

The chronological and spatial distribution of Bronze Age metal finds in Finland

The aim of this article is to present a concise and graphic review of Finland's Bronze Age metal finds divided by period and geographic province. Although the number of Bronze Age metal artefacts is considerably smaller than in the neighbouring Nordic countries, it is already large enough to warrant a statistical review of this kind. In a recent thorough study Unto Salo has developed this line of inquiry considerably (Salo 1981, 383–385), but his statistical analysis is limited to stray finds and hoards. The figures cited by him are thus so small that they require further support and clarification, even though this may not bring about any necessarily new results.

According to my calculations, 140 Bronze Age metal artefacts and fragments have been found so far in Finland. Of these, 125 can be dated to an accuracy of one or two periods. These figures do not include the neck-rings from Panelia in Kiukainen (Meinander 1954, find 44), a spearhead of eastern origin found in Perniö (Meinander 1954, find 19) nor certain iron artefacts from the province of Satakunta (Salo 1970, 59–60, 65, 98–99; 1981, 267, 276), as these are probably all of Pre-Roman Iron Age date (Hackman 1913, 281; Meinander 1954, 18, 53; 1969, 32–33; cf. Stenberger 1979, 280). For practical reasons, Bronze Age material found in the ceded regions of Karelia prior to 1939 has been omitted (see Meinander 1954, finds 94–97).

Tabulation is a normal way of presenting series of figures in Finnish archaeological literature. This is suitable for storing information but not for presenting it visually and, for this reason, tables usually require the support of histograms. In the following, I shall use a very simple method that combines the advantages of both methods (see Tukey 1977, 7, exhibit 1 A). It retains numerical information without transformations while presenting it graphically. It is also easier to carry out than the drawing of diagrams. For purely practical reasons, however, it is best suited only to materials of reasonable size.

The spatial division of finds by province will be examined first (App. 1a). The Åland Islands and the coastal provinces (Uusimaa, Finland-Proprietary, Satakunta and Ostrobothnia) are given as separate units but the area of the so-called eastern or inland Bronze Age (Häme and areas of Eastern and Northern Finland) is combined under the heading »Rest of Finland». The reason for this is that Bronze Age research is only beginning in these areas when compared with the coastal region. It must also be noted that the numerous finds of cast moulds from this region cannot be directly compared statistically with metal artefacts found in the coastal area. Each »X» represents a metal artefact.

The majority of metal artefacts are, of course, from Satakunta and Finland Proprietary, long regarded as the central areas of the coastal Bronze Age culture, and the distribution does not provide any new or surprising information in this respect. On the other hand, the distribution of Bronze Age metal artefacts by period has not been investigated statistically in earlier studies (App. 1b). The main emphasis is clearly on periods V and VI, but also periods II and III are well represented. Although an

artefact of possibly period I in Finland has been recently found (Siiriäinen, 1984), it is obvious that the supply and use of the metal became common only during and after period II. The fact that this find is from the inland does, however, suggest that at least some period I artefacts are also to be expected from the coastal regions. The most interesting feature of the distribution is, however, the small number of period IV finds.

The above spatial and chronological distribution is, of course, a summation of the whole Bronze Age, a static overall image of a situation that was probably dynamic in many respects. In order to clarify regional chronological development, the numbers of finds by province and period will be examined next (App. 2).

Early Bronze Age finds dominate in Finland-Proper and Uusimaa, while Late Bronze Age finds are concentrated in Satakunta, the Åland Islands and Ostrobothnia as well as in the inland regions and North Finland, a feature stressed also by Salo. The »scarcity» of period IV material is clearly evident in all areas except Satakunta, where this period seems to mark the beginning of a material boom lasting until the end of the Bronze Age. The distributions seem to indicate that the central areas of the Early Bronze Age were Finland-Proper and to some extent also Uusimaa and that by the beginning of the Late Bronze Age the main concentration of the distribution shifted to the north. Satakunta was a definite centre at that stage, but also Ostrobothnia, the inland regions and North Finland received a larger share of bronze artefacts, while the southern provinces except the Åland Islands experienced a certain decline in this respect. Thus, period IV seems to have been a time of definite and marked changes. (The smallcase »x's» in some of the distributions indicate »half artefacts»: finds dated to two periods are divided between these. If there is an uneven number, there will be »half-finds». These rows of symbols could have been evened off, but for the sake of accuracy they have been given as such.)

The above results must not, however, be taken at the face value. Their interpretation requires the evaluation of several source-critical problems. To begin with, the number of artefacts is by no means the best possible indicator of the distribution of wealth or the use of bronze; e.g. a sword or the artefact from which the Harjavalta gold plate derives (Tallgren 1916, 163; Meinander 1954, find 52; Salo 1970, 18–21, 108; 1981, 280–281) were certainly of much greater value than, for instance, a razor. However, for practical reasons it has not been possible to weigh the artefacts. Furthermore, they are usually fragmentary and it is difficult or even impossible to assess their original weight. However, it is probable that in a body of material of even this size regional and chronological »differences of value» will be counteracted. Despite this, a review of the chronological distribution of different artefact groups is called for in this sense (App. 3).

The only artefact groups concentrating in the Early Bronze Age or clearly belonging to it are bladed weapons and palstaves. Spearheads are quite evenly divided among both phases whereas tweezers and razors are without exception from the Late Bronze Age, while finery is concentrated to the latter part of the period. The fact that the evidently most valuable artefacts, bladed weapons, are mainly concentrated in the Early Bronze Age, is possibly countered by the fact that of these artefacts, the long swords are from periods V and VI. Thus, the distribution of different artefact groups, does not suggest any major differences of wealth between the Early and Late Bronze Ages, when taken as a whole.

Another central problem is the representativeness of known metal finds; to what degree do they reflect the actual prehistoric situation? This is a basic problem related to *all* archaeological material and it cannot be solved by means of classical statistical

methods. An archaeological body of material can rarely, if ever, be taken as a statistical sample. An answer to the problem can be attempted, however, by comparing the distribution of bronze finds with some other relevant body of material, e.g. the distribution of Bronze Age burial cairns.

So far, Satakunta is the only region in Finland with relatively reliable statistics for Bronze Age cairns (see Salo 1981, 465–491). The following table, based on Salo's list of cairns, gives the amounts of metal finds in the various communes of Satakunta compared with the number of Bronze Age cairns (or cairns assumed to be of Bronze Age date) per 100 km² (the mean density for the Satakunta region is 19 cairns/100 km²):

Table 1.

Commune	Metal artefacts	Cairns/100 km ²
Nakkila	17	84
Kokemäki	16	14
Kiukainen	8	66
Harjavalta	3	164
Lappi Tl.	2	33
Noormarkku	1	74
Rauma	1	66
Ulvila	1	20
Tottijärvi	1	1
N = 9	Σ = 50	\bar{x} = 58

The large number of finds from Nakkila and Kokemäki is a result of intensive research activity in these communes during the past few decades (see Salo 1970; 1981). In general, it can be stated that there is a correspondence between the finds of bronze artefacts and the density of cairns in the area, although the two series of figures do not closely follow each other: In communes with metal finds the mean density of cairns is over three times that of the whole province of Satakunta and over ten times that of communes without metal finds. The only clear anomaly in the table is Tottijärvi, but one stray find does not carry much weight. On the other hand, the number of finds from Nakkila and Kokemäki show how consistent research activity can affect the number of finds.

Another possibility is to compare the distribution of stray and hoard finds with the distribution of all finds. In the study mentioned above, Salo has kept to the former because, according to him, all finds reflect the way research has centred on Satakunta, in particular (Salo 1981, 384). On the other hand, it can be remarked that the occurrence of hoards and stray finds reflects to a great degree the intensity of land use. The fact remains, however, that when the hoards and stray finds listed by Salo are compared with the spatial and chronological distribution of all finds, the respective distributions correspond nearly completely (Appendices 4–5 a–b). This, perhaps somewhat surprising, result supports the assumption of the representativeness of the distributions and suggests that even small bodies of material can be of importance. It is obvious that Satakunta is to some degree overrepresented, although not to any decisive degree. On the other hand, the inland region and north Finland are definitely underrepresented due to the smaller intensity of both research and land-use. Generally, the distributions of material in the coastal regions seem to be

based on fact and the emphasis of research or land-use should not have any greater effect on the *chronological* distributions.

The results of the analyses of all of the finds thus support Salo's (1981, 385) observation of the shift of the emphasis of economic activities from SW Finland to Satakunta by the advent of the late Bronze Age. A feature to be noted is also the scarcity of period IV finds everywhere else except in Satakunta and the importance of this period as one of transition between the Early and Late Bronze Age.

Similar developments have also been observed in Scandinavia. In Denmark the main emphasis of economic activity seems to have shifted from West Jutland to the eastern areas of the country at the end of period III (Kristiansen 1978) and in Sweden the centre of distribution of bronze hoards clearly moved from Southern Sweden to the east and north from period IV onwards (Stenberger 1979, 279–280). Stenberger maintains that this was caused by a cultural factor. According to him, the practice of hiding and offering metal artefacts in the ground became common in Eastern and Central Sweden only when it had already started to decline in the south. From the viewpoint of Finland, however, this does not seem probable. From the perspective of Southern Sweden, South and SW Finland were certainly more of a periphery than the Mälars region and despite this a similar shift phenomenon occurred within Finland. Salo explains this as a northward expansion of the territory exploited by the fur trade with Satakunta as the mediating area, a course of development also reflected by the two large Lapp hoard finds from the end of the Bronze Age (Salo 1981, 412–414).

The phenomenon in question is thus real and it was based mainly on economic factors and was probably related to the rise of the Mälars region on the opposite shore of the Gulf of Bothnia. However, it sometimes seems difficult to assign the fur trade a single dominating role and to assume its economic boom for several thousands of years in Finland. Other plausible alternatives to furs could be foodstuffs, seal and fish products and possibly Lapp slaves, the latter suggested by Salo (1981, 414). At least the bronze finds from the Åland Islands are without doubt equivalents to sealing products.

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- Abbreviations: FM = Finskt Museum
SMYA = Suomen Muinaismuistoyhdistyksen aikakauskirja

Appendix 1a–b

Åland Islands	XXXXXXXXXX
Uusimaa	XXXXXXXXXXXXXXXXXXXX
Finland-Proper	XX
Satakunta	XX
Ostrobothnia	XXXXXXXXXX
Rest of Finland	XXXXXXXXXXXXXXXXXXXXXXXXXXXX

Period

VI	XXXXXXXXXXXXXXXXXXXXXXXXXXXX
V	XX
IV	XXXXXXXXXXXX
III	XXXXXXXXXXXXXXXXXXXX
II	XXXXXXXXXXXXXXXXXXXX
I	X

Appendix 2

Åland Islands

VI	XX
V	XX
IV	
III	
II	XX
I	

Satakunta

VI	XXXXXXXXXXXXXXXXXXXX
V	XXXXXXXXXXXXXXXXXXXX
IV	XXXXXXXXXX
III	XXXX
II	XXX
I	

Uusimaa

VI	XXx
V	Xx
IV	
III	XXX
II	XXXX
I	

Ostrobothnia

VI	X
V	XXX
IV	
III	X
II	
I	

Finland-Proper

VI	XXXx
V	XXXXXx
IV	XX
III	XXXXXXXXXX
II	XXXXXXXXXXXX
I	

Rest of Finland

VI	
V	XXXXXXXXXXXXXXXXXXXX
IV	
III	XXX
II	
I	X

Appendix 3

Early Bronze Age		Late Bronze Age
XXXXXXXXXXXXXX	Bladed weapons	XXXXXXXXXX
XXX	Spearheads	XXXX
XXXXXXXXXXXXXXXXXXXX	Palstaves	
XXXXXX	Socketed axes	XX
	Toilet articles	XXXXXXXXXXXXXXXXXX
XXXX	Brooches etc.	XX

Appendix 4a–b

Distribution of all finds among the coastal provinces

Åland Islands	XXXXXXXXXX
Uusimaa	XXXXXXXXXXXXXXXXXXXX
Finland-Proper	XX
Satakunta	XX
Ostrobothnia	XXXXXXX

Distribution of hoard and stray finds among the coastal provinces (Salo 1981)

Åland Islands	XXXX
Uusimaa	XXXXXXXXXXXX
Finland-Proper	XXXXXXXXXXXXXXXXXXXX
Satakunta	XXXXXXXXXXXXXXXXXXXX
Ostrobothnia	XXX

Appendix 5a–b

Distribution of all finds between the Early and Late Bronze Age

Early Bronze Age		Late Bronze Age
XX	Åland Islands	XXXXXXX
XXXXXXXXXXXX	Uusimaa	XXXXXX
XXXXXXXXXXXXXXXXXXXX	Finland-Proper	XXXXXXXXXXXX
XXXXXXX	Satakunta	XX
X	Ostrobothnia	XXXXXXX

Corresponding distribution of hoard and stray finds (Salo 1981)

Early Bronze Age		Late Bronze Age
	Åland Islands	XXXX
XXXXXX	Uusimaa	XXXX
XXXXXXXXXXXXXXXXXXXX	Finland-Proper	XXXXXXX
XXX	Satakunta	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
X	Ostrobothnia	XX