suggesting possible connections between the designs incorporated into the beads and local identity. In addition, there are several unpublished theses concerning Scottish beads: Bertini (2012) conducted an extensive study of the triskele and whirl beads in northeastern Scotland, Blackwell (2018) cataloged significant numbers of Anglo-Saxon beads and reclassified many as post-medieval, and Christie (2019) compared the bubble concentrations and responses to near-infrared and near-ultraviolet light of many Iron Age and Early Medieval beads to determine possible differences among otherwise visually similar objects. While each of these studies is valuable in moving discussions of Scottish beads forward, a published comprehensive study of the objects across Scotland is still lacking.

Within Scotland, there are over 1000 glass beads from roughly 150 sites likely dating to the Iron Age and Early Medieval periods (Figure 1). Culbin Sands on the Moray

Figure 1. Locations of Iron Age and Early Medieval glass bead finds in Scotland, sized in proportion to the number of objects found at a site (all images by the author).

Coast has over 500 glass beads, while Glenluce Sands (Luce Sands), Newstead, and Traprain Law in the south all have between 30 and 50 each. The other sites have fewer than 25 glass beads each, with roughly 60% yielding only one bead. These are relatively low counts compared to other regions at this time; Anglo-Saxon sites average roughly 140 glass beads each while Scottish sites average only about 5 or 6 (Brugmann 2004:112-117; Christie 2019:36; Guido 1999). Most Anglo-Saxon beads come from furnished burial contexts, however, which do not appear in the Scottish Iron Age or Early Medieval periods. If the Anglo-Saxon assemblages were limited to only those objects found in non-burial contexts, they would likely have similar averages to contemporary Scottish contexts.

The variety and ingenuity of Scottish glass beads are impressive. Many beads employ design features and manufacturing techniques not often seen elsewhere, such as the fairly common triskele bead (Guido 1978, Class 13) or those in which an opaque glass has been marbled into a translucent base to create a tri-colored bead using only two colors of glass. Contrary to the common discussion of Scottish beads as being Anglo-Saxon, Norse, Irish, or Roman in design and often origin (Guido 1978, 1999), Scottish beads actually exhibit colors, designs, and sometimes manufacturing techniques which significantly differ from those employed by neighboring groups often credited with their origin.

This paper aims to illustrate the significant differences between the Scottish assemblages and those of their neighbors, as well as the value of studying the material from a local perspective. It also provides a preliminary list of Scottish sites with glass beads found in contexts likely dating to the Iron Age and Early Medieval periods (Appendix A). While the degree of information presented is limited due to space constraints, this article hopes to serve as the beginning of what will become a lengthier conversation on glass beads in Iron Age and Early Medieval Scotland. The beads discussed here comprise most of the collections at the National Museum of Scotland, the Hunterian Museum and Art Gallery at the University of Glasgow, the Marischal Museum at the University of Aberdeen, the Kilmartin House Museum, the Iona Abbey Museum, and collections housed at the University of Glasgow.

This study is not based on a complete catalog of glass beads in Scotland from the Iron Age and Early Medieval periods. Many collections are spread across the nation and many finds from excavations are published in grey literature. While Scotland is excellent at providing access to archaeological information, compiling everything from disparate sources takes time. This project is therefore a work in progress and will continue to be so for many years to come. The lack of a comprehensive catalog of Iron Age and Early Medieval glass beads in Scotland has led to a lack of scholarship on the subject and a general narrative that these objects came from elsewhere, with relatively little agency awarded to the local populations at the time. This article offers a different perspective on Scottish glass beads and provides a foundation upon which future studies can be built.

All site information presented here and in the accompanying list comes from the associated museum records, available publications, and the data provided by Historic Environment Scotland's (2019) CANMORE database. Many beads lack contextual information because they are either stray finds or the data have since been lost. In fact, over 90% of the Iron Age and Early Medieval beads in Scotland lack such information and over 25% of sites with glass beads do not have any known geographical coordinates. This leads to significant difficulties in discussing chronological or spatial relationships between objects because the most information associated with many of these objects is the site in which they were found. Most sites with beads are also complex multiphase sites often spanning the Iron Age to the High Medieval periods and beyond, making it impossible to know from which phase a stray find may have come. Coupled with the longevity of many glass bead styles and designs, it is difficult to discuss chronological distributions of beads in Iron Age or Early Medieval Scotland. Consequently, discussions of social practices surrounding the objects, their possible symbolism, or any other scholarship that requires knowledge of how, where, and when an object was used remain difficult.

THE POSSIBLE ISSUE OF CULBIN SANDS

Additionally, there is a possible issue with the site of Culbin Sands on the Moray coast. The site has over 530 documented glass beads, which is significantly larger than the site average of five or six for all other sites with glass beads in Scotland during the Iron Age and Early Medieval periods. All the beads are stray finds from wind blows within a major sand dune complex with no associated contextual information.

There are two main problems with the beads from Culbin Sands. The first is that it is perhaps the best-known site in Scotland for glass beads of the Iron Age or Early Medieval periods. As such, it is entirely possible that individuals donating or accessioning beads to museum collections had been told the objects were from Culbin

Sands without confirming they had originated from that site. There is no specific research into whether this phenomenon has occurred in the United Kingdom, but it plagues many bead sites in Asia, particularly Ban Chiang in northern Thailand. Scholars and tourists alike have found thousands of tiny glass seed beads there, so much so that vendors often refer to beads of this type as Ban Chiang beads. Now, when individuals donate strings of beads to museums or speak to archaeologists about their beads, they often say the beads came from Ban Chiang because that is what vendors told them. Instead, these beads often come from dozens of other sites in Thailand or are modern replicas. It is possible for such a phenomenon to have occurred with Culbin Sands. The Society of Antiquaries published widely on the site several times when most of the glass beads from Culbin Sands were donated to the National Museum of Antiquaries (Black 1891; Callander 1911; Linton 1876; Matthewson 1877). Since many of the beads from Culbin Sands are stray finds, it would not be surprising for at least some of them to be misattributed to the site.

The second issue with Culbin Sands is the lack of contextual information for the beads. Most were recovered in the 1800s and donated to the National Museum of Antiquaries shortly afterwards. The museum strung many of the monochrome beads together, organizing strings by color rather than by objects that may have been found together. We therefore have one string of cobalt-blue beads, one of blue-green beads, one of green, two of yellow, one of black or deep purple, three of clear glass of which two sets have what appears to be seaweed clinging to them, and one of a milky-white color. Of these strings, the three clear and one milky-white string are likely post-medieval objects, given the quality and coloring of the glass. It would not be surprising to find certain other beads on these strings that are also either post-medieval or modern, but the other colors are more difficult to eliminate based on the glass alone.

These issues do not in any way negate the data associated with the site, but they do call into question the degree to which Culbin Sands has yielded such a large assemblage. Beads said to come from Culbin Sands do still likely originate from the northeast, however, and likely from near Culbin Sands if not the site itself. It is also possible that several necklaces or collections of beads were lost on the beach at the site, but this is less likely; if a necklace of precious materials breaks, for example, the owner tends to try to recover the objects as best he or she can. While there are concerns about their specific provenience, the beads from Culbin Sands are still included in this study; we cannot know for certain that they all came from the site, but neither can we be certain they did not.

SCOTTISH GLASS BEADS

The two most significant characteristics available to examine the Scottish material, given the general lack of contextual information, are color and decoration. Most beads (roughly 75%) are monochrome, making color the more prevalent characteristic of the two. Yet, these characteristics alone demonstrate significant differences between beads found in Iron Age and Early Medieval contexts in Scotland and those found in contemporary contexts in neighboring regions. The geographical distribution of the beads also indicates regional differences within what is now Scotland, suggesting regional differences in cultural preference, trade routes, and manufacture.

Regional Color Preferences

Discussions of color in beads has always been difficult due to the tendency of glass to change color depending on past sunlight exposure and also the light in which it is being viewed. Color is also subjective; where one person sees a blue and black dress another might see white and gold, depending on the lighting. Some suggest using the Munsell Books of Color while others rely on somewhat subjective names like "corn yellow" or "sea-green." Yet, subjective designations like "sea-green" could apply to a range of colors; the sea can be any number of different greens depending on location and weather. On the other hand, highly specific color descriptions like Munsell are problematic because glass changes color in different light and because the differences between categories are often indistinguishable. Most importantly, Munsell colors are denoted as codes. Many institutions and researchers do not have access to the Munsell Books of Color, particularly that designated for beads, and therefore cannot use the system.

Here, I have used the most basic color terms possible while still maintaining a level of functionality. Colors are referred to as red, orange, yellow, green, blue, purple, black, grey or white, with light and dark applied as necessary. If possible, I distinguish between cobalt blues or dark blues and other types of blue due to differences in the likely colorant used in the glass. I also note naturally colored glasses (those made without added colorants) where possible. All colors are noted as they appear visually in a museum context under fluorescent lighting, with discussions of differences to the actual color of the glass occurring where necessary. Black beads in Scotland are often made of black glass, for example, but are equally often made of very dark translucent greens, purples, pinks, or blues.

Of the roughly 1000 glass beads examined for which color information is available, 37% are visually blue and 32% visually yellow in color while a further 11% are visually black (Figure 2). Additionally, most decorated beads in Scotland consist of yellow or white designs on a cobalt-blue or black background. The blues tend to be translucent while the yellows are opaque. Accounting for natural versus intentional colors does not change the results terribly, save

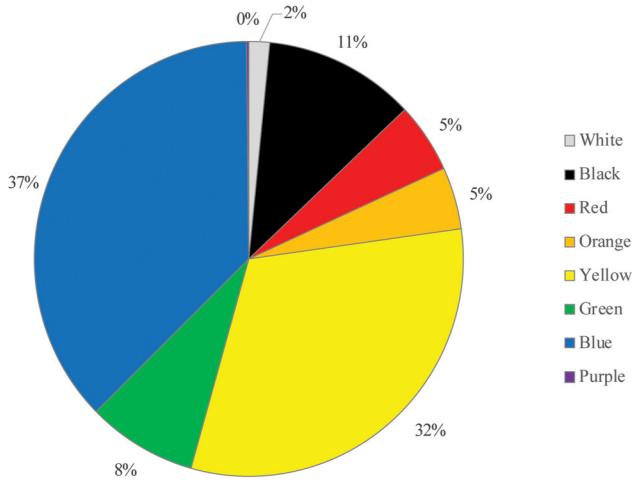

Figure 2. The proportion of general base colors of glass beads in Iron Age and Early Medieval Scottish contexts.

that roughly 7% of glass beads in Scotland are naturally colored (Figure 3). Interestingly, the natural colors are all relatively well-represented with a possible slight preference for natural blues and browns over the natural greens, yellows, and ambers. It might be proposed that the naturally colored

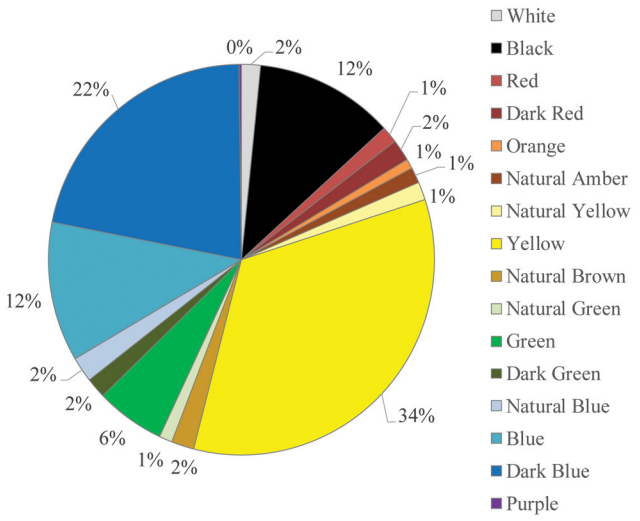

Figure 3. The proportion of base colors of glass beads in Iron Age and Early Medieval Scottish contexts, including natural colors.

beads are the result of using cullet derived from imported naturally colored glass vessels which were common in Scotland (Campbell 2007:55). While this may be the case, the preference for different natural colors differs between the imported vessels and the beads themselves. Where pale yellows and greens are clearly favored in naturally colored vessel sherds, the distribution of natural colors among glass beads is significantly more uniform (Figure 4). This pattern may be due to a lack of ability to separate the Iron Age beads from the Early Medieval ones; if we could, we might find similar natural color preference in Early Medieval beads as we do in Early Medieval glass vessels. Alternatively, it is possible that there was a cultural preference for specific colors of naturally colored glass vessels that did not apply to beads.

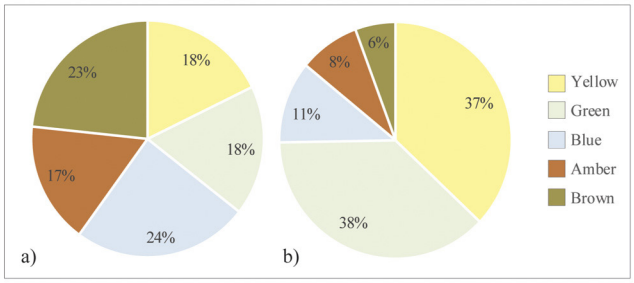

Figure 4. Comparison between proportions of natural colors in Iron Age and Early Medieval Scottish glass beads (a) and Early Medieval glass vessel imports to Scottish sites (b) (after Campbell 2007).

Among intentionally colored blue beads, it is generally important to distinguish between those likely colored with cobalt and those likely colored with copper by separating the dark or cobalt-blue objects from other blues. The cobalt blues dominate the Scottish assemblages of blue glass beads (n=218, 61% of blue beads) compared to other intentional blues (n=116, 33% of blue beads). Seventy-four objects (21% of blue beads) are considered blue-green and likely colored with copper while 21 objects (6% of blue beads) are naturally colored blues. The other 12% of intentionally colored blue beads could be colored with either cobalt or copper, as they fall in the middle range of the spectrum. Norse assemblages, particularly in Scotland, tend to favor cobalt blues, but the data presented here do not currently take the Norse assemblages into consideration. It would appear, then, that cobalt blues were favored in Scotland prior to Norse arrival and that a cobalt-blue bead does not necessarily signify a Norse assemblage.

Yellow beads are almost always opaque bright yellow (n=341, 91% of all yellows) while a few dozen are naturally colored pale yellows and browns (15 and 19 objects,

respectively). While there are roughly 200 bright-yellow glass beads from the potentially problematic site of Culbin Sands, these beads appear no different than other examples from more secure contexts. Additionally, removing them does not change the data much; 78% are still opaque bright yellow. Henderson (1991:125) has suggested local manufacture for many of these beads due to chemical differences between the yellow glass found in beads from Scottish contexts and those found in contexts further south.

Black beads are rather widespread, but yield interesting patterns when beads that are made of black glass are separated from those made of glass that appears black but is dark green, blue, purple, or pink in reality. Roughly 54% of black glass beads are made from opaque black glass while 45% are only visually black. The highest concentration of truly black glass beads appears in the northeast, but seem to be more geographically widespread in the southeast (Figure 5). While no beads from Argyll or the western isles included in this study are made of truly black glass, visually black glass appears concentrated in the northeast, Argyll, and the western highlands and islands. This could indicate separate trade routes or manufacturing techniques for both types, with the Atlantic trade routes focusing on visually black glass while the continental side focused on truly black glass. Alternatively, it could suggest chronological differences given the tendency for probably Iron Age glass beads to be visually black rather than truly black. A significant question to answer is whether it was possible in the Iron Age or Early Medieval periods to know that visually black glass was, in fact, some other color by holding it up to a flame or looking through it in bright sunlight. If so, it is possible that these objects were made this way intentionally to take advantage of the color-changing properties of the glass.

Green beads are also worth discussion here as there are significant numbers of bright apple-green beads at several sites in Scotland along with several transparent dark green beads. In general, intentionally green beads are concentrated in the southeast (Figure 6). The dark green beads tend to be

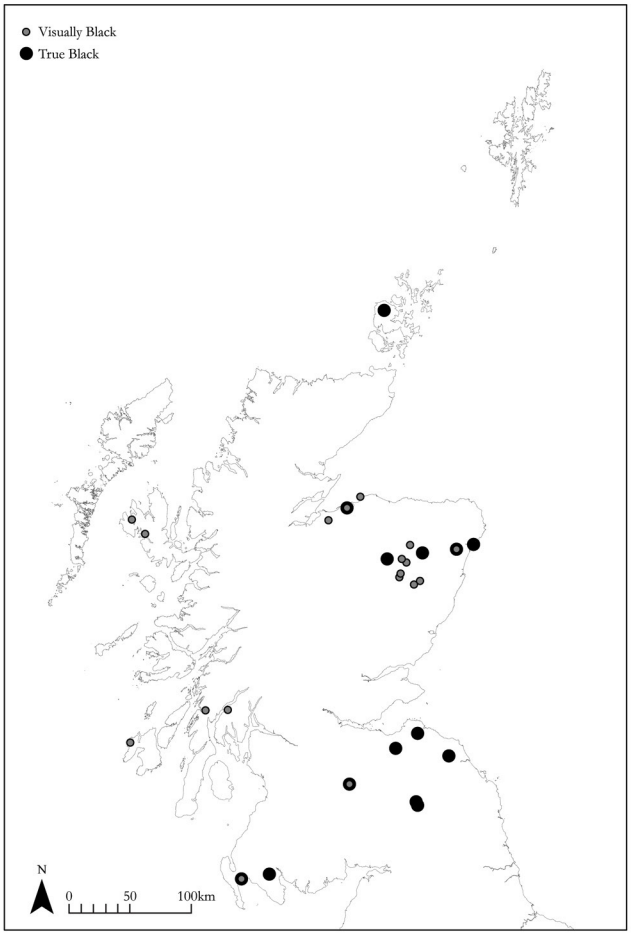

Figure 5. Sites with visually black versus truly black glass beads in Iron Age and Early Medieval Scotland.

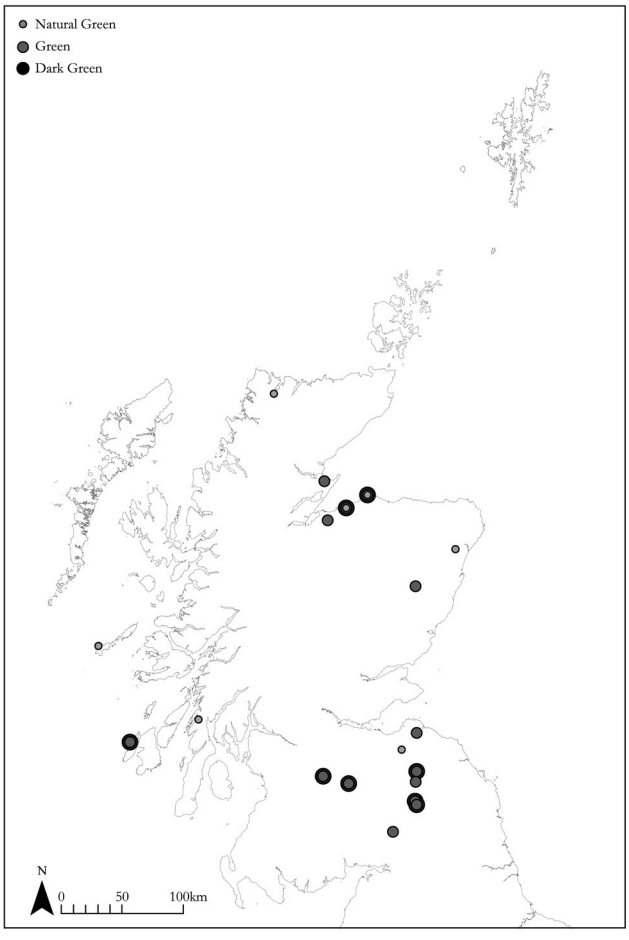

Figure 6. Sites with natural green, dark green, and other intentionally green beads in Iron Age and Early Medieval Scotland.

associated with known Iron Age sites, including Newstead and Traprain Law. Naturally colored green beads have similar associations, though in different regions of the country. The brighter greens are more likely associated with later sites, and there are several that appear on Norse-period sites not included in this paper. Naturally green beads appear only at largely coastal sites; Mieklelaw Field is the furthest inland at 15 km from the shore. This could suggest that naturally green glass, or at least that used for beads, was largely a coastal import. Such patterns are difficult to confirm, however, given that there are only eight objects coming from sites with known geographical coordinates.

These varied distributions of glass bead colors, intentional or natural, suggest that the different regions of Scotland had different preferences for beads at different times, and that those preferences also differed from their neighbors in what is now the rest of Britain, Ireland, and Scandinavia. For example, Anglo-Saxon sites often have large quantities of opaque red or orange glass, sometimes referred to as terracotta (Guido 1999:59). By contrast, red and orange beads make up fewer than 5% of glass beads in Scotland (Figure 4). White beads are also scarce, forming only 2% of Scottish material. These are often popular in both Scandinavian and Anglo-Saxon assemblages. While it is possible that many of the beads in Scotland are Iron Age and therefore earlier than the subjects of many bead typologies of the neighboring areas, many of the beads in this database come from known or probable Early Medieval or multi-phase sites. Given the evidence of differing trade routes for imported glass vessels in the Early Medieval period (Campbell 2007; Huggett 1988) and the clear differences in color preferences between Scottish beads and those of their neighbors, it is likely that glass beads and possibly the materials used to make them traveled along different trade routes. It is also likely that different regions in Scotland differed in their bead preferences, as evidenced by color choices and, most clearly, by choices in decorated bead styles.

Regional Decorative/Style Preferences and Innovation

There are three bead styles that are relatively unique to Scotland: marbled, triskele (Guido 1978, Class 13), and whirl (Guido 1978, Class 14). There are possible parallels for the triskele bead but they are often tenuous at best. To my knowledge, there are no parallels for either the marbled or whirl beads during the Iron Age and Early Medieval periods in neighboring regions. Annular opaque yellow beads and annular translucent cobalt-blue beads also warrant discussion due to differences in their distribution within Scotland. Eye, swag, and reticella beads are more difficult to discuss due to their smaller numbers across Scotland.

Marbled Beads

The first of the seemingly Scottish decorated types is quite rare, with only three or four known examples. It is possible they came from elsewhere, but to my knowledge there are no other examples, particularly from contexts in the rest of Britain, Ireland, or Scandinavia. These beads are spherical with a translucent ground and opaque marbled design of a color that, when it overlaps with the translucent base, creates a tri-color design using only two colors of glass (Figure 7).

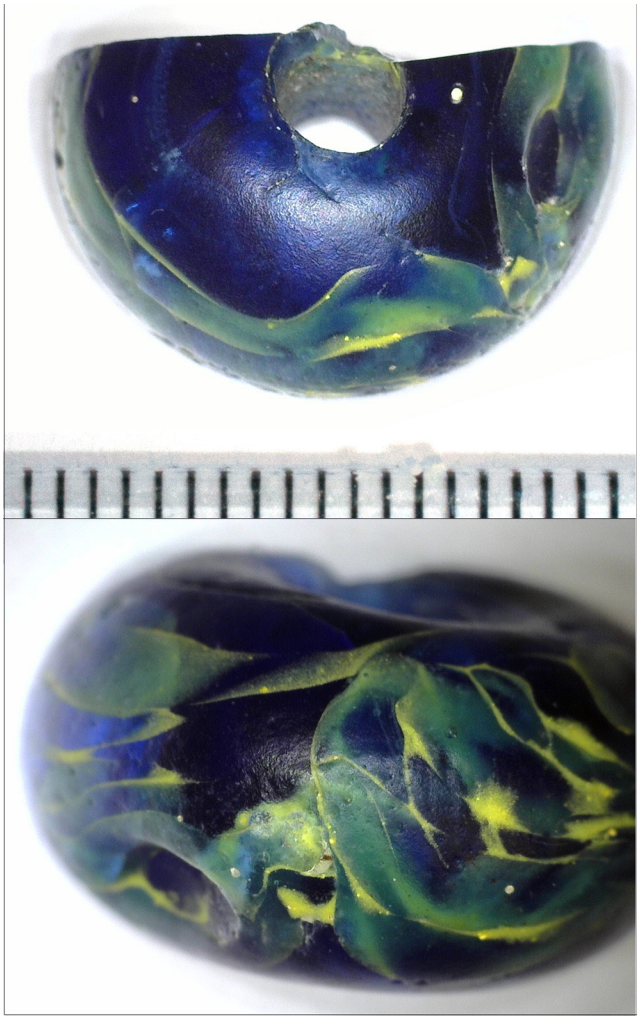

Figure 7. Marbled bead from Culbin Sands in Moray (X.BIB.15; courtesy of National Museums Scotland).

There are two definite examples from Scottish contexts: one from Craigsfordmains in the Scottish Borders and one from Culbin Sands on the Moray Coast. Both have cobalt-blue bodies, but the bead from Craigsfordmains marbles red into the glass to create a red, purple, and blue design, while the bead from Culbin Sands marbles in yellow to create a yellow, green, and blue configuration. There is a third possible example from Dunadd, based on descriptions by Guido (2000:176): an annular dark blue bead with irregular yellow-green streaks made from marvered trails of opaque yellow glass. Another possible example is from Culbin Sands, but this has a natural yellow body with opaque yellow marbled in, thereby creating just a two-color design.

It is possible that this type mimics marbled Roman glass which often incorporates a white or lightly colored trail into a translucent ground. But they are the only examples of beads using the technique of which I am aware and also the only examples from this period that do so to specifically create three colors from two colors of glass.

The unique nature of the object and the use of very common Scottish colors (cobalt blue, and yellow) suggest these beads were made in Scotland. If so, they demonstrate significant skill in glassworking and an impressive understanding of the material, its reactions to light, and basic color theory. Given the prevalence of other bead types specific to Scotland found in Iron Age contexts, there is significant reason to believe the skill and knowledge required to make these objects already existed in this period.

Triskele Beads

One important bead type found in Scotland is what I refer to as a triskele bead (Figure 8, a-d). These are truncated triangular glass beads, generally with dark grounds. Three yellow spirals, one centered on each flattened corner (or sometimes edge) of the triangle, connect on one side of the perforation of the bead to form a three-dimensional or pseudo-three-dimensional representation of a triskele (Bertini et al. 2011:2751) which is a familiar Iron Age Celtic design (Figure 8, e). The identification of this pattern as a triskele supports Foulds's (2014:236) suggestion that the design was more important than the ground of the bead. These beads are concentrated in northeastern Scotland, predominantly in Aberdeenshire (Figure 9), demonstrating differences in bead preference between regions of Scotland.

The triskele style of bead is not included in typologies outside Britain and Ireland, including those by Beck (1928) and van der Sleen (1973). Beck (1920:45, 64) does show a triangular stratified eye bead from Cumae and a Villanovan triangular spiral-eye bead from Italy, but these beads differ from triskele beads in that a) in the case of the stratified

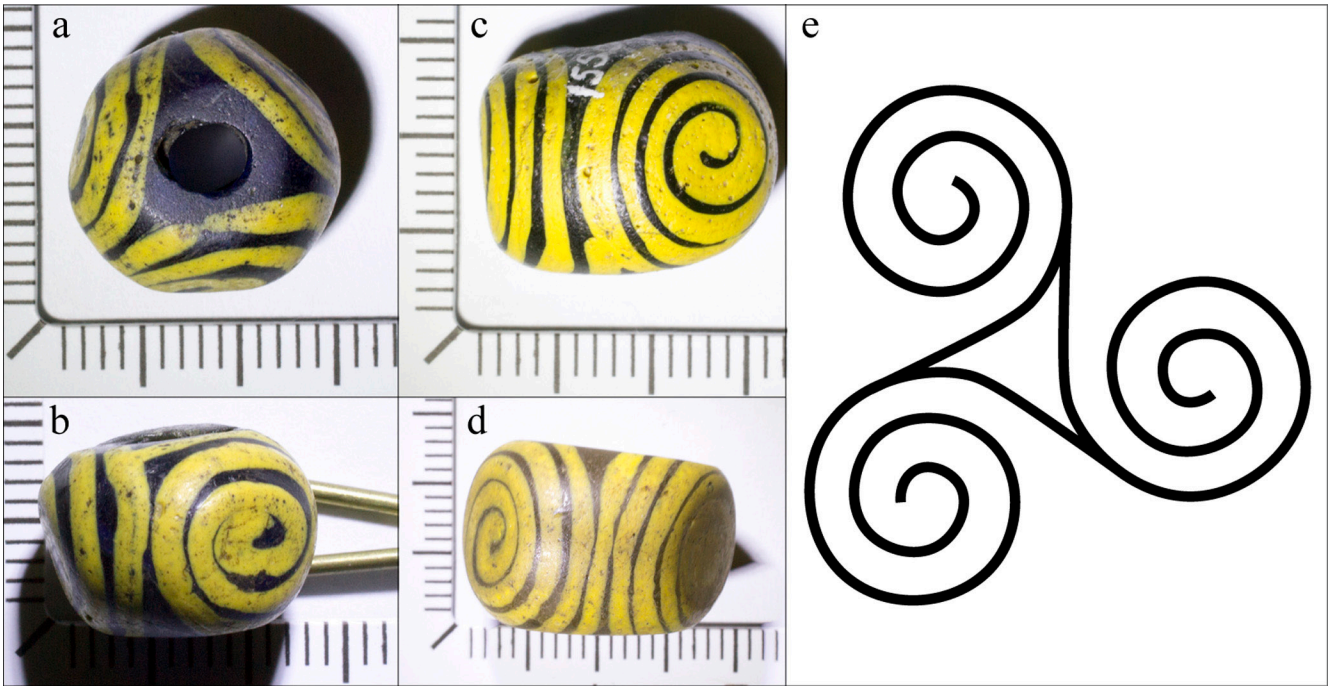

Figure 8. Triskele beads from an unknown site (a, b; ABDUA 15541), Culbin Sands in Moray (c; ABDUA 15507), and Scotston in Aberdeenshire (d; ABDUA 15515) in comparison to a typical triskele design (e) (© University of Aberdeen).

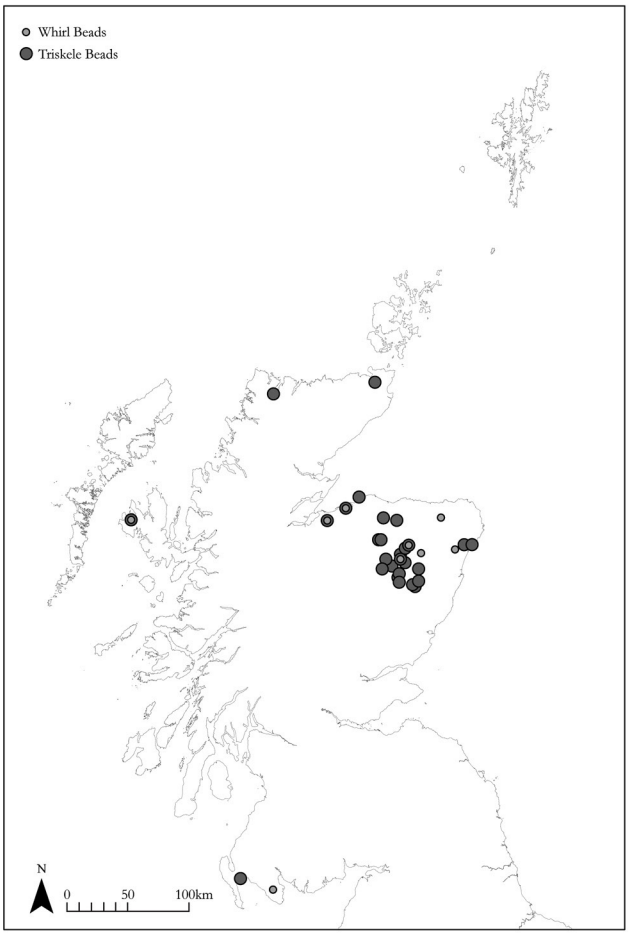

Figure 9. Locations of triskele and whirl beads, showing concentrations in northeastern Scotland.

eye bead, the decoration consists of rings rather than spirals and b) that in both designs, the outer edges of each "eye" or spiral do not touch those of another. Other examples of spiral motifs on beads generally do not cover the entire ground of the object and often include varying numbers of spirals rather than specifically three.

Guido (1978:79) identifies a similar type as Meare spiral beads (Class 10), named such because they were found at the Iron Age village of Meare in Somerset. She identifies the Scottish beads (Class 13) as poor imitations of the Meare beads (Guido 1978:85). The Meare beads also have three evenly spaced spirals, but they differ significantly from triskele beads. First, the body of the bead is always a natural pale-yellow rather than dark blues or blacks and the bead is generally spherical rather than a truncated triangular one. According to Guido's (1978:79) descriptions, the bead's spirals also do not seem to connect as they do in the triskele beads. There are Irish examples with connecting spirals dating to the early medieval period (Mannion 2015:25), but they have a natural pale-yellow rather than a dark ground. These beads also vary from two to three spirals, rather than specifically three, and are spherical rather than truncated triangular in shape (Mannion 2015:25-26). Additionally, while the designs between triskele, Irish, and Meare spiral beads certainly have similarities, the Scottish objects often have no or relatively little contextual information and rarely come from securely dated contexts. Consequently, the triskele beads differ significantly from similar beads found elsewhere and cannot necessarily be described as being earlier or later than another style for the pre-Roman Iron Age.

Perhaps the most interesting element of triskele beads is the dark ground on which the spirals have been created. Most are translucent and appear to the naked eye as being either very dark blue or black, though there are some that are visibly dark green or amber colored. Consequently, the beads appear relatively uniform when viewed in normal light. If held up to a light, however, these objects turn blue, green, purple, orange, or even magenta in color. Many of these changes are visible if the bead is held up to sunlight. While we cannot know for certain, it is possible that those using these beads in the past were aware of this visual change when backlit and that this was an intentional element of their design. Given the nuanced interplay of color and light seen in the marbled beads discussed above, such a design feature would not be outside the realm of possibility.

Whirl Beads

Another bead type specific to Scotland is what I term whirl beads (Guido 1978, Class 14) to distinguish them from spiral beads. These are relatively large annular beads (over 10 mm in diameter) with at least one spiral design emanating from one end of the perforation and circling the bead until it reaches the opposite end (Figure 10). There are three primary whirl styles: 1) one or more shallow-grade whirls that fully encircle the bead two or more times before reaching the other end (Figure 10, a); 2) one or more steep-grade whirls that fully circle the bead only once at most before reaching the other end (Figure 10, b); and 3) a series of wisps that form a vague whirl, circling the bead once or twice before reaching the other end (Figure 10, c). Regardless of their form, the whirls are always opaque and usually yellow, brown, white, or blue. Many of these beads have reticella whirls or something similar of yellow and brown or yellow and blue glass. Like the triskele beads, the

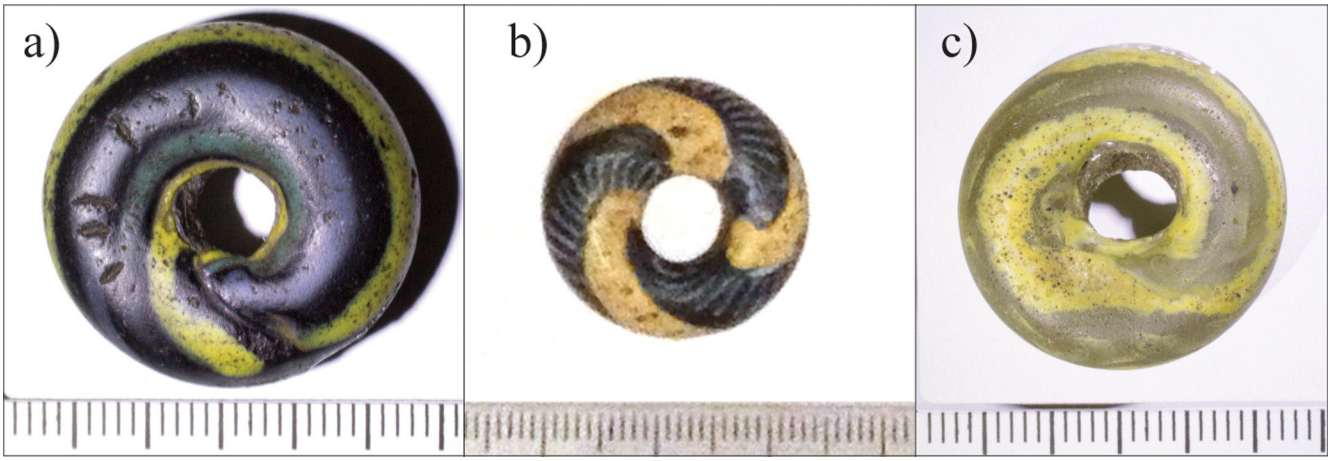

Figure 10. Whirl bead types from Aberdeenshire: a) type 1 from Mill of Gellan (ABDUA 15539; © University of Aberdeen); b) type 2 from an unknown site (X.FJ.118; courtesy of National Museums Scotland); and c) type 3 from Banff (ABDUA 15526; © University of Aberdeen).

body of the bead is often a dark color, usually opaque black or a translucent very dark blue, green, brown, or purple.

Given their differences in size, the tightness of the whirl, the number and color of the whirls, and the color of the core, no two whirl beads are the same. Like the triskele beads, they are concentrated in northeastern Scotland, though there are several examples in the western isles (Figure 9). There is the suggestion that these and the triskele beads were made in the same region, particularly given the lack of similar examples in neighboring regions (Guido 1978:88). They have been found in association with triskele beads in many cases and some are associated with Roman finds or in contexts contemporary with Iron Age brochs, suggesting they date to the same period.

Small Wound Annular Beads

Two other common bead types in Scotland are the small annular translucent cobalt-blue beads (Figure 11) and the small annular opaque yellow beads found so often elsewhere in Britain and Ireland. The yellow beads are often cited as being Iron Age due to their association with Iron Age sites and their description as Iron Age in Guido's (1978:73) typology. Yet, given the lack of secure contextual information for most beads in Scotland, the relative ease with which such beads could be made and the longevity of the wound annular style of bead, it is likely these beads date to more than just the Iron Age.

Yellow annular beads are concentrated at five sites: Airyolland Crannog (14), Culbin Sands (202), Castlehill (8), Glenluce Sands (9), and Traprain Law (12). Other sites

Figure 11. A cobalt-blue annular bead from Ugadale in Argyll (CAPTM 0221.02; courtesy of the Kilmartin House Museum).

tend to have between one and three, but most yellow annular beads in Scotland have been found at Culbin Sands. Such a concentration is not particularly surprising, given the prevalence of yellow in polychrome beads in the region. In fact, their high numbers in the northeast only emphasize the importance of yellow glass there.

There are also concentrations of yellow annular beads in the western isles and in southwestern Scotland along the coast. Philiphaugh is the only site with annular yellow beads in this database that lies further than 10 km inland, suggesting these beads – or at least the glass used to make them – may have come to Scotland through maritime trade routes. According to Guido (1978:75), similar examples found in Wales and Cornwall often come from inland sites, including roughly 50 examples from Meare in Somerset. While this does indicate a possible connection between Meare and Scotland, the number of objects in Scotland far surpasses those found further south and they are found at a larger number of sites. The numbers alone indicate a stronger preference for this style in Iron Age contexts in Scotland. They might even suggest these beads came to Wales and Cornwall from or via Scotland, but using pure object counts for such interpretations is problematic, especially given the lack of secure contextual information for beads in Scotland.

The dark blue annular beads are more widespread, with concentration in the northeast and the southeast. Concentrations again are high at Culbin Sands (23), Glenluce Sands (11), and Traprain Law (14) with other sites having between one and three. These are suggested by Guido (1978:67-68) as being pre-Roman and possibly early medieval, and she notes that while they are not absent at Roman sites, they are often more common in non-native contexts. This matches the data in Scotland. There are significant numbers of glass beads at Newstead which has the largest glass bead assemblage from a Roman site in Scotland, but there are very few dark blue annular beads. There are, however, 14 examples of dark blue annular beads from Traprain Law, an Iron Age hillfort 44 km from Newstead which was inhabited both before and after Newstead's occupation. It seems, then, that the annular cobalt-blue beads were preferred by locals rather than the Romans. This preference for cobalt-blue annular beads also matches the trend preferring cobalt blue as a base color for polychrome beads.

Interestingly, cobalt-blue annular beads are rare in much of western Scotland. Cobalt-blue beads appear at many sites in this region, as do many other blue beads, but the annular beads only appear at Dunadd and Kildonan Bay. Both are also the only sites with blue beads and with evidence of Iron Age or local Roman period activity in this region. Given the lack of annular blue beads in early medieval contexts in western Scotland and their general concentration in non-Roman sites, it is probable that these beads were predominantly in use by native populations during the Iron Age.

Swag and Double-Swag Beads

Beads with one wavy line or two intersecting wavy lines encircling the body appear with relative frequency and are generally white "swag" lines on a blue ground (Figure 12, a). Sometimes there is a reticella-zone line running across a single swag line or the swag line itself is reticella (Figure 12, b). These appear to span several phases and range from

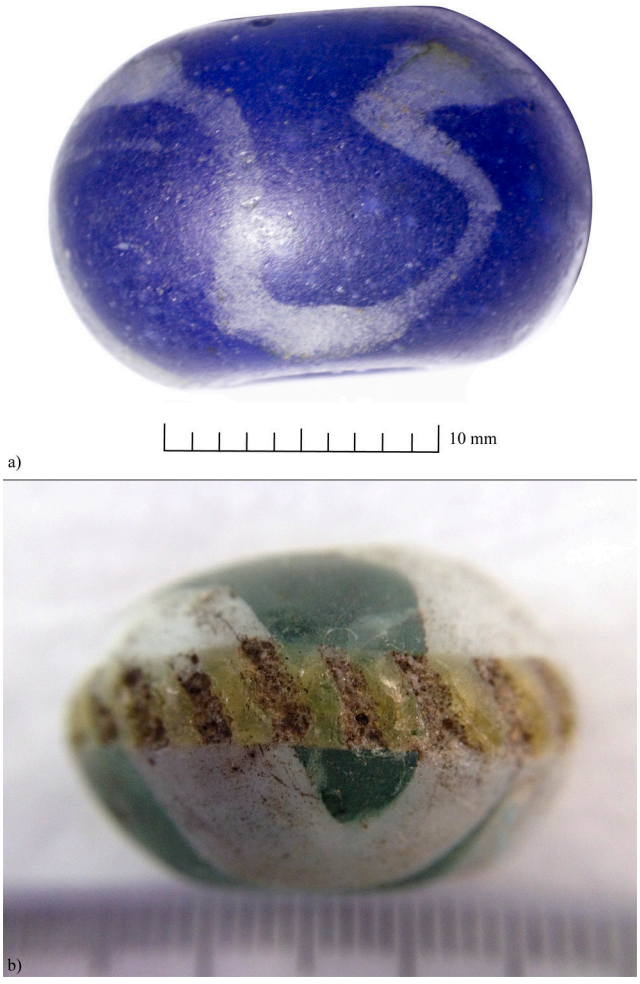

Figure 12. Swag beads: a) bead with a single swag line from Buchan in Aberdeenshire (ABDUA 15531; © University of Aberdeen), and b) bead with a single swag line and a reticella zone line from Newstead in the Scottish Borders (X.FRA.900; courtesy of National Museums Scotland).

large annular to small cylindrical forms. There are more sites in southern and western Scotland with swag beads than in northern Scotland, perhaps indicating a difference in preference from the triskele and whirl beads (Figure 13). Unfortunately, there are not enough swag beads of specific types to examine geographic distributions more fully.

Reticella and Herringbone Beads

Reticella beads sometimes appear in Early Medieval or Norse period contexts, and are often identified as Irish in origin due to similarities in style (Mannion 2015). Beads with a reticella swag line across the bead appear to belong to the Iron Age and Early Medieval periods, particularly given the occasional reticella line included in the whirl beads discussed above. The reticella swag beads are often equivalent to Guido's (1978:76-77) Iron Age Class 9, but many are closer to swag beads than the cabled beads she describes. Some beads also consist solely of a reticella-zone line dividing the bead into halves, which is more common in Scotland than a non-reticella-zone line. When these reticella-zone lines appear, they generally overlie a single-colored swag line, further strengthening the argument for a closer relationship with swag beads than with Guido's cable beads in Scotland (Figure 12, b).

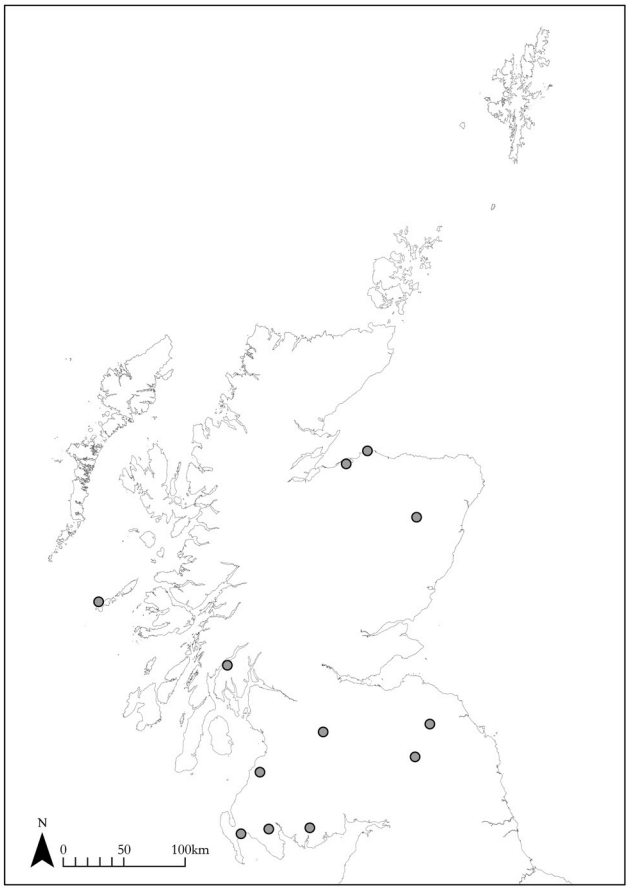

Figure 13. Sites with swag beads, showing possible concentrations in southern Scotland.

Other beads have reticella collars, with some adding reticella trails starting from one collar and fading towards the other. The origin of these reticella trails tend to alternate between collars and sometimes end with a single raised dot instead of meeting the opposite end. These beads are most likely Irish in origin, given how few have been found in Scotland compared to Ireland.

Finally, there are small numbers of beads made by winding reticella rods rather than single-colored canes of glass (Figure 14). Two examples come from Dunadd, while a third was found on Skye. These are always of dark blue and white reticella and usually globular in form. Unfortunately, not enough beads of this type have been recovered to allow for further geographic or chronological analysis.

Metal-Foil Beads

Segmented gold-foil beads are very occasionally found in Early Medieval contexts in Scotland while segmented silver-foil beads are relatively common in Norse contexts. Perhaps the best known of these is a necklace of 44 silver-foil beads in colorless, yellow, or deep blue glass found with a female burial at Cnip on the Isle of Lewis. Analysis of metal-foil beads in Scotland is rare, but the composition of those found at Ribe suggests they were made in or near Alexandria, Egypt (Sode and Feveile 2002:12).

Eye Beads

Several types of eye bead are also common. Many have regular white or yellow dots on a dark blue ground while others have a series of white rings on a dark blue ground. Stratified eye beads with white spirals on raised bosses and a dark blue ground are relatively common (Figure 15, a). Still another style of eye bead found in some Early Medieval contexts has a dark ground with a white double swag line and raised bosses of either black, white, and red eyes or black, red, and green eyes (Figure 15, b). Unfortunately, there are not enough examples from secure contexts to be able to discuss their distribution.

Figure 14. Reticella bead from Culbin Sands in Moray (X.BIB.21; courtesy of National Museums Scotland).

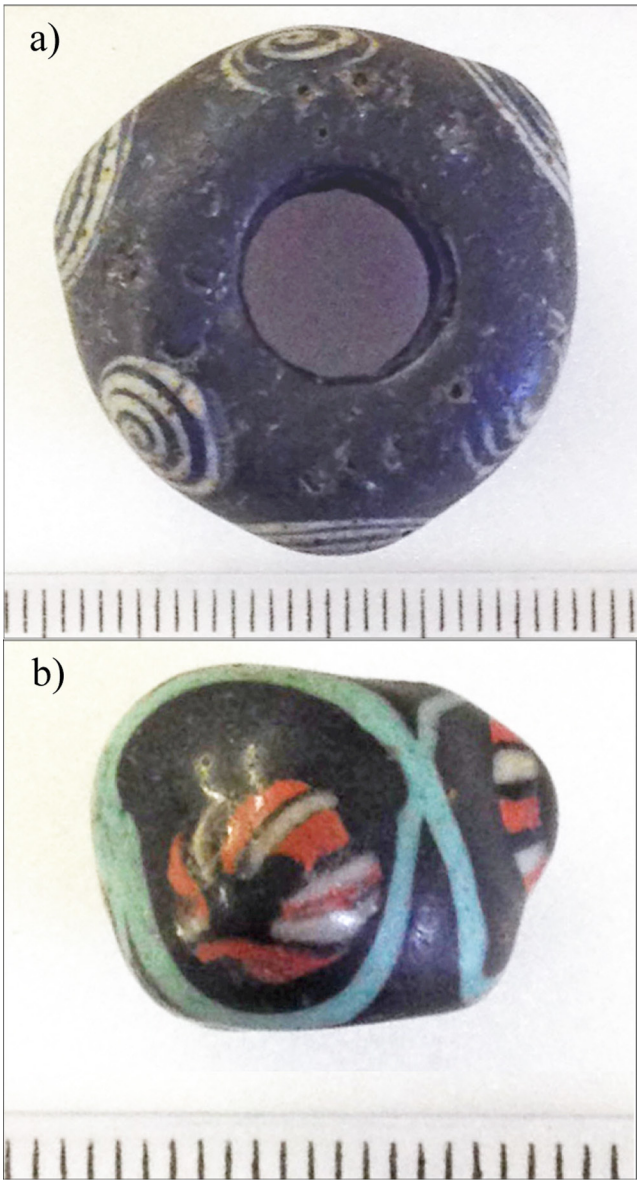

Figure 15. Spiral eye bead (a) from Gilmerton in Midlothian (X.FJ.99) and a double swag and eye bead (b) from Kirkchrist in Dumfries and Galloway (X.FJ.81) (courtesy of National Museums Scotland).

Evidence for Glass Beadmaking in Scotland

Some sources discussing the glass bead assemblages in Scotland suggest there was a manufacturing center at Culbin Sands, largely due to the number of beads found there and a couple of examples of fused glass (Guido 1978:34, 74). Yet, the number of beads found at Culbin Sands for any given period is highly suspect, given the lack of contextual information relating to each and the long multi-period occupation of the site. Additionally, glass can fuse in contexts other than production so the manufacture of beads at Culbin Sands is therefore questioned by most bead specialists looking at the Scottish material.

While Whithorn in southwestern Scotland has significant evidence for glassworking, it is entirely related to the manufacture of glass vessels rather than beads (Campbell, Hill, and Price 1997). There is also a relative lack of glass beads at Whithorn compared to glass vessels and sherds, suggesting its primary focus was on vessels.

Some fused lumps of glass and crucibles with colored glass inside have been found at Traprain Law, though the literature largely implies they are connected to the manufacture of glass bangles (Guido 1978:36; Kilbride-Jones 1938). Guido (1978:36) also suggests Newstead may have been a manufacturing center, but this seems based on

the number of objects recovered rather than on any specific evidence for glassworking.

There is evidence of glassworking at Castle Hill in Ayrshire, including several glass canes and slag matching the material of the beads (Smith 1919:128). Despite the evidence, it appears that further consideration of Castle Hill as a manufacture site is rarely discussed in the literature. The site has eight, small, yellow annular beads, one dark blue melon bead, one blue bead otherwise not described, and one brownish-yellow undecorated annular bead. Given the identification of two phases of occupation by Smith (1919:129) – one in the 1st-2nd centuries AD and the other during the Viking period – it is likely the glass predominantly dates to the first period of occupation.

To my knowledge, there has been no other discussion of factory or workshop-level glass bead production within Scotland. While the uniqueness of many bead types in Scotland supports local manufacture, there is little evidence for such practices on a large or systematic scale. This is most likely not due to a lack of local manufacture, but to the relative lack of wasters created in winding glass beads by an individual craftsperson compared to larger-scale endeavors or, indeed, the industry associated with drawn beadmaking (Francis 1991, 2002). Local manufacture of certain types of glass beads in Iron Age and Early Medieval Scotland was therefore likely done by certain skilled and perhaps itinerant workers rather than established workshops.

DISCUSSION AND CONCLUSION

While the glass bead assemblage in Scotland appears relatively sparse compared to its neighbors, there are many unique designs and styles that suggest a mastery of the craft for at least the Iron Age, if not beyond. I am unaware of any beads similar to the marbled examples discussed here which, while few in number, demonstrate significant skill in glass bead manufacture and design. Triskele and whirl beads are also unique to Scotland and form the largest number of decorated beads for the Iron Age, again suggesting a skill in manufacture and design within the modern borders of Scotland. Far from Guido's unskilled tribesmen, glass beadmakers in Scotland were continually experimenting with color, style, and design.

There are also significant differences in color, design, and style preference both between regional Scottish assemblages and between these assemblages and those found in neighboring regions. Discussions of beads in Scotland rarely consider regional differences due to a general lack of research on glass beads in general. The degree to which various bead type distributions mirror known trade networks and cultural influences further strengthens theories concerning trade in Scotland and provides new information about trade and craft production for the glass industry in the Iron Age and Early Medieval periods. Further study of these objects, including chemical analysis and investigations of surface wear, will only improve our knowledge of this industry.

The impressive designs of Scottish beads and the differences between Scottish and neighboring assemblages demonstrate a significant need for a large-scale analysis of these objects. They also advocate for a broader understanding of beads in Iron Age and Early Medieval Scotland than that generated by the frequent practice of identifying types based on assemblages designed for neighboring and sometimes non-contemporary groups. Given the impressive vessels created by craftspeople at place like Whithorn, it should not be surprising that glass beads might also show significant skill and artistry. While examining the data from a purely Scottish perspective would be detrimental due to a lack of context from neighboring regions, the complete lack of a Scottish perspective has proven detrimental to our understanding of these assemblages as well. The data provided and discussed here will hopefully initiate a lengthy discussion of glass beads from Scottish contexts such that, in the future, we can approach these objects from the perspective of Scottish typology and contextual analysis, in addition to that from neighboring groups.

APPENDIX A. SCOTTISH SITES WITH GLASS BEADS LIKELY DATING TO THE IRON AGE AND EARLY MEDIEVAL PERIOD (800 BC-AD 800)

The following is a list of sites with glass beads from contexts likely dating to the Iron Age and Early Medieval Period in Scotland. It is not a complete list, but it is more complete than any list published to date. Due to space limitations, only locational data (where possible) and the number of known glass beads found at each site have been included. These numbers come from a compilation of data from Guido (1978, 1999), Bertini et al. (2011), and from the collections at the National Museum of Scotland, the Hunterian Museum and Art Gallery, the Marischal Museum, the Kilmartin House Museum, the Iona Abbey Museum and the Archaeology Department at the University of Glasgow.

Appendix A (continued).

Site Name	Canmore ID	Province	OS Grid Reference	Descriptive Location	Glass Beads
A' Cheardach Mhor		Na h-Eileanan Siar		South Uist	2
Aberdeenshire		Aberdeenshire		Aberdeenshire	12
Airyolland Crannog		Dumfries and Galloway		Wigtownshire	14
Aitnock Fort		Ayrshire		Dalry, Ayrshire	1
Arnabost		Argyll and Bute	NM 2096 6003	Coll	2
Balevullin		Argyll and Bute	NL 95783 46292	Argyll	3
Balinaby		Argyll and Bute	NR 218 671	Islay	8
Ballater Glenmuick		Aberdeenshire			1
Ballogie		Aberdeenshire	NO 571 955	Aberdeenshire	1
Balmerion	16326		NJ 27 34	Glenrinnes, Banffshire	1
Balure Dun	290103	Argyll and Bute	NR 78270 85750	Argyll and Bute	3
Banff	18579	Aberdeenshire			1
Barburgh Mill	65789	Dumfries and Galloway	NX 90215 88428	Nithsdale, Dumfries and Galloway	1
Bedrule		Scottish Borders	NT 598 180	Roxburghshire	1
Beetloun		Aberdeenshire		Aberdeenshire	1
Birrens		Dumfries and Galloway		Dumfriesshire	5
Birse		Aberdeenshire	NO 55 97	Aberdeenshire	1
Blelack		Aberdeenshire	NJ 43 03	Aberdeenshire	1
Bonchester Hill		Scottish Borders	NT 59500 11700	Roxburghshire	1
Brighouse Farm		Fife	NO 407 216	Fife	1
Buchan		Aberdeenshire			1
Buck of Cabrach		Aberdeenshire	NJ 29 34	Aberdeenshire	1
Burghead		Moray	NJ 1090 6914	Moray	1
Cairnhill	19252	Aberdeenshire	NJ 7839 5225	Aberdeenshire	1
Camelon		Stirling	NS 864 809	Stirlingshire	2
Camphouse					1
Castle Craig	26048	Perth and Kinross	NN 97604 12714	Perthshire	1
Castle Island		Scottish Borders		Wigtownshire	2
Castle Newe		Aberdeenshire	NJ 3797 1235	Aberdeenshire	1
Castle O'er		Dumfries and Galloway		Dumfriesshire	2
Castlehaven Fort		Dumfries and Galloway		Borgue, Kirkcudbrightshire	1

Appendix A (continued).

Site Name	Canmore ID	Province	OS Grid Reference	Descriptive Location	Glass Beads
Castlehill		Ayrshire	NS 2859 5362	Dalry, Ayrshire	10
Cawdor		Highland	NH 847 498	Nairn	9
Chapel of Garioch	185105	Aberdeenshire		Aberdeenshire	1
Clachbreck		Argyll and Bute		Argyll and Bute	1
Clarilaw Muir		Scottish Borders	NT 512 286	Scottish Borders	1
Clerkley Hill		Moray		Moray	1
Clettraval		Na h-Eileanan Siar		North Uist	1
Clickhimin		Shetland Islands		Shetland	1
Cloisterseat		Aberdeenshire	NJ 90 26	Aberdeenshire	5
Clova		Aberdeenshire	NJ 45 22	Aberdeenshire	1
Coldingham		Scottish Borders	NT 904 661	Berwickshire	1
Coldstone		Aberdeenshire	NJ 44 06	Aberdeenshire	2
Corbanchory Farm		Aberdeenshire	NJ 488 151	Cushnie, Aberdeenshire	1
Coulter		South Lanarkshire	NT 02 33	Strathclyde	7
Covesea		Moray	NJ 1750 7072	Moray	6
Craigsfordmains		Scottish Borders	NT 565 382	Berwickshire	2
Crichton House		Midlothian	NT 400 624	Midlothian	1
Crossmichael Burial Ground		Dumfries and Galloway	NX 7 6	Kirkcudbrightshire	1
Croy		Highland	NH 7950 4936	Inverness-shire	4
Culbin Sands		Moray	NJ 0 6	Moray	532
Dalmeny					11
Denholm		Scottish Borders	NT 568 185	Roxburghshire	21
Dowalton Loch		Dumfries and Galloway	NX 40 46	Wigtownshire	2
Dryburgh		Scottish Borders	NT 591 320	Berwickshire	3
Drymen Sands		Argyll and Bute		Argyll	4
Dun an Iardhard		Highland	NG 2311 5042	Dunvegan, Skye	3
Dun Beag		Highland	NG 3395 3861	Struan, Skye	6
Dun Cul Bhuirg		Argyll and Bute	NM 2649 2462	Iona	3
Dun Fhinn	38467	Argyll and Bute	NR 6572 3064	Argyll and Bute	1
Dun Troddan		Highland	NG 83400 17244	Glenelg, Invernesshire	1
Dunadd		Argyll and Bute	NR 8365 9356	Argyll	12

Appendix A (continued).

Site Name	Canmore ID	Province	OS Grid Reference	Descriptive Location	Glass Beads
Dunagoil		Argyll and Bute		Bute	4
Dunbartonshire				Dunbartonshire	1
Dykeside		Orkney Islands	HY 305 223	Harray, Orkney	1
Earlston		Scottish Borders	NT 57 38	Scottish Borders	4
Eilean da Mheinn		Argyll and Bute	NR 781 944	Argyllshire	1
Eilean Righ		Argyll and Bute	NM 8041 0220	Loch Craignish, Argyll	1
Evie		Orkney Islands		Orkney	1
Fendom Sands		Highland	NH 82 82	Tain, Ross and Cromarty	6
Fetlar		Shetland Islands	HT 69 91	Shetland	1
Forteviot		Perth and Kinross	NO 052 170	Perthshire	2
Gilmerton		Midlothian	NT 29 68	Midlothian	1
Glenbuchat Hill		Aberdeenshire	NJ 33 18	Aberdeenshire	1
Glenluce Sands		Dumfries and Galloway	NX 132 551	Wigtownshire	53
Glenshee		Perthshire		Lair	1
Golspie Links		Highland	NH 81 97	Sutherland	6
Ha' of Bowermadden	8856	Highland	ND 2398 6369	Highland	1
Haliburton Mains	57291?	Scottish Borders	NT 672 485	Greenlaw, Berwickshire	1
Harris		Na h-Eileanan Siar		Harris	1
Haughton		Aberdeenshire	NJ 58 16	Aberdeenshire	1
Hillswick		Shetland Islands	HT 28 77	Shetland	2
Housgord	127971?	Shetland Islands	HT 39 53	Sheltand	1
Hownam Rings		Scottish Borders	NT 7904 1939	Morebattle	1
Hyndford Crannog		South Lanarkshire	NS 9061 4187	Lanark	1
Inveresk		East Lothian	NT 3475 7095	East Lothian	1
Iona Abbey	21664	Argyll and Bute	NM 28683 24515	Iona	1
Jericho	18285	Aberdeenshire		Aberdeenshire	2
Kaimes Hil		Midlothian	NT 1315 6655	Ratho, Midlothian	2
Keil Cave		Argyll and Bute	NR 6716 0770	Southend, Kintyre, Argyll	1
Keith	17381	Moray	NJ 42 50	Moray	1
Kildonan Bay	38756	Argyll and Bute	NR 7806 2778	Kintyre	1
Kildrummy	17094	Aberdeenshire	NJ 45 18	Aberdeenshire	2

Appendix A (continued).

Site Name	Canmore ID	Province	OS Grid Reference	Descriptive Location	Glass Beads
Kinnord		Aberdeenshire	NO 44 99	Aberdeenshire	1
Kirkchrist		Dumfries and Galloway	NX 361 590	Dumfries and Galloway	1
Kirkmaiden		Dumfries and Galloway	NX	Dumfries and Galloway	1
Ladymire Farm	20349	Aberdeenshire	NJ 975 299	Aberdeenshire	1
Legerwood		Scottish Borders	NT 58 43	Scottish Borders	1
Lesmahagow			NS 81 39		1
Licklyhead	18210	Aberdeenshire	NJ 62 23	Aberdeenshire	1
Linton Farm		Scottish Borders	NT 77 26	Scottish Borders	1
Loch Eriboll		Highland	NC 4038 5409	Durness, Sutherland	1
Loch Glashan		Argyll and Bute	NR 9159 9249	Argyll	1
Loch Gruinart		Argyll and Bute	NR 295 714	Islay	1
Loch Ronald		Dumfries and Galloway	NX 26 64	Dumfries and Galloway	1
Lochlea		South Ayrshire	NS 4575 3027	South Ayrshire	2
Lochspouts Crannog		Ayrshire	NS 2885 0586	Ayrshire	2
Meiklelaw Field		East Lothian	NT 4564 6090	Fala	7
Midmar		Aberdeenshire	NJ 6 0	Aberdeenshire	1
Mill of Gellan		Aberdeenshire	NJ 5092 0188	Aberdeenshire	3
Mosspebble		Dumfries and Galloway	NY 3848 9328	Dumfries and Galloway	1
Mote of Mark		Dumfries and Galloway	NX 84 50	Dumfries and Galloway	1
Mouswald		Dumfries and Galloway	NY 061 738	Dumfriesshire	2
Nairnshire					1
Nether Tofts		Scottish Borders	NT 553 146	Roxburghshire	1
New Mill		Scottish Borders	NT 6572 2271	Roxburghshire	1
Newstead		Scottish Borders	NT 572 344	Roxburghshire	35
Orkney		Orkney Islands		Orkney	2
Orton		Moray	NJ 31 52		1
Philiphaugh		Scottish Borders	NT 436 279	Selkirk, Scottish Borders	1
Pitchroy		Moray		Moray	1
Plestie					1
Rhynie	17206	Aberdeenshire	NJ 49 27	Aberdeenshire	1
Rink		Scottish Borders		Selkirkshire	1
Riverside Field		Scottish Borders		Dryburgh, Berwickshire	1

Appendix A (continued).

Site Name	Canmore ID	Province	OS Grid Reference	Descriptive Location	Glass Beads
Ruberslaw		Scottish Borders	NT 5803 1557	Roxburghshire	25
Rule					1
Rulewater		Scottish Borders		Roxburghshire	1
Rumbleton		Scottish Borders	NT 690 455	Berwickshire	1
Scotston	165434	Aberdeenshire		Aberdeenshire	1
Scottish Borders		Scottish Borders		Scottish Borders	1
Scurdargue		Aberdeenshire	NJ 48 28	Aberdeenshire	1
Selkirk		Scottish Borders		Selkirkshire	3
Siccar Point		Scottish Borders	NT 8111 7088	Berwickshire	1
Skewalton		Ayrshire		Ayrshire	2
Skye		Highland		Skye	1
Slains	20972	Aberdeenshire	NK 04 30	Aberdeenshire	1
Smithston	17677		NJ 518 295	Kennethmont Parish, Aberdeenshire	2
Soutra		Midlothian	NT 451 604	Midlothian	1
Strathdon		Aberdeenshire	NJ 3 1	Aberdeenshire	1
Strathlachlan		Argyll and Bute	NS 02 94	Argyll and Bute	1
Tap O' Noth	17205	Aberdeenshire	NJ 48 29	Aberdeenshire	1
Tigh Talamhanta		Na h-Eileanan Siar	NF 6767 0220	Allasdale, Barra	2
Todhaugh		Scottish Borders	NT 837 562	Roxburghshire	16
Tough	18077	Aberdeenshire	NJ 6 1	Aberdeenshire	1
Townfoot		South Lanarkshire	NT 023 345	South Lanarkshire	1
Traprain Law		East Lothian	NT 580 747	East Lothian	43
Tressness		Orkney Islands		Orkney	1
Ugadale Point	38760	Argyll and Bute	NR 7851 2851	Kintyre	4
Unknown					13
West Linton		Scottish Borders		Peebleshire	24
West Mains of Ethie		Angus	NO 6928 4600	Inverkeilor, Angus	1
Wick		Highland		Caithness	1
Wigtownshire		Dumfries and Galloway		Wigtownshire	3
Woodside, Ardvannie	13809	Highland	NH 6855 8747	Highland	1
Yair		Scottish Borders	NT 45 32	Selkirkshire	1

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Heather Christie
University of Glasgow
Glasgow
United Kingdom
Heather.Christie@glasgow.ac.uk