

Reconnaissance excavations on Early Historic fortifications and other royal sites in Scotland, 1974–84: 2, Excavations at Dunollie Castle, Oban, Argyll, 1978

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SUMMARY

As part of a long-term programme of research on historically documented fortifications, a small excavation was carried out in 1978 on the earthwork defences at Dunollie Castle, the Dun Ollaigh of the early annals. Five or more phases were revealed, of which Dunollie 1–3 are datable to the seventh to ninth (or even 10th) centuries AD, and incorporate a wall-faced rubble rampart around the summit of Dunollie stack. After a dereliction phase, Dunollie 4 saw the building of a later rampart, perhaps in the 13th century. The account of the work printed here provides a synthesis of the excavation results, together with a discussion of the wider background of Dunollie 1–3. A detailed excavation report and finds catalogue will be found in the microfiche.

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EXCAVATION SYNTHESIS

INTRODUCTION

In any survey of the Early Historic fortifications of northern Britain (Alcock *et al* 1986), Dunollie must be regarded as a key site. This is simply because, in the form Dun Ollaigh, the name occurs in no fewer than five of the entries in the Annals which had been compiled at Iona: in 686, 698, 701, 714 and 734 (Bannerman 1974; MacAirt & MacNiocaill 1983). This is the largest number of mentions recorded for any single fortified site in the Iona Annals: a statistic that is as likely to reflect the relative nearness of Dunollie to Iona as its actual importance. In four entries it is described in Irish as *dun*, fort, and in the fifth in Latin as *arx*, citadel, so its fortified character is evident.

Moreover, in the entries respectively for 701 and 714 it is said firstly to have been destroyed and secondly to have been built (presumably rebuilt) by Selbach. He is readily identified with Selbach son of Ferchar Fota, of the kindred of Lorn, a major contender for the kingship of Dal Riata in the late seventh and early eighth centuries AD. The association of Dun Ollaigh with characteristic royal activities – the building and destruction of forts – is thus manifest (Alcock 1987b).

Dunollie appears today as a ruined medieval tower-house and courtyard, standing on a precipitous stack of basalt-capped sandstone on the north shore of Oban bay (NGR NM 8531) (illus 1–3). The tower and courtyard do not occupy the whole of the stack, and on the north and east are clear traces of earthworks which appear to have no connection with the masonry castle. In the expectation that they might reveal evidence for the Dun Ollaigh of the Annals, these earthworks were examined briefly in 1978, in two cuttings: 101–201 on the north and 301–401 on the east.

THE EARLY DEFENCES (illus 4 & 5; table 1)

Apart from Neolithic/Bronze-Age activity denoted by the occurrence of worked flints, four major phases predating the masonry castle were discovered. (For the stratification, see illus 4; tabular synthesis, p 125; conjectural reconstructions, illus 5–6.)



ILLUS 1 Aerial view of Dunollie from west. The cuttings excavated in 1978 lie to the left of (north) and behind (east) the tower-house. (Cambridge University Collection: *copyright reserved*)

Dunollie 1

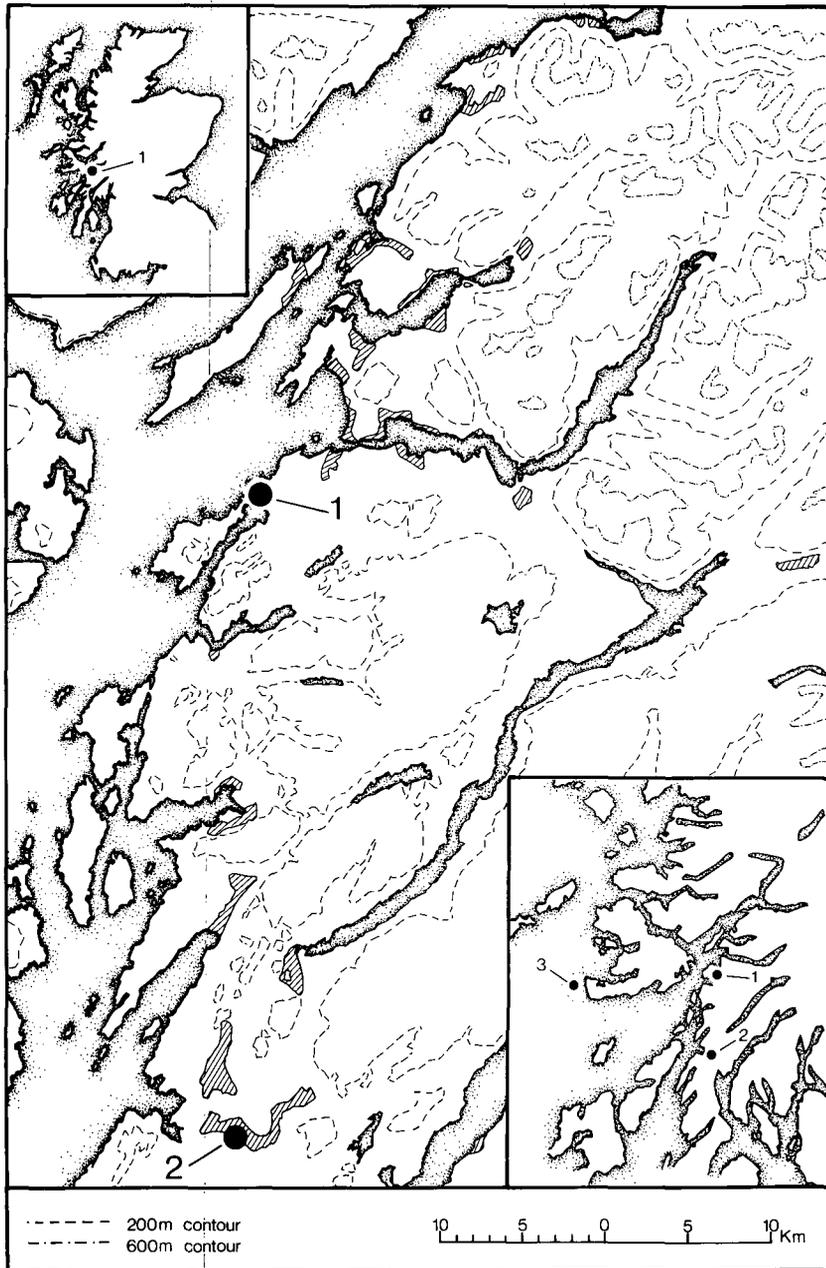
Before any defensive work was built around the perimeter of the stack, a bronze worker's hearth was established on its northern edge (cutting 101, feature 118 and associated spreads of burnt material, 114, 117 and 214). Fragments of clay moulds show that the principal product on this spot was the simple stick pin. Other metal objects included an iron spearhead and several socketed arrowtips of iron. Bone and antler work was represented by pins and a composite comb.

Animal bones and charcoal from layer 117 provided material for three radiocarbon age estimates. The raw dates, on the Libby half life are:

GU 1395	} Animal bones (<i>Bos</i>)	1280±75 bp
GU 1396		
GU 1397	Animal bones (<i>Sus & Ovis</i>)	1270±60 bp
GU 1398	Charcoal (<i>Quercus</i>)	1425±60 bp

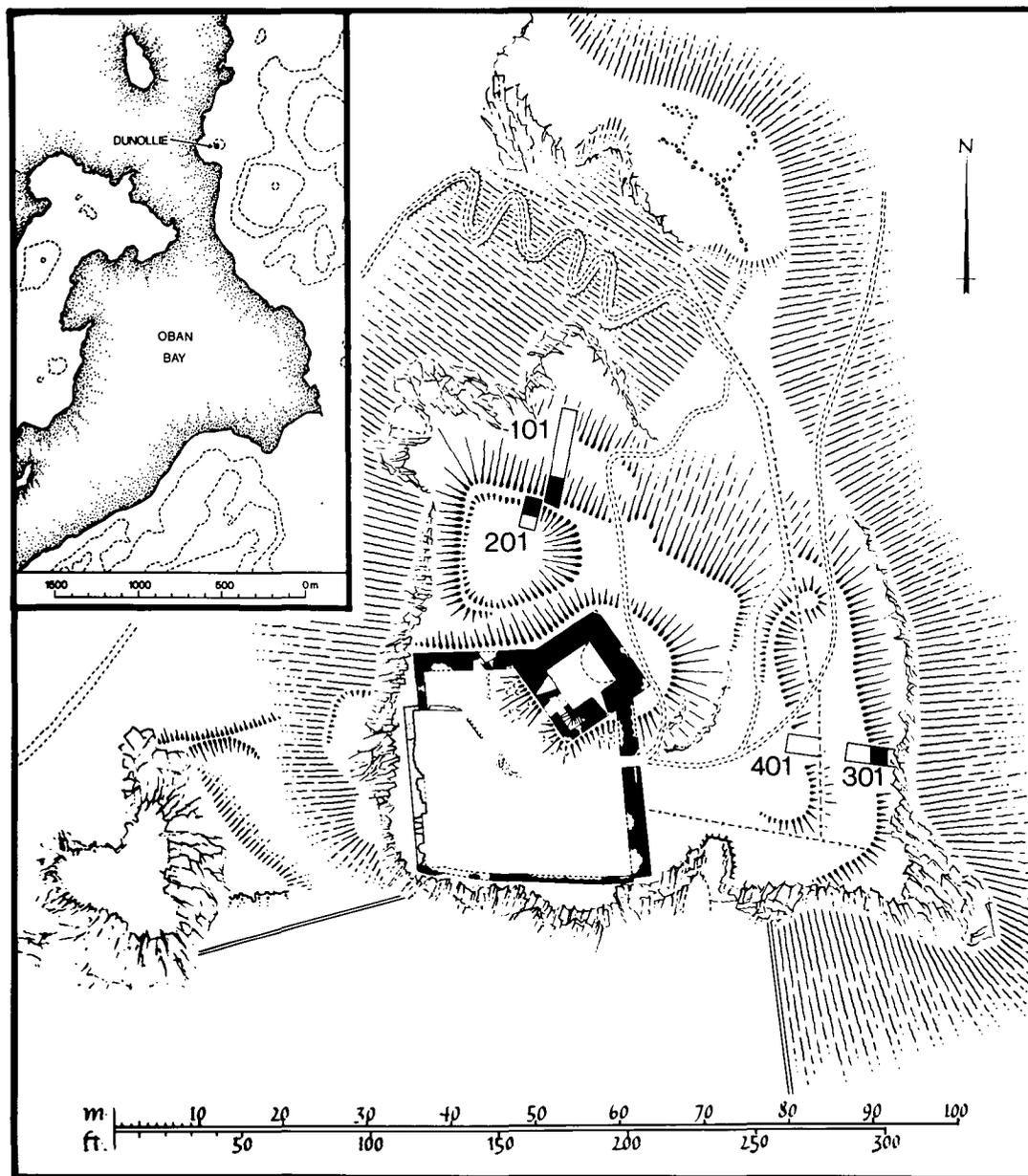
These may be calibrated to calendar dates AD, at the 95% probability level, using the calibration tables of Klein *et al* (1982; for the use of this calibration see Alcock *et al.* 1986), as follows:

GU 1395+1396	600–890 AD
GU 1397	610–880 AD
GU 1398	470–650 AD



ILLUS 2 Location maps for 1, Dunollie, 2, Dunadd, 3, Iona. Hatching marks better land, as defined by the Macaulay Institute for Soil Research

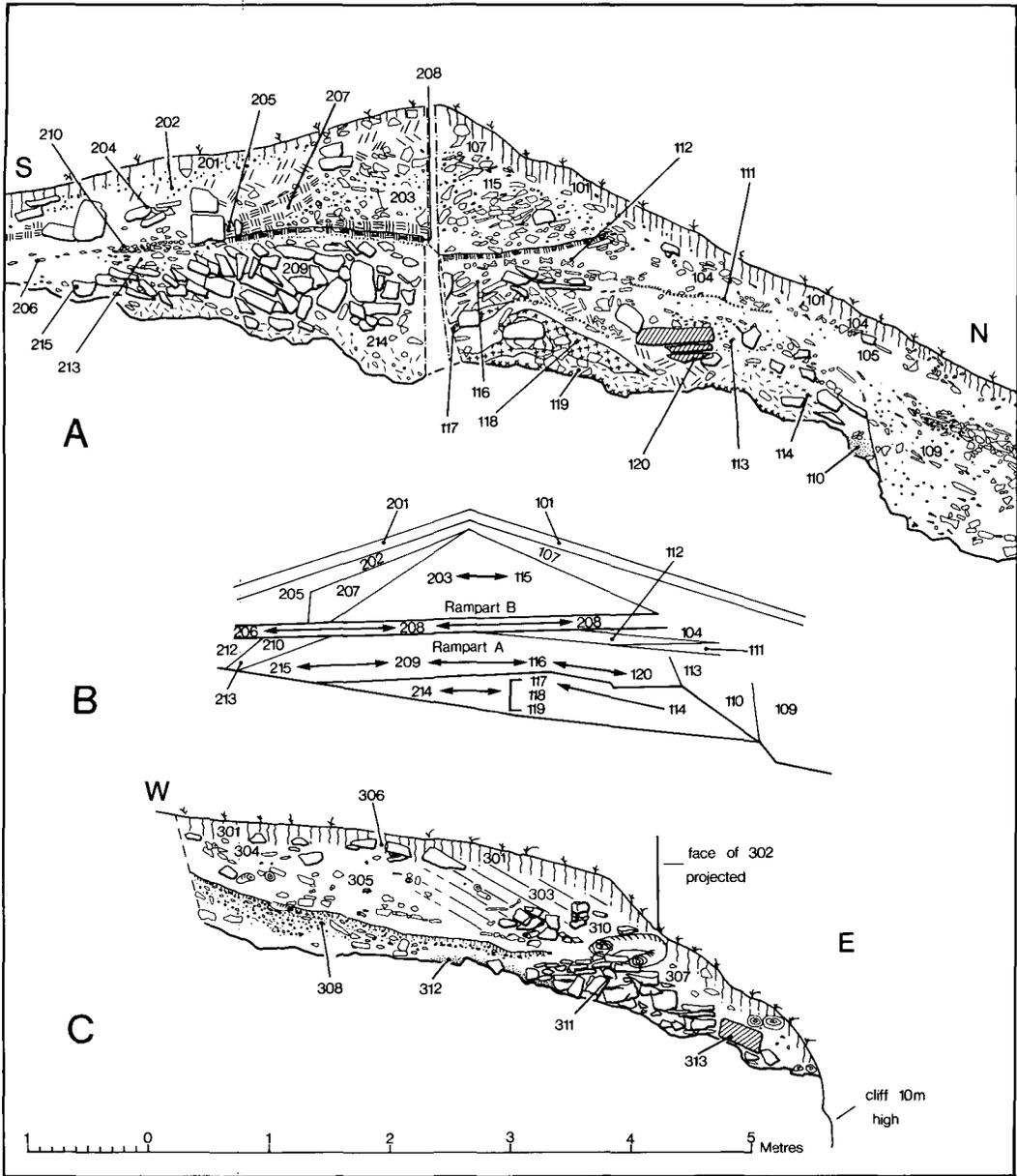
The earlier age estimate from the *Quercus* (oak) sample may be accounted for by assuming that the tree from which it came was a century or more old before it was felled. The general implication is that Dunollie 1 falls in the seventh to ninth centuries AD; but it must be recognized that the dates from animal bones deposited at one point on the perimeter do not provide an absolute date for the



ILLUS 3 Dunollie Castle and earthworks, planned by the Royal Commission on the Ancient and Historical Monuments of Scotland, showing the 1978 cuttings, and the exposed traces of Rampart A (*Crown Copyright*). Inset, Dunollie Castle in relation to Oban Bay: contours at 30 m, 60 m and 90 m

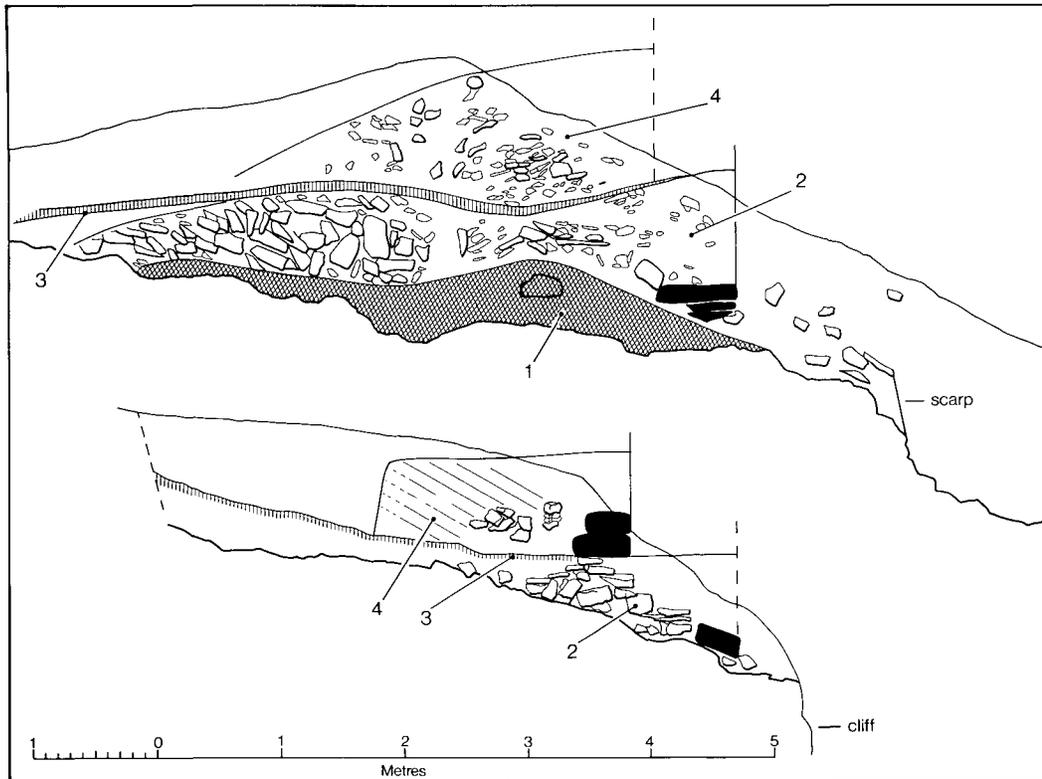
beginning of the occupation. They do, however, suggest that Dunollie 1 was the place mentioned in the Annals as being burned in 686 and 698, and destroyed by Selbach in 701.

The metalworker's hearth, the weapons, and a sherd from a pottery vessel of continental origin (Class E) all imply that Dunollie 1 was the seat of a person of importance, whether royal or noble



ILLUS 4 Sections across the northern and eastern earthworks. A, field record of cuttings 101 and 201; B, schematic section to show relationships between features in 101 and 201; C, field record of cutting 301

(Alcock 1987b). Such a potentate might be expected to have required more protection than that which the natural steepness of the stack afforded. The evidence from cutting 101–201 is decisive, however, that there were no artificial defences at this time along the northern perimeter, while the evidence from cutting 301 is best interpreted in the same sense. It seems reasonable therefore to speculate that the defensive element of Dunollie 1 comprised a small but thick-walled drystone fort, circular or oval in plan, on the crown of the stack: the type of fort to which the Royal Commission on



ILLUS 5 Ramparts A and B reconstructed: above, cuttings 101 and 201, below, cutting 301. 1, the hearth (heavy outline) and burning layers of Dunollie 1; 2, Rampart A; 3, the dereliction layer; 4, Rampart B

TABLE 1
Dunollie: Synthesis of stratification

Phase	Cuttings 101, 201	Cutting 301	Structural Character	Date AD
Post-4	204 (?205)	305, 306	Material against rear of Rampart B: period of tower house and later	coins 1629-39, jetton 1580-1610
4	107, 115, 203, 207	302, 303, 310	Rampart B: earthwork castle	coin 1205-10
3	111, 112, 206, 208, 210	308	Dereliction: spread of refuse from phases 1 & 2	Calibrated C-14, 865-1045, 875-1055
2	116, 120, 209, 205 (?110, 113)	311, 313	Rampart A: walled stack fort	
1	114, 117, 118, 119, 214	-	Industrial area on N side of stack. ? dun on summit	Calibrated C-14 470-650, 610-880, 600-890

Ancient Monuments of Scotland assigns the technical term dun. Such a dun could well have been obliterated in the building of the tower house. Its existence, however, remains entirely hypothetical.

Dunollie 2

The hearth and burning layers of Dunollie 1 were immediately overlaid by a rubble bank (cutting 101-201: 116, 209), revetted at the front with massive slabs (120), and with a rear stone kerb

(215). In cutting 301, a comparable bank of solidly packed rubble (311), fronted by a similar massive revetment (313), lies immediately on the bedrock. These two cuttings, then, provide evidence for a vertically revetted rubble rampart, Rampart A, around the north and east edges of the stack (plan, illus 6). On the east, where it was set at the edge of a 10 m high vertical cliff, the rampart was only 2 m wide. On the north, however, where the ground was less precipitous, the rampart was 5 m wide. Moreover the hillside had been quarried to form a steep scarp, little more than 1 m high, and shallow ditch, immediately in front of the rampart face.

There is no direct evidence for the date of Rampart A. It is bracketed between the radiocarbon age estimates quoted above, of the seventh to ninth centuries, and those from the overlying layer 112, which fall in the later ninth to eleventh centuries. Given that it was certainly a major defensive work, it is tempting to associate its building with the annal for 714:

AD 714 Dun Ollaigh was built by Selbach.

It must be stressed, however, that the chronological indicators are not sufficiently precise as to leave this date for Rampart A beyond doubt.

Dunollie 3

Dunollie 3 saw the abandonment and collapse of Rampart A, so that ultimately its profile was reduced and it became grassed over (cutting 101–201: 208; cutting 301: upper part of 308). Before that stage was reached, however, rubbish which had accumulated on the back of the rampart during the Dunollie 2 occupation spilled out over the top of the collapsing stonework (cutting 101: 110, 111, 112; cutting 301: lower 308). These rubbish layers contain artefacts similar to those from Dunollie 1, and they allow us to see that Dunollie 1–3 is a homogeneous cultural phase. A full account of this culture is given below, p 136.

Layer 112 was particularly rich in animal bones, and from two replicate samples of cattle, pig and sheep bones the following radiocarbon age estimates were obtained: the calibration is after Klein *et al.* 1982.

GU 2102	1060±50 bp	875–1055 AD
GU 2103	1080±50 bp	865–1045 AD

Taken in conjunction with those from Dunollie 1 quoted above, they suggest a date range for the early occupation of Dunollie from the seventh to the 10th centuries AD.

Dunollie 4

Some centuries after its dereliction, the grass-grown ruins of Rampart A formed the base for a second bank, this time of small, chippy or slabby rubble, often very loosely packed: Rampart B (cutting 101–201: 107, 115, 203; cutting 301: 310). In cutting 101, no trace of a front revetment was preserved, though one may be inferred from the large slabs which had collapsed down the slope. In cutting 301, however, two courses of large blocks can still be seen in places at the head of the eastern cliffs. Given the looseness of the rampart core, some form of rear revetment might also be expected. In cutting 201, there is good evidence that this was provided by a cheek of stacked turves (207); and although the corresponding layer on the east (303) is more heavily weathered, it seems that this too formed a turf stack.

Rampart B was 2 m wide on the east, and about 3 m on the north. There, the silt which had accumulated against the scarp of Dunollie 2 was cut back to a near-vertical face, the ditch itself was cleaned out, and the material from it was piled up into a low counterscarp bank. Surface indications suggest that Rampart B was carried round the north-western corner of the stack and along the head of

the western cliffs, where ultimately it was truncated by the building of the courtyard wall of the masonry castle.

Rampart B is bracketed between the building of the tower house and its courtyard, probably in the 15th century (RCAMS 1975, 195) and the age estimates for the dereliction of Rampart A. A further pointer is a silver penny of John of England, minted 1205–1210, and still only a little worn when it was lost (cat no 1; identified by J D Bateson). This comes indeed from the core of Rampart B (cutting 301: 310) but in an area greatly disturbed by massive tree roots. Indeed, the same layer also yielded substantial fragments of a pottery beaker of the seventh to eighth centuries AD, and a copper coin minted 1632–1639.

Despite its stratigraphical ambiguity, the silver penny certainly suggests a phase of activity and affluence on the Dunollie stack in the early 13th century AD. This may be taken back into the late 12th century by a potsherd (unfortunately unstratified) of possibly 12th-century date (cat no 73; identified by G R Haggarty). Such a date would not seem unreasonable for an earthwork castle in the far west. More speculatively, we may recall the association of Dunollie with the MacDougall family. The building of their principal castle of Dunstaffnage is, on architectural grounds, ascribed to about the second quarter of the 13th century. It is possible, therefore, that Dunstaffnage had been preceded by the earthwork castle of Dunollie 4. In that case, its builder may have been Dugald, founder of the MacDougall family, who died in 1207, or his son Duncan. (For the historical background, Duncan & Brown 1957.)

DISCUSSION

FORTIFICATIONS IN DAL RIATA: THE POLITICAL AND SOCIAL BACKGROUND TO DUNOLLIE 1–3

Now that the character of the defences of Early Historic Dunollie has been established – that is, in phases 1–3 – it is possible to consider its social, political and administrative role within the kingdom of Dal Riata. A starting point is provided by a closer examination of the annals which refer to it. (The historical information deployed here is derived from Anderson 1973/1980; Bannerman 1974; Duncan 1975; Mac Airt & Mac Niocaill 1983; Mac Niocaill 1972; Ó Corráin 1972; 1980).

The role of Dunollie is bound up with the early history of the kindred of Lorn (Cenel Loairn), one of the three kindred groups established in Dal Riata after the settlement of the Scots under the leadership of Fergus son of Erc. At first, the kindred of Gabran (Cenel nGabrain) was dominant, especially in the time of Gabran's son Aedan and of Columba. With strongholds at Aberte (probably Dunaverty), Tairpirt Boittir (perhaps Tarbert Loch Fyne) and Dunadd, their territory included Kintyre and as far north as mid-Argyll, Jura, Arran, Bute and Cowal. The kindred of Oengus (Cenel nOengusa) held Islay alone; but given the relative richness of that island, they were only slightly less substantial in military terms than the other two groups. Cenel Loairn held not only Lorn itself, with the stronghold of Dunollie, but also the peninsula of Ardnamurchan and Morvern. Geographical probability suggests that it may also have held Mull, Iona, Coll, Tiree, and Colonsay as well as some lesser isles. In or after 700 AD, supremacy may have passed from the Gabran kindred to that of Lorn, who possibly expanded southwards to acquire Dunadd and parts of mid-Argyll.

It seems that, in terms of the social and political structure of the Irish homeland of the Scots, the individual kindred group should be seen as a tribe (*túath*) with its own king (*rí*). The contest for dominance between the kindreds of Gabran and Lorn should be seen as a struggle for over kingship: for the position of *ruirí*, or king of several tribes. In so far as the kingdom of Dal Riata had any meaning, it was represented by this over kingship.

The Cenel Loairn first came to prominence in the person of Ferchar Fota, whose death is recorded in the annal for 697. In the following year, the Annals record:

Burning of Dun Ollaigh

Expulsion of Ainbcellach son of Ferchar from the kingship, and he was bound and carried off to Ireland.

It should be pointed out that these are only two out of six items in the annal for 698; and even though they occur consecutively, as translated here, they do not necessarily refer to related events, still less to cause and effect. None the less, it is probably correct to see here a successful challenge against the overlordship of Cenel Loairn.

Three years later (AD 701), there is a record of the destruction of Dunollie at the hands of Selbach, brother of Ainbcellach, presumably in an attempt to reassert control. It is not until AD 714 that Dunollie was built (*construitur*) by Selbach. Unless we assume that the destruction of 701 was far from complete, this leaves a curious hiatus among the strongholds of Cenel Loairn. It is more likely, however, that the *distructio* (sic) of 701 had consisted of little more than the burning of timber buildings, and that any substantial stonework, such as that of the (hypothetical) dun of Dunollie 1, was largely undamaged.

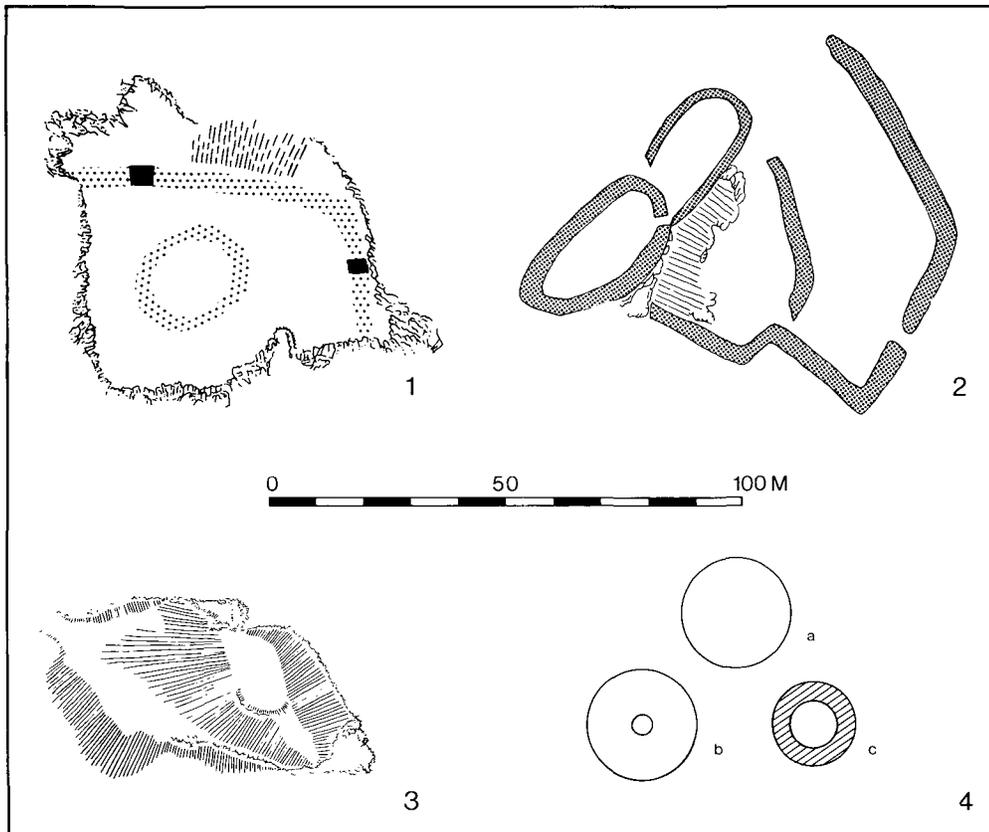
Our uncertainty about both the effects and the intentions of the activities recorded in the Annals is a function of their terse and fragmentary character, and our consequent ignorance of the detailed history of Dal Riata. Despite these limitations, we receive a firm impression of the importance of Dunollie in the contest for the kingship of Dal Riata. That contest was continued, and in AD 719 Selbach and the Cenel Loairn fought a sea battle with the Cenel nGabrain under Dunchad Bec, in which a number of nobles (*comites* in the text of the Annals) were slain and Selbach was repulsed.

The last historical notice of Dunollie in this period is in AD 734, when a Pictish leader, Talorgan son of Drostan was captured and bound *iuxta Arcem Ollaigh*, near the citadel of Ollaigh. This may mark the beginning of a period of Pictish intervention in Dal Riata. Two years later, the first entry in the annal for AD 736 records that Oengus son of Fergus ravaged the province of Dal Riata and seized Dunadd and burned Creich. In addition, Oengus had two sons of Selbach manacled in chains, presumably as hostages. He thus achieved a personal domination over Dal Riata, which may have lasted at least until his death in AD 761 (Anderson 1982, 106–7). We may speculate that this accounts for certain Pictish elements at Dunadd, such as the incised boar, the Ogam inscription, and the manufacture of Pictish-style brooches, reported by Lane (1984), though this does not fully accord with his interpretation. We may also reasonably believe that Dunollie was included in the area under the domination of Oengus, though nothing distinctively Pictish is known among the finds.

The annal entries for 734 and 736 are the latest historical notices for early Dunollie and for Dunadd respectively; but they by no means mark the end of the archaeological record for their occupation in the Early Historic period. At Dunollie, as we have seen above, the radiocarbon dates indicate that the early phases – Dunollie 1–3 – lasted into the 10th century. In support of this, the knives with angled backs (cat nos 14 and 16) are likely to belong to the ninth–10th centuries, rather than to an earlier period. At Dunadd, the evidence is not so positive. None the less, a ninth-century date is appropriate for the long-known stone motif piece with a sketch of a bossed penannular brooch of Hiberno-Norse type (Christison 1905, 310–11; Small *et al* 1973, pl L.b; Graham-Campbell 1975, 43). More importantly, Lane has argued for dates in the eighth and ninth centuries for a wide range of penannular brooch types represented by the moulds recovered in his excavations in 1980 and 1981 (Lane 1984, 51–6). The chronology is too insensitive to demonstrate how far into the ninth century these brooches were being manufactured, but it is clear that occupation at Dunadd is likely to have continued for a century after its capture by the Picts in 736 AD, and perhaps even longer.

The historical interest of this evidence for ninth-century activity at Dunollie and Dunadd is two-fold. Firstly, it appears to take the occupation of these two strongholds up to, if not beyond, the date when Kenneth son of Alpin, 'with wondrous cunning led the Scoti out of Argyll into the land of the Picts' (Regnal Lists D, F & I: Anderson 1973/1980, 267, 274, 283). It therefore raises the question: does the apparent absence of material firmly attributable to the later ninth century imply that Kenneth's move was followed by the desertion of these traditional strongholds. The question may indeed be asked, but the chronology even of fine metalwork is too coarse to allow us to answer it.

Secondly, and more certainly, we can state that these two major fortifications were still in use at the time of the first Norse onslaught on Dal Riata at the end of the eighth century and through the early decades of the ninth century. This onslaught was marked by historically-documented raids: on all the islands of Britain (794), on Skye and Iona (795), on the Hebrides (798), on Iona again in 802 and 806 and 825, to list only a selection of the raids relevant to Dal Riata (Smyth 1984, 145-50, for a recent account). The archaeological evidence for both male and female graves demonstrates ninth-century settlement in both Outer and Inner Hebrides (Wilson 1976, 99-103, fig 1). Settlement is also indicated by Scandinavian placenames in *-stathr*, *-bolstathr* and *-setr* in the Outer Hebrides, and, especially relevant here, on the island outliers of Dal Riata (Nicolaisen 1982). On Islay there are no



ILLUS 6 Comparative plans of forts and duns. 1, Dunollie, hypothetical plans of the phase 1 dun and of the phase 2 Rampart A (actual evidence shown solid); 2, Dunadd, final phase (hachures mark unusable slopes and outcrops); 3, Dunaverty, showing usable level areas; 4, comparative areas of Argyll duns, standardized as circles: (a) dun of 375 m², (b) actual area-range of sites classed as duns, (c) hatched band shows size range of 76% of all Argyll duns

fewer than 42 names with the element *-bolstathr*, a farm (Alcock & Alcock 1980, 69–73) in addition to the other Scandinavian-derived names, thus justifying Smyth's speculation that 'the Norse colony definitely included Islay' (1984, 150).

When, however, we turn from the islands to the mainland heart of Dal Riata, in Lorn and Mid-Argyll, there is little if any evidence of such Scandinavian settlement. The Lorn *Inventory* of the Royal Commission rightly dismisses supposed Viking graves on Kerrera and at Oban (RCAMS 1975, 22) and no others have been recorded. Apart from a *-bolstathr* name on Luing, there are no settlement names either. It is evident that Norse settlers were effectively repulsed from the heartland of Dal Riata; and it is a reasonable speculation that a major role in the defence was played by the two strongholds of Dunadd and Dunollie. In this they may well have been helped by minor, satellite fortifications in the forms of duns occupied, as we shall shortly see, through the same centuries.

From this historical outline, we now turn to an archaeological comparison of the known strongholds of Dal Riata (Alcock 1981). Of Tairpirt Boittir nothing is known, not even the exact location. Aberte was besieged by Selbach in AD 712. If the identification with Dunaverty, at the southern tip of Kintyre, is accepted, then he was obviously carrying war to the extreme limits of Gabran territory. Nothing of eighth-century date is to be seen at Dunaverty, but the location is an impressive stack. Its overall area is little short of that of Dunollie, as the comparative plans show (illus 6); but the steepness of the ground is such that only two areas are available for occupation: about 200 m² on the summit, and 250 m² on a lower terrace.

Dunadd and Dunollie in their final phases are, however, much closer in area, especially after the steep internal slopes and rock outcrops of Dunadd have been discounted (illus 6). Any estimate of area can only be rather coarse, but at Dunadd the usable area was about 2500 m², while at Dunollie it was about 1850 m², or 74% of the area of Dunadd. This difference does not seem large enough to mark a difference in status: in terms of area alone, it would be difficult to assert that Dunadd was *the* principal stronghold, rather than *a* principal stronghold, whether of Cenel nGabrain or Cenel Loairn. Against this, it might be argued that the complexity of the nuclear plan of Dunadd (Stevenson 1949), if it is not simply a function of the multi-terraced shape of the hill, suggests a greater variety of activities than at Dunollie. In particular, the footprint, bowl (and perhaps the boar) carvings on the terrace immediately below the citadel demonstrate a very special role for Dunadd as an inauguration centre, whether for the whole of Dal Riata, or for Cenel nGabrain alone. On the other hand, it must be pointed out that we know nothing about the internal arrangements of Dunollie: much was no doubt obliterated in the building of the tower house and its courtyard. In short, the evidence does not allow us to assert that Dunollie was inferior and subordinate to Dunadd.

We should in any case remember that there was probably a period in the seventh century when, in structural terms, the two forts were more nearly equivalent in form and status. It has been argued that the fortification of Dunollie 1, prior to Selbach's rebuilding in 714, was a dun: a small circular or oval drystone fort set on top of a formidable natural stack. Recent excavations have suggested that the earliest phase at Dunadd comprised no more than an oval dun on the summit of a craggy hill; and that the nuclear plan was arrived at by accretion over several building phases (Lane 1986). If this was so, then for part of the seventh century Dunadd and Dunollie may have been forts of equal strength and equal status, respectively the strongholds of Cenel nGabrain and Cenel Loairn. In that case, the problem would be to determine what had given the earliest phases of these two fortifications their supremacy over the large number of equally strong duns throughout Dal Riata.

It is to the relationship between the two principal strongholds, and these other fortifications, that we must now turn. In terms of the system of the Royal Commission *Inventories* (RCAMS 1971–1988), these fall into two classes: forts, mostly small; and duns. Excluding examples in the smaller and more remote islands, which may be dated, albeit vaguely, by associated broch-wheelhouse pottery,

the forts seem to belong largely to the Pre-Roman Iron Age. Thus Balloch has radiocarbon dates in the sixth–first centuries BC (Peltenburg 1982); the occupation of Duntroon pre-dates the appearance of rotary querns in the first century AD (Christison 1905); Eilean an Duin has radiocarbon dates in the second half of the first millennium BC (Nieke forthcoming); and the only chronological pointer for the complex Dun Mac Sniachan is a bronze disk with red and yellow enamelling which is perhaps first century AD, or later (MacGregor 1976, cat no 175).

The chronological range of the duns of Argyll is more contentious. Of excavated examples, only Rahoy in Morvern has a clearly prehistoric occupation, dated by a bronze brooch of the third–second centuries BC (RCAMS 1980, 115). All other excavated examples are regarded as foundations of the first century AD or later, on the evidence of associated rotary querns, rare sherds of Samian pottery, or even more rare Roman-period bronzes. Against this obvious chronological interpretation, it has long been held – though rarely debated – that ‘Roman scraps’ found on ‘native’ sites in northern and western Britain need not prove that the site had been founded in the earlier centuries AD if the majority of finds are clearly of the sixth or later centuries. Stevenson appears to argue this about the finds from Buiston crannog (1955, 283). It is set out more firmly in the excavator’s discussion of the history of the small fort of Dinas Powys (Alcock 1963, 22–5; 1987a, 20–3), where the Roman material from a site established towards AD 500 is principally of the first and second centuries AD. Examples of the occurrence of ‘Roman scraps’ on both Anglo-Saxon and Irish settlements of later foundation are also cited there. More recently, Warner has drawn attention to the ‘reliquary’ occurrence of Samian in Ireland, even on sites of the High Middle Ages (Warner 1976; 1981). And returning to Dunollie, we shall see a good example of such ‘reliquary’ use in the presence of a rimsherd from a painted glass bowl of third-century AD date, which cannot possibly date the earliest occupation of the Dunollie stack (below, p 142 and cat no 102).

It must be admitted that these views would, at the least, be qualified by competent scholars of the Roman period, such as Robertson (1970) and Maxwell (1975). On the other hand, Gordon Maxwell himself, in commenting on a draft of this paper, kindly points out that, despite his earlier remarks, Demetrius’s supposed knowledge of the Western Isles should not be taken to extend beyond the awareness of the presence (or absence) of settlement there in the late first century AD. Maxwell’s view would now be that ‘classical literary evidence cannot be adduced either for or against the presence of duns at this period’.

However that may be, and whenever duns were first built in numbers, it is certain that in mainland Argyll a majority of excavated examples was occupied in the centuries either side of AD 700. Unquestionable examples are Kildonan (bronze brooch, Fairhurst 1939; radiocarbon dates, Peltenburg 1982); Kildalloig (Class E pottery, Thomas 1981); Dun Fhinn (glass bead, RCAMS 1971, 83–4); Dùn an Fheurain (bone pins, antler comb, Ritchie 1971); An Caisteal, Leccamore (bone pin, Ritchie 1971); Dun Eilean Rìgh I (iron knife, Brown & Cowie, forthcoming); Ugadale Point (glass beads and finds of Kildonan, Fairhurst 1956); Ardifuir (Samian sherd, stone mould and crucible compared with those from Dunadd (Christison 1905); also rim of E 1 jar, identified by LA); and the first phase of Dunadd (Christison 1905; Craw 1930; Lane 1986). Less certain is the hypothetical dun of Dunollie 1 (this report). As possible examples on the basis of the case argued above, we might include An Dun, Clenamachie, with disused rotary querns built into the wall (RCAMS 1975, 77–8) and Druim an Duin, also with rotary querns (Christison 1905).

From this, admittedly small, population of 13 excavated sites, we may conclude that there is a better than 69% chance that an Argyll dun was occupied in the later first millennium AD, with some probability that a further 23% were also occupied then. It should be added that at Loch Glashan a small crannog is also shown by imported pottery of Class E to be contemporary.

Whatever dispute there may be about their foundation dates, it is thus evident that the majority

of Argyll duns were occupied in the third quarter of the first millennium AD. They therefore necessarily form part of the political, social and economic background to the four historically documented sites of Dunollie, Dunadd, Tairpirt Boittir and Aberte. Given the differences in size and complexity of layout of Dunadd, Dunollie 2 and, probably, Aberte on the one hand, and of the duns on the other, it is reasonable to think that the relationship was one of subordination or dependence. In proportional terms, the notional maximum area of a dun as defined by the Scottish Royal Commission on Ancient Monuments stands in the ratio of 1:5 and 1:7 to Dunollie and Dunadd respectively. In other words, it may reasonably be asserted that the duns formed minor elements in a hierarchical system in which the known major elements consisted of the four documented fortifications.

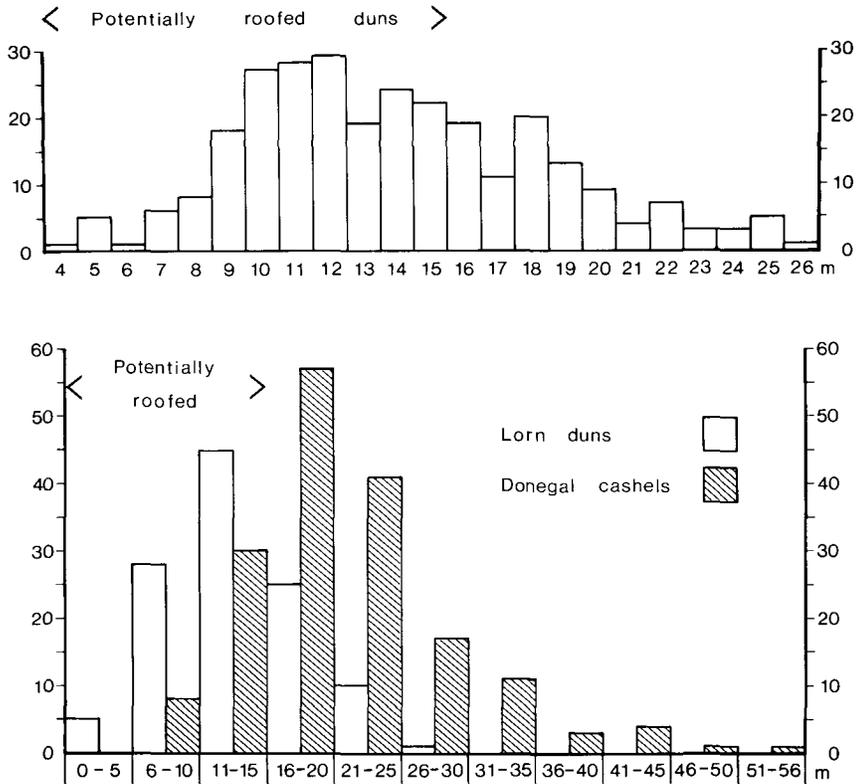
Having established the relevance of duns to a wider consideration of the Argyll fortifications contemporary with Dunollie 1–3, we can now look more closely at the character of the dun itself. The word is, in origin, an Irish word, found regularly for instance in the Annals with the meaning ‘fort’; and it remains a living word in Gaelic with such meanings as fort, or rocky hill which has, or might have had, a fort on it. This broad folk usage has become restricted, at the hands of antiquarians and archaeologists, to a technical usage, as a term of art. Maxwell (1969) has traced this development, up to the evolution of the present-day usage of the Royal Commission, as seen in the first of the Argyll *Inventories* (RCAMS 1971, 16–18).

Close analysis of the usage of the term in the sections on duns in this and subsequent *Inventories* (1975; 1980; 1984) reveals that three different types of criteria are used by the Commission to distinguish duns from other sorts of fort. First, there is an objective, measurable criterion: ‘a dividing line at about 4000 sq ft’, or ‘about 375 sq m’ (Maxwell 1969, 43). Even this simple criterion is not rigidly observed: out of 283 monuments listed as duns and with given measurements in the Argyll *Inventories*, at least 10 have areas greater than 375 m², even up to as much as about 430 m² (illus 6 & 7).

Secondly, there is a social criterion: forts are ‘large enough to have served the needs of small communities, while duns are capable of accommodating only a single family group’. If this correlation of duns with single family groups or households could be sustained, then we would have a most valuable insight into the social archaeology of Dal Riata. As we shall see in more detail later, the household was the basic unit in the assessment of Dal Riata for both military and naval musters. Moreover, the Irish ringfort, which may be considered as equivalent to the dun, is regarded as the farmstead of the free peasant or yeoman farmer, an important element in the Irish social hierarchy: a point to which we must return later.

Thirdly, a wholly subjective criterion appears in places in the *Inventories*. On Islay, for instance, some duns ‘are barely to be distinguished from the smallest forts; . . . only their regularity of plan and disproportionately thick walls provide adequate grounds for identification as duns’ (RCAMS 1984, 24). In other words, a subjective classification in terms of structural characteristics may reinforce, if not actually prevail over, a simple measurable criterion. It seems likely that when all the plans of forts and duns in Argyll, drawn to common standards and a common scale, have been assembled, it will be found that subjective criteria are more useful for classificatory purposes than simple measurements. (This was written in June 1987.)

Meanwhile, we should look more closely at the arithmetical criterion, and the possibility of establishing a social correlation with it. In illus 7, the size range of Argyll duns is plotted in terms of diameter. This measurement is used here, rather than the more appropriate one of the area, simply because it can be derived immediately from the *Inventories*. Certain limitations in the figures must be stressed forthwith. Firstly, some of the Commission’s measurements are only approximate. Secondly, all measurements have been rounded down to the nearest whole number. Thirdly, in the quite common case of oval duns, the diameter is taken as one half of (long axis plus short axis). Given



ILLUS 7 Top, size range of Argyl duns plotted at 1 m increments of diameter; Bottom, size range of duns in Lorn compared with *cashels* in Donegal, plotted at 5 m increments of diameter

the relative crudity of these figures, it follows that they cannot be used for any elaborate statistical calculations. (The size of population of Argyl duns and forts does none the less justify more sophisticated statistical treatment.)

The histograms immediately demonstrate the wide range of size which the term dun encompasses: in terms of internal area, from 375 m² down to 20 m², a factor of almost 19. The arithmetical mean diameter is 14 m, and 70% of all duns have diameters which fall between 10 m and 18 m. The corresponding area range is from about 78 m² to 255 m², a three-fold difference. Given this range of internal area, it is a reasonable inference that correspondingly large differences in affluence and social status are concealed under the blanket definition of the dun as 'accommodating only a single family group'.

Another response to the size range within the category of duns, and one with obvious social implications, has been expressed by Harding (1984). He suggests that any dun of 50 ft (approx 15 m) or less in diameter could have been roofed, thus making a compact integrated dwelling house for a family. This he calls a dun house, as distinct from the larger dun-enclosure. To the strictly circular dun houses which he illustrates, we might add the possibility that an oval dun measuring 15 m on its short axis might have been covered by a hipped ridge roof rather than by a conical one. On this basis, we can say that not less than 66% of Argyl duns could have been roofed as family dwellings. Again, we must

recall the varied commodiousness of such houses, from 20 m² at the bottom end to no less than 177 m² at the upper end.

At this point, given the character of Dal Riata as an Irish colony in Argyll, it is instructive to make some comparisons with social arrangements in Ireland, and with the archaeological remains which appear to correlate with those social arrangements. In doing this, we should bear in mind Ó Corráin's caution that in surveying a 'conquest society . . . one could expect the institutions of the homeland . . . to have undergone divergent development' (1980, 179). Despite this, we may note Warner's insistence (1981) that the ringfort, whether of earth (*rath*) or stone (*cashel*), is predominantly a creation of the later first millennium AD, and therefore broadly contemporary both with Dunollie 1-3 and also with a major occupation phase of Argyll duns; and that ringforts were 'the defended farms of middle rank farmers' (1979, 45). Ó Corráin likewise sees the generality of ringforts as the farm at the centre of the landholding of a *bo-aire*: a free, but non-noble, peasant farmer, bound to a superior lord by ties of clientship, but with a substantial holding of land and cattle.

The subclass of ringfort which is most comparable with the Argyll duns is the stone built *cashel* or *caher*: a circular (only rarely oval) drystone wall, normally less than 3.0 m wide, with none of the refinements, such as intra-mural cells or elaborate door arrangements, which are common in duns. No comprehensive account of the *cashels* of Irish Dal Riata is available at present; but a complete survey of those in neighbouring Co Donegal has recently been published (Lacy 1983). It is immediately apparent (illus 7) that as a group, *cashels* are larger than duns in diameter, and *a fortiori* in area. In structural terms, it is improbable that many *cashels* can have been completely roofed over, whereas we have seen that a majority of duns could certainly have been roofed as a single building. This has obvious implications for the intra-site organization of activities. Indeed, Proudfoot long ago drew attention to the 'bewildering variety of structures . . . dwelling-houses, store places and general purpose farm buildings' within ringforts (1961, 101). Furthermore, though the area of the *cashel* was larger, the volume of stone in its wall, and the consequent effort required to build it, was unlikely to be greater than that of a dun-wall. In fact, greater skill was required to build most duns, and the result was certainly more formidably defensive than were the *cashels*. All this may point to differences between a 'conquest society' and that of its homeland. However that may be, the larger size of the majority of *cashels* (and indeed all classes of ringfort) must lead us to doubt whether an upper limit of 375 m² or 22 m diameter, has any validity in distinguishing between fortifications large enough to serve a community and those capable of accommodating only a single household.

To return to the dun: we have so far considered this to be a structure complete in itself as the archaeological manifestation of a social unit. We must now take account of the fact that almost a third (29%) of all duns have accompanying outworks. Such outworks vary in the area which they enclose, as well as in the strength, coherence, and degree of preservation of the enclosing work itself. There is no certainty that they are contemporary with the dun, rather than earlier or later. However that may be, the occurrence of outworks normally indicates the existence of a more or less level tract of ground, immediately adjacent to, and subordinate to, the dun: ground which might have served for the dwellings of subordinates, as well as for extramural activities. In any final reckoning of the relative status of individual duns, outworks must clearly be taken into account. This becomes the more obvious when we recall that, had the tower house not been built, Dunollie 2 would have been classed as a dun with outworks; so might one or more stages in the development of Dunadd; while conversely, there are duns with outworks, such as A' Chrannag, Mid-Argyll (RCAMS 1988), which could be passed off as rather feeble nuclear forts. It would seem that duns and their associated works need considerably more analysis, especially through mathematical approaches, before we can rank them in terms of implied social status.

At this point, it is useful to ask what evidence written documents provide for the social order of

Dal Riata. It seems reasonable to equate the kindred groups of Dal Riata with the Irish *túath* or tribe, under the rule of a *rí* or king. A king who could assert control over the three kindreds, as perhaps Aedan son of Gabran or Selbach son of Ferchar Fota had done, would be the equivalent of the Irish *ruiri* or overking of several tribes. For such overkings, Dunadd and Dunollie 2 would have been suitable strongholds.

Significantly lower in the social order was the household of the free farmer: the class which in Ireland, as we have seen, has been associated with the generality of ringforts, whether earthen raths or stone cashels. But between the king and the free farmer in Ireland stood a class of nobles, to whom the free farmer stood in a relationship of clientage, and who were themselves clients of the king or *rí*. These, indeed, are the men who appear as *comites* in the sea battle between Cenel Loairn and Cenel nGabrain in AD 719. There were, it appears, nine septs among the kindred of Lorn, each of them in effect a noble family (Ó Corráin 1980, 175–6) requiring one or more strongholds appropriate to that status. Should we look for the archaeological manifestation of the nobles among duns too large to be roofed as a single house, among duns with significant outworks, or among small forts, supposing that any of the latter could be shown to be later than the Scottish settlement of Dal Riata?

If the strongholds of the noble class could be identified, they might represent one tier in a system of royal progresses or circuits in Dal Riata. Such circuits, among a hierarchy of defended centres and royal townships, are well documented in historical sources among the Northumbria Angles, and by implication among the Britons too (Austin 1986; Alcock 1987a, 112; Charles-Edwards forthcoming). One of their purposes was to carry out the ritual and ceremonial functions of kingship; but a more important purpose was economic, that the king, court and warband should consume the renders (ie taxes) of food and drink which had been gathered at the centre in anticipation of the circuit.

In Dal Riata, and likewise in Pictland, there is no comparable documentary evidence, and the institution of the circuit may therefore be thought to be in doubt. Charles-Edwards has indeed claimed that in Ireland a king's right to hospitality was more significant than the receipt of food-renders; and that 'there is no evidence of a network of local royal centres to which food-renders were delivered'. He appears, moreover, to imply that this was also true of the Scotie colony of Argyll; and specifically, that Dal Riata lacked a system of royal centres comparable with those of Northumbria. The archaeological evidence from Dunadd and Dunollie, however, surely contradicts this interpretation. The erection of substantial defences, the smithing of weapons, the creation of high quality jewellery, and the importation of wine and other luxuries all demonstrate the collection, at such royal centres, of the surpluses of the basic mixed farming economy (Alcock 1987b). These surpluses would necessarily derive from renders of food and drink over and above what the king and his followers could consume at any one centre in the course of a progress.

More must now be said about the importance of correctly identifying the archaeological correlate of the single family or household. Its significance derives from the fact that the administrative survey of Dal Riata, the *Senchus Fer n Alban* (text and translation, Bannerman 1974; further commentary, Anderson 1973/1980) uses as its basic administrative unit the *tech*: and the *tech* is reasonably regarded as the household of a free farmer, and the land which he farms. This unit is used to calculate, for each of the three kindred groups, both the expeditionary strength of a land army, and the sea muster in terms of two seven-benched (ie 14-oared) vessels to be provided by every 20 houses.

As we have it today, the *Senchus* is a 10th-century document, which has demonstrably acquired various accretions, and in which the figures for the number of households in each kindred have become distorted. It is none the less agreed that the original was a compilation of the mid seventh century. It is plainly of interest to compare the number of duns in any part of Argyll with the number of households. It should be said at once that this exercise has already been carried out for Islay, the

clearly defined territory of Cenel nOengusa; and it has been demonstrated that the houses greatly outnumber the duns identified in the Royal Commission's survey (Nieke 1983).

In our examination of the background to Dunollie 1–3, it is none the less worth exploring the possible correlation, setting out as clearly as possible the assumptions which underlie the exercise. For the sea expedition, the *Senchus* attributes 420 houses to Lorn; but M O Anderson has inferred an earlier assessment at no more than 225 houses (1973/1980, 160). This of course is the Lorn of the mid seventh century, before the possible acquisition of Dunadd and mid-Argyll after AD 700. While it is difficult to know which parts of mainland Argyll, and which of the islands, should be included in the territory of the Lorn kindred, if we take the traditional lordship of Lorn and its islands, plus Mull, Ardnamurchan, Morvern, and outlying islands, some 114 duns are recorded by the Commission (RCAMS 1975; 1980; 1984). On the basis of the evidence deployed above for the percentage of excavated duns which may certainly or probably be regarded as contemporary with Dunollie 1–3, 92% of these, or 105, may be regarded as candidates for the archaeological remains of the houses of the *Senchus*. The duns, then, represent a mere 25% of the number of houses; or 47% of Anderson's inferred original assessment. If the reasoning already set out were correct, this would imply wastage rates respectively of 75% or 53%. Barrett has indeed quoted destruction rates as high as 44% or even 66% for ringforts in parts of Counties Kerry and Cork (1980, 50); but 75%, or even 53% may appear unacceptable for the destruction of such solid monuments as duns. In that case, the equation of the dun with the *tech* of the *Senchus* may be false. Even if we regard the figures of the *Senchus* as highly idealized, the discrepancy seems too large to be readily explained away.

If progress is to be made in establishing the social status and administrative function of duns in Argyll, and their relationship with the large, probably royal, strongholds of Dunadd and Dunollie, then we need a better basis for estimating the survival:destruction ratio of forts and duns; and thence the probable number of such monuments in being in the later first millennium AD.

Secondly, we need a more subtle way of determining, archaeologically, a single household than that which is provided by such arbitrary criteria as 375 m² internal area, or 15 m maximum diameter for a dun house; and within the class of monuments which we might then define as suitable for a single household, we need a basis for estimating the wealth or social status of any particular household. It may indeed become easier to make distinctions of this kind when the whole range of fort- and dun-plans in Argyll has been analysed. For the present, however, we cannot see in the plans of duns, as currently defined, the archaeological realization of the social and administrative organization of Dal Riata as it is set out in the *Senchus*. Nor can we read the origins of the kingdom of Dal Riata in the archaeological development of Dunadd and Dunollie.

From these pessimistic conclusions, we may now turn to the more fruitful field of the economy and material culture of Dunollie in the Early Historic period, as represented in the archaeological remains.

THE ECONOMY AND MATERIAL CULTURE OF DUNOLLIE 1–3

Despite the very limited extent of the excavations in 1978, a remarkably wide range of artefacts was recovered. This immediately inspires an attempt to write a synoptic account of the basic economy of Dunollie 1–3 and of the material culture which it made possible. At the outset of such an attempt it should be stressed that a mere 2% of the summit of the Dunollie stack has been explored, and that no external middens, often so rich in evidence, have been located. The general conclusions set out below are necessarily true for the areas excavated in cuttings 101–201 and 301, but it is uncertain how far they may be extrapolated. A more widely excavated fortification, such as Dinas Powys 4, reveals a very considerable variability between the activities carried out in various sectors of the interior: a variability so great, indeed, as to make extrapolation from the excavated to the unexcavated areas

quite impossible (Alcock 1987a, 17–19; 81–2). With these limitations in mind, it is none the less worth assaying a general account of one of the four richest assemblages from Early Historic Dal Riata. (The others are Dunadd (Christison 1905; Craw 1930; Lane 1984), Dùn an Fheurain (Ritchie 1971) and Loch Glashan (RCAMS 1988).)

To begin with the evidence for primary production: it may be expected that this would have been mixed farming, with the proportions of the mix between stock-raising and crop-growing determined by the opportunities and constraints of the local environment. An attempt must therefore be made to establish those opportunities and constraints. A start is provided by the recently published maps of land capability for agriculture. On the basis of the map for western Scotland, the better land available in Lorn is plotted in *illus 2*. In this area, better land is regarded as 'suitable for enterprises based primarily on grassland with short arable breaks (eg barley, oats, forage crops)'. All other land on the map is regarded as 'suited only to improved grassland and rough grazing'. No land in Lorn is considered 'capable of producing a moderate range of crops', let alone a 'wide range of crops' (Bibby *et al* 1982).

The map (*illus 2*) reveals several areas of better land, a particularly interesting one being that along the Add valley and to the south of Kilmartin, for this is likely to have formed the mesne land of Dunadd itself. It has been shown that the Pictish strongholds of Craig Phadraig, Dundurn, Dunkeld, and Urquhart likewise have tracts of better land, even more extensive than that at Dunadd, in their immediate vicinity. On the west coast, this is also true of the monasteries of Iona and Applecross (Alcock 1987c).

It is even more obvious, however, that in the terms of the land capability map, there is very little arable land in the hinterland of Dunollie; primary production must be largely in the form of stock-raising; and in earlier times, we should be thinking in terms of the classic model of the 'footloose Celtic cowboy'.

Such conclusions are, however, impossible to reconcile with the evidence that, up to the time of agricultural improvement and clearance in the later 18th and 19th centuries AD, arable farming was widely practised in western Scotland on land which is classified today as 'suitable only for improved grassland and rough grazing'. Such evidence, especially that of abandoned farming townships and their associated ridge-and-furrow fields, has never been mapped widely, systematically and in detail, but its occurrence is well-known to fieldworkers. The discrepancy between such evidence, and the land capability classification, is readily explained by the fact that the latter is based on modern, mechanized farming methods. In an area where much of the terrain consists of bare rock and bog or swamp, there are none the less small parcels worth exploiting by horse- or ox-drawn plough, or even foot-plough (*cas chrom*) which are quite inaccessible to combine harvesters.

This is not to say that such parcels may be identified today, except where abandoned cultivation rigs can be identified. None the less, it is a reasonable supposition that, in the hinterland of Dunollie, pockets of arable farming are likely to have existed at least up to 200 m OD. On our map, therefore, the zone between the sea and this contour marks an area of arable potential beyond that of the land capability for agricultural maps. The higher contour, at 600 m OD, suggests an upper limit for the summer grazing of unimproved sheep and small agile cattle.

While it is possible to present a case for the cereal-growing potential of Lorn, it must be made clear that there is no actual evidence for this in Dunollie 1–3. Such evidence, in the form of actual grains of oats and barley, has been published from the contemporary sites of Dundurn (Alcock & Driscoll 1985) and Brough of Birsay (Donaldson *in* Hunter 1986) and is reported also from Dunadd. Nor can Dunollie 1–3 provide evidence of milling. Although four querns were found, of a type which in the western Highlands and Islands goes back to the first century AD, not one was in a stratified context. Once again the reminder is necessary that only 2% of Dunollie has been excavated.

There is, however, good evidence for animal husbandry at Dunollie, thanks to a study of 307 stratified bones and fragments by Angela Jones and the late G W I Hodgson (appendix A, fiche 2:F5). These bones were collected in the course of normal digging, without the benefit of wet-sieving or flotation, from DH 117 Sub-slab burning, the charcoal layer from the hearth underlying Rampart A; and from DH 112 Bone Layer, which formed over the ruined top of that rampart before the abandoned site became grassed over. Although the radiocarbon age estimates from these two sets of bones are two centuries or so apart, the bones represent a single continuous occupation. Given the small numbers involved, they are therefore regarded here as a unit. An analysis by layers will be found in appendix A.

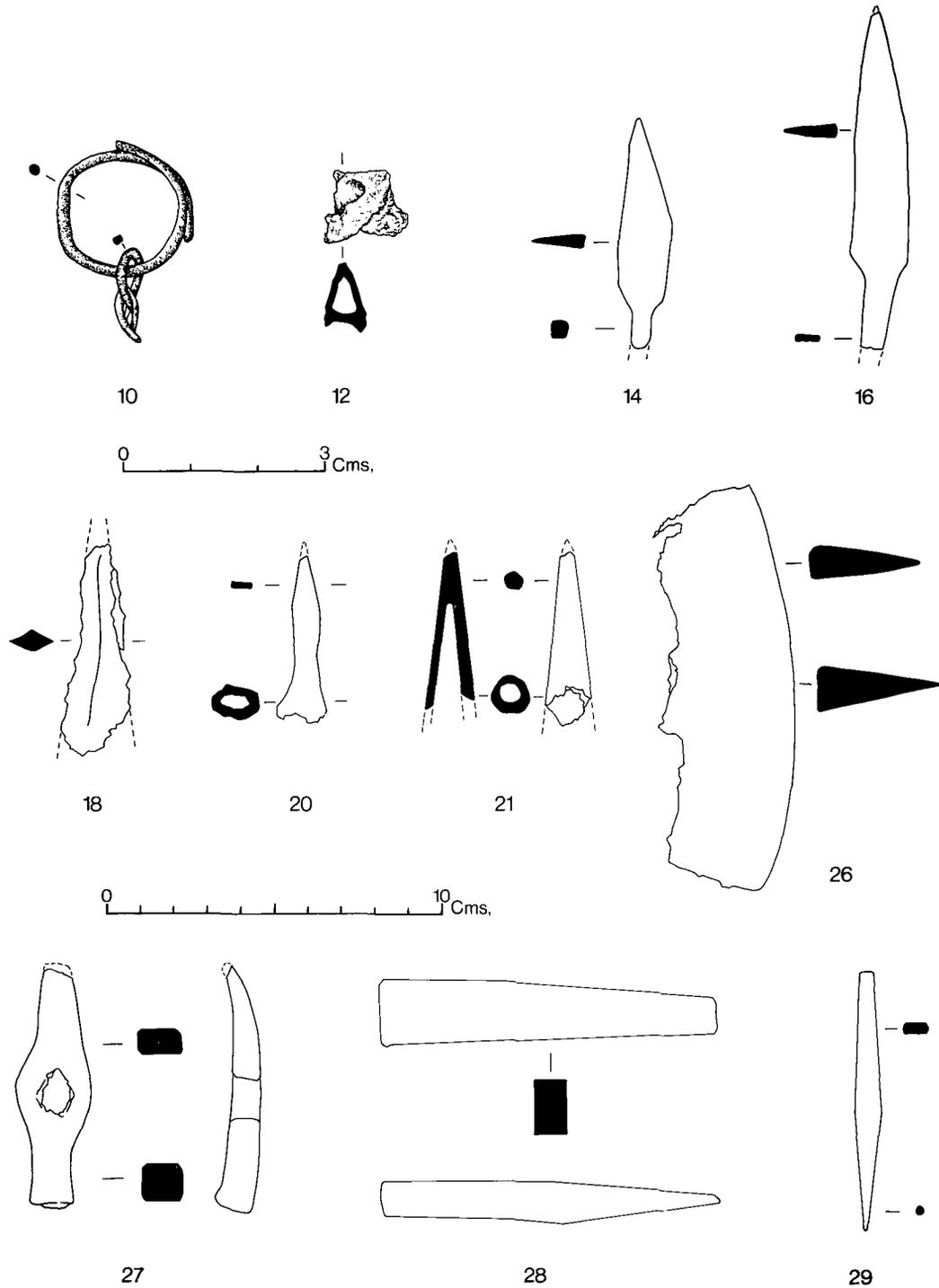
The animal remains are overwhelmingly those of unimproved domestic stock, which had been butchered on the site itself. The bones had been heavily split, presumably in order to extract the marrow. The relative percentages of identifiable fragments were: cattle 64%, followed by pig 19%, then sheep/goat 17%. Fish, probably of a marine species, was represented by 3 bones, and horse by 2 only. Red deer was represented only by antlers, and there was no evidence for other game or fowl, nor even for dogs and cats. These absences may simply reflect the small size of the total sample.

It was not possible to determine the sex of these animals, in order to establish, for instance, the ratio of cows to bulls and oxen. Nor was it easy to estimate the age of slaughter because most of the teeth were loose and the long bones eroded. Consequently, Dunollie does not show a clear peak for killing young male cattle between 13 and 24 months, nor the survival of cows to a mature age: both features which have led McCormick to claim (1983) that a major purpose in cattle-raising in Ireland was the production of milk, butter and cheese. Such a regime is not indeed ruled out at Dunollie, where the age of slaughter of cattle ranges from a mature animal of four–five years, perhaps a milking cow; through a young adult, 30–36 months old and several juveniles, all of which would have yielded meat; to a calf or late embryo, which may have been slaughtered to make vellum or fine-quality leather.

As for the sheep (or goats), they were predominantly slaughtered at less than 18 months, with only one being recognizably between 18 and 36 months. This suggests that they were being killed for meat, and certainly not kept for their wool. Some of the pigs were adult, but still less than three years of age. There seems to be no evidence, however, for the killing of very young pigs, a practice which has been commonly observed and which is of course encouraged by the high breeding rate of pigs. Given the practice of feeding pigs on oak mast, it is perhaps significant that 66% of the identified charcoal from DH 117 was oak.

Taking account both of the high percentage of cattle and of the greater carcass weight of cattle compared with sheep and pig, it is evident that beef was the main meat component in the diet of Dunollie 1–3, with lamb or mutton and pork providing only an occasional meal. There would also have been an unquantifiable element of milk, butter, cheese and other dairy products. But we should not see cattle simply as providing food. Documentary evidence from contemporary Ireland makes it abundantly clear that cattle were important status-markers, and important too in establishing and maintaining relationships between lords and clients (Gerriets 1983). There is no reason to suppose that such socio-economic practices were abandoned by the Scoti when they settled in Dal Riata.

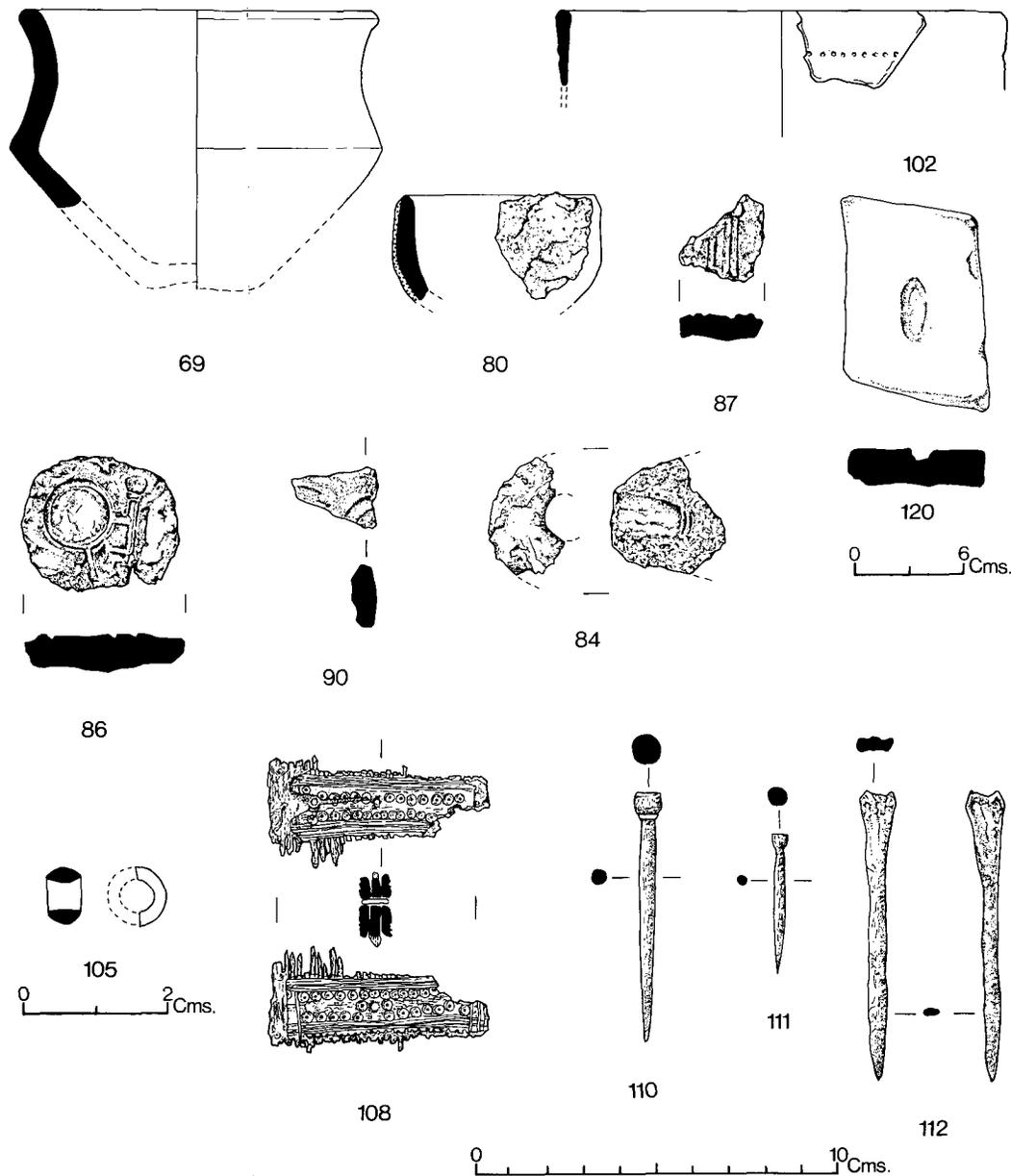
Finally, we should notice again the scarcity of fish bones, and the absence of bones of game and fowl from the sample excavated at Dunollie in 1978. That some fish bones were recovered makes it evident that this lack is not simply a function of defective excavation and recovery techniques. If we assume that such resources, and shellfish as well, would not have been left unexploited, then we must explain the lack of evidence from cuttings 101–201 and 301 by reference to the points with which this section began: that only 2% of the Dunollie summit has been explored; and that the degree of internal variability known from more completely explored sites implies that the 2% is quite unlikely to be fully



ILLUS 8 Principal metal finds assigned to Dunollie phases 1-3: 10, gold; 12, copper alloy; remainder iron. (Numbers refer to the full catalogue)

representative of the site as a whole. Much remains to be discovered about the basic economy of Dunollie 1-3.

It is clear none the less that there was a sufficient surplus to sustain the fort-building activity of Selbach, and no doubt the other military activities appropriate to kingship, including the maintenance of a war band and of skilled craftsmen as well. To the evidence for these we now turn (illus 8-9).



ILLUS 9 Principal finds assigned to Dunollie phases 1-3: 69, pottery; 80, 84, 86, 87, 90, crucible, tuyère, and moulds; 102, 105, glass; 108, 110-12, antler and bone; 120, stone. (Numbers refer to the full catalogue)

The craft best represented in Dunollie 1–3 was that of the blacksmith. Layers attributable to these phases yielded a badly corroded spearhead with a heavy midrib (cat no *18*), a small socketed arrowhead (cat no *20*), and four socketed and pointed objects which are interpreted as arrowtips (cat nos *21–24*). Such objects have been identified in the past as ferrules for spear butts, but a diameter of only 10 mm makes this seem highly unlikely. Even though they would not add much to the weight of an arrow, they would undoubtedly increase its penetrating power. Both the spearhead and the arrowtips are, of course, as likely to have been used in the chase as in warfare.

Three tanged knives with heavy backs (cat nos *14–16*) belong on typological grounds to the eighth or ninth to 10th centuries, even though they come from layers later than Dunollie 4. Several iron tools are, however, well stratified, namely a T-shaped woodman's axe (cat no *26*), a chisel (cat no *28*), an awl (cat no *29*), and a hammerhead (cat no *27*). This last is so small that it seems possible that it was not a carpenter's tool, but rather a bronzesmith's. Finally, the deposits of Dunollie 1–3 are rich in iron loops, strips and rods of indeterminate purpose. Iron nails, however, appear only after Dunollie 4.

Despite the quantity of iron objects, principally from cutting 101, there is no evidence for the smelting of iron in that part of the site, nor is there any for smithing, unless the hearth or oven, feature 118, was indeed a smelting furnace or forging hearth. But given the occurrence of crucibles (cat no *80*), a tuyère (cat no *84*), and abundant mould fragments from the hearth area, it is far more probable that it was connected with bronzeworking than with blacksmithing.

Despite this, with the exception of a bronze clamp to hold a binding on the rim of a wood or leather cup or similar vessel (cat no *12*), our knowledge of the bronzesmith's craft in Dunollie 1–3 is derived from broken moulds, not from the finished products. Predominantly, the moulds were for casting stick pins, often a batch of several in the same mould (cat nos *88, 89*). In one case (cat no *87*), the pinhead was globular.

One mould which, although stratified in a post-Dunollie 4 layer, certainly belongs to the same group, was intended for casting a nail-headed pin and also a finger-ring (cat no *86*). Another mould from Dunollie 1 has a curved groove, possibly for casting the hoop of a penannular brooch (cat no *90*). Parallels for these moulds can be found at the contemporary sites of Dunadd and Brough of Birsay (Curle 1982).

The moulds from Dunollie 1–3 have been attributed to bronzeworking, and this does seem most likely in the case of the simple pins. It must be recognized, however, that there is no direct evidence from bronze slags or other bronze residues to confirm the attribution. In the case of the moulds for casting elaborate penannular brooches found at Brough of Birsay, it is probable that the intended metal was silver, but there is no evidence for this at Dunollie. On the other hand, an elongated hollow carved in a slab of sandstone (cat no *120*) was very probably intended for casting silver ingots.

The only precious metal actually present was a curiously crude ring and two links of chain made from gold wire (cat no *10*). This came from cutting 101, layer 113, where it is likely to have been deposited before the building of Rampart B in Dunollie 4.

A normal accompaniment of trinket and jewellery-making on contemporary sites was scrap glass or cullet. Sherds of Teutonic glass, whether Anglo-Saxon or Continental, have long been known from such sites as Tintagel in Cornwall, Dinas Powys in Glamorgan and Mote of Mark in Kirkcudbrightshire (Harden 1956, 149–51), and they have also been recorded in western Scotland from Dunadd and Castle Rock Dumbarton (Alcock 1976). It is believed that the cullet had been imported in order to make glass beads and bangles, and especially enamel (ie glass-paste) inlays for penannular brooches and other high quality metalwork. Only one minute sherd of probably Teutonic glass (cat no *103*) has been recovered from Dunollie, and that from a post-4 level, 204. More may await discovery in the unexcavated 98% of the site.

A small annular bead of opaque cobalt blue glass (cat no 105) may also be assigned on typological grounds to Dunollie 1–3, despite its unclear stratification (cutting 101, 108); it has good parallels on both forts and crannogs of the later first millennium AD in Ireland. Altogether more remarkable is a rim from a glass bowl (cat no 102). This is from a characteristic bowl of Roman manufacture, decorated with scenes from the arena. Made in the third century AD, such bowls are found, for instance, in princely graves far beyond the Imperial frontiers. It seems likely that they had been deliberately obtained by barbarian chieftains as part of a long-range exchange system with the Empire. In the present case, the bowl had probably been imported to northern Ireland, along with Roman silverware, in the later third or fourth century. It had eventually become a treasured heirloom, symbol of the continued reverence for *romanitas*; and as such it came to Scottish Dal Riata, and so to Dunollie, in the possession of some immigrant noble family. Unfortunately, it was found at a high level in the ditch in cutting 101.

Returning to local products: another craft well represented in Dunollie 1–3 was that of bone and antler working. The most attractive product was a double-sided composite comb of antler, with incised dot and circle ornament, which was found in cutting 101 on the bedrock beneath the hearth 118 (cat no 108). A second undecorated fragment (cat no 109) occurred in the body of Rampart A. Two complete bone pins had respectively a ball-head and a nail-head (cat nos 110, 111). A third complete example was made from a pig fibula (cat no 112). These compare closely with pins from sites such as Buiston crannog (Munro 1882), Dunadd, Broch of Burrian (MacGregor 1974), and Brough of Birsay, though on all these sites the shafts are normally more strongly hipped than those at Dunollie.

The nail-headed pin from Dunollie fits snugly into the mould for a bronze nail-headed pin (cat no 86), and a similar use of bone models to form the moulds has also been noticed at Dunadd and at Brough of Birsay. The complete bone models allow us to say that the fragmentary moulds were intended for casting metal pins about 40 mm long. Given the frequency of multiple pin moulds, it is evident that short simple-headed pins were being produced in some numbers. This in turn suggests a definite need for matching sets of small pins, perhaps to fasten the front or the slit sleeves of a woollen dress.

There is no evidence at Dunollie for comb- or pin-making on the site, such as the occurrence of tooth blanks for combs. Once again, we must stress that this was probably a result of the very small scale of the excavation. Certainly fragments of sawn and cut antler tines were recovered, and animal bones were plentiful, so the raw materials were to hand. The absence of red deer bones may suggest that the antlers had been shed, not cut from a carcass.

In addition to the fine bone and antler work, there were also several crude bone points and a bone gouge from Dunollie 1–3, as well as an antler tine handle.

One domestic craft which is not unambiguously represented in Dunollie 1–3 is that of the potter. A rim and a base sherd of very crudely fashioned pottery were indeed found in the uppermost fill of the ditch in cutting 101 (cat nos 78, 79). It is difficult at first sight to believe that anything so crude could have been made in late or post-medieval times, as the stratification might lead us to believe. On the other hand, it was considered possible that these sherds come into the class of very rough post-medieval pottery known as crogons, which are best known from the Western Isles (Holleyman 1947; Cheape 1986); but H Cheape kindly informs me that their fabric does not support this interpretation.

Certainly there is nothing of similar form or fabric from the layers attributed to Dunollie 1–3. This is consistent with the apparent scarcity of domestic pottery on contemporary sites in mainland Argyll, though it must be admitted that early records of coarse, badly-fired pottery from such sites deserve re-examination in the light of modern knowledge. It is also consistent with the absence of domestic pottery in the homeland of the Scotie settlers. The deficiency would no doubt have been

made good with wooden vessels. It is therefore relevant to note that at the contemporary crannog in Loch Glashan, several bowls, a bucket, a trough, a scoop and a spoon were among the wooden objects which had been preserved by the water-logged environment.

It might also have been expected that leather vessels would have helped to make good the lack of domestic pottery. Given the number of cattle, leather would certainly have been readily available at Dunollie. In fact, however, leather vessels have scarcely been recorded from contemporary waterlogged sites in Scotland and Ireland. The commonest use of leather appears to have been for making shoes.

On a very modest scale the need for pottery in high status households of the seventh and eighth centuries was met by the importation of vessels from some continental source, probably in western or northern Gaul. The pottery in question, imported post-Roman Class E, is a robust kitchen- and table-ware, hard fired, heavily gritted and rough to touch, which was used for jars or cooking-pots, small beakers, open bowls, jugs, and lids (Thomas 1981). Substantial fragments of a beaker came from Dunollie 3 (cat no 69) and there are other sherds from layers of Dunollie 1. Altogether, fragments of four separate vessels have been recovered from the small area excavated in 1978. This figure may be compared with that of at least five vessels from Loch Glashan, and a minimum number of 25 from the extensive excavations at Dunadd (Duncan 1982).

Class E pottery is found very widely on sites in both western Britain and Ireland, and its chronology, centred on the seventh and eighth centuries AD, is well established on the basis of site associations and radiocarbon dates. Despite this, neither the routes nor the mechanisms of its importation are well understood, nor has its continental source been established. Its Irish Sea distribution suggests a port of origin no further north than the mouth of the Loire, but the continental evidence for this is still lacking. It has also been suggested that its occurrence around the Irish Sea was merely incidental to the importation of wine in cask from western Gaul, especially the Bordeaux region; and that beakers like that from Dunollie had held rare commodities such as Mediterranean dyes, spices or unguents (Campbell 1985). Given the number of vessels indicated by the large-scale excavations at Dunadd, even the idea that it was imported as table-ware cannot be ruled out, though it can never have formed the major component of a cargo.

Whatever the place of origin of Class E pottery, contacts between western Britain, including Dal Riata, and the Bordeaux region of Gaul, can indeed be inferred from the occurrence of pottery of the post-Roman imported Class D at Dunadd and Mote of Mark (Thomas 1981); though not, as yet, at Dunollie. This pottery, a fine grey ware used to make open bowls, mortaria, and goblets, belongs to the Atlantic group of Palaeochristian grey stamped wares: a group which has a distribution centred on Bordeaux (Rigoir *et al* 1973). The number of examples of Class D found on British sites is so small that its introduction must be seen as incidental to the importation of some other product; and the most likely candidate for that is wine in cask.

Further evidence for contacts between Dal Riata and Gaul is provided by one of Adomnàn's accounts of Columba's powers of prophecy (Anderson & Anderson 1961, 262–5), in which the correctness of the prophecy is provided by 'Gallic sailors coming from the provinces of Gaul', to a *caput regionis* where they were met by Columba and a lay companion. Adomnàn does not identify the 'chief place of the region' by name and it is possible that this had not been handed down in the traditions of Iona. It has been suggested that it was probably Dunadd (Anderson & Anderson 1961, 264 n 1). There is, however, no proof that either Dunadd or Dunollie were fortified strongholds or political centres in the time of Columba, the later sixth century AD. By the time that Adomnàn was writing, in the later seventh century, Dunollie, with its superior harbour, is more likely to have been a *port for the Gaulish trade than Dunadd: but we have no means of knowing whether the former, rather than the latter, was the caput that he had in mind.*

It is one thing to show that Dal Riata and its political centres of Dunadd and Dunollie were in trading contact with Gaul: it is quite another to say what was exported in exchange for wine, pottery, cullet, dyes and other precious commodities. It is certain that the exports must have been natural products: hides; perhaps slaves; and possibly readily portable luxury items such as white furs, crystal and other semi-precious stones.

We see then, that on the basis of the finds from the 1978 excavations, supplemented by a little documentary evidence, and rather more speculation, it is possible to describe the economy, crafts and material culture of Dunollie from the later seventh through the ninth centuries AD. In conclusion, however, it must be stressed yet again that the evidence comes from a mere 2% of the site. The basic account given here cannot be falsified; but it would certainly be modified and enriched by further excavations.

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