Numismatics and archaeology: some problems of the Viking period
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This is no reply to Linder Welin 1977. The main aim of this essay is to elucidate the question of the Eastern coins found in Viking graves: their earliest occurrence and economic significance. A secondary aim is at least to suggest the character of possible Eastern contacts before the Viking Period. We shall also comment on the difficulty of dating the coins.

It seems important to start by stating that the author himself cannot classify Oriental coins and is consequently restricted to classifications made by others.

First and foremost as regards the question whether Western coins antedate Oriental coins in Scandinavia we must not forget the rare but important sceattas (Ribe). Linder Welin's assertion (1974 p. 24) that a great number of hoards contain Oriental coins which antedate the Western coins must be treated with caution. Among her examples (1974 p. 24 note 6) the Scanian find includes only two coins (Hårdh 1976 p. 36); SHM 5653 is a stray find of two 'Abbasid dirhams (Stenberger 1947 p. 105); SHM 3045 is a small hoard with only seven coins (terminus post quem A.D. 802) (ibidem p. 69); SHM 8212 includes only one classifiable coin of three coins in all) (ibidem p. 38); SHM 9818 A is not a hoard but a burial find (Arne 1934 p. 7, Callmer 1977 a p. 145).

Outside Scandinavia there is little if any evidence in the hoard material of the penetration of Oriental coins to Northern Europe before c. A.D. 800 (Kropotkin 1978). Two hoards come to mind but both are poorly illuminated finds (Kropotkin 1971 nr 29 and nr 157). If the present author's theory is correct the Charlemagne coins may also antedate or be contemporary with the earliest Oriental coins (e.g. Moksnes, Callmer 1977a p. 126).

It is evident that neither archaeology nor numismatics could function in isolation and cooperation is recommended in treating the burial finds with Oriental coins. Although this must be an evaluation, we judge the evidence of find combinations to be of primary importance for dating. It is a gross misunderstanding to believe that many artefacts are dated exclusively by coins. The validity of horizons of similar find combinations in the Viking Period has been recognized since the days of Jan Petersen.

In a recent work the present author had occasion to compare the evidence of combinations with the evidence of simple coin dates (Callmer 1977a pp. 76–7, 168–70). It could be observed that dirhams used as true coin pendants, with the exception of Birka, hardly appear before the 10th century (ibidem pp. 159, 170). Moreover dirhams occurring in burial finds often are very old.

This is better to solve the question of when the Oriental coins found in graves reached Scandinavia by establishing horizons of similar find combinations, if possible with stratigraphic supporting data, giving absolute dates with the help of the later coins present in the combinations than by direct recourse to the coins dates. Indeed it seems as if the problems of the earliest Oriental coins are best tackled via the hoard material. It is not interesting per se to certify that an Oriental coin was struck at a certain date. The cardinal issues are where, when, how and why it was used. In order to approach these questions the local dates of the latest use.

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of the coins must be established. In our opinion our theory that the stray burial finds with early Oriental coins should be viewed against the background of numerous early coins in the ninth century hoards is plausible. Nevertheless our explanation is not wholly valid, mainly because there still seem to be too many early coins in late finds.

It is justified in this connection to scrutinize the problem of the age of the coins in the graves. One way to comprehend the dichotomy between the nominal dates of Oriental coins and the dates of the finds is of course to study finds with more than one datable coin. Twelve of the Birkagraves were analysed, which demonstrated that the average nominal difference in time exceeds one hundred years. Similar differences prevail in Eastern Europe (Potin 1971 p. 72). A few burial finds apart from those from Birka also show wide divergences (SHM 9818, SSM graf. 94:480 Spånga, UUM 5912, Langelands M. Stengade CC) while three burial finds from Sweden and Eastern Prussia (Scandinavian) have minor differences between the nominal dates of the earliest and latest coins (SHM 21589, SHM 25997:1, ex Prussia M III:238:1197:29). It may be of interest to note that these three finds all date from the first half of the 10th century.

Our next step will be to study the remaining problem of the difference in time between the nominal terminus post quem and the date of the composition of individual sets of ornaments (Callmer 1977a pp. 170–1). We shall examine the relationship between the nominal terminus post quem and the early demarcations of, chronologically relevant stages of the Viking Period (cf. Callmer 1977 a Chapters IV, VIII) in 61 burial finds at Birka containing Oriental, West-European, Byzantine and Scandinavian (the chronology sensu Malmer 1966) coins. We may state that the difference in time between the nominal terminus post quem and the demarcations in the case of Oriental coins generally is about 100 years. The difference in time in the case of West-European and Scandinavian coins is approximately twice as great. Byzantine coins appear too seldom to allow any statement or comparison.

We may here conclude that very considerable differences exist between the nominal dates of Oriental coins, and that Oriental coins are generally much older than West-European and of course also Scandinavian coins in Viking graves.

If we look at the Oriental coins from Birka with a nominal date which can be stated within 25 years (cf. Sawyer 1962 p. 176) some periods are obviously better represented than the average. The periods A.D. 776–800 and A.D. 801–825 have representations which slightly exceed and more than double the average. The period A.D. 901–25 has a representation more than triple the average. These maxima closely agree with the maxima for nominal dates in the hoards. The maximum during the period A.D. 776–825 is dependent on the very intensive minting during the reign of Caliph ar-Rasid (A.D. 786–809). It has been suggested that coins minted in this period were never withdrawn but continued to dominate the coin stock of the Eastern Caliphate even in the area of circulation of the dirham in Northern and Eastern Europe for much of the ninth century (Fasmer 1925 p. 269). The second maximum derives from the intensive minting in the eastern provinces of the Caliphate administered by the Samânid dynasty during the first three decades of the 10th century (Janin 1956 p. 122).

It has been suggested that the strong representation of early coins among the dirhams found in Scandinavian graves of the Viking Period was dependent on the high frequency of early coins in the coin stock of the early hoards in Northern and Eastern Europe (Callmer 1977b pp. 180–1). Capelle (1968 p. 17 sqq.) and Jansson (1970 p. 31 sqq.) both tried to relate the coin-stock of the Viking hoards with coins found in graves in order to define the temporal distance between the nominal and the actual date of the coins in their find context. This standpoint must be understood to mean that the coins appearing in the graves were actually derived from the coin-stock of the hoards.
This must however be considered an hypothesis.

We shall now proceed to examine the coins of 38 more or less accurately dated graves at Birka in order to study the relationship between the coin-stock represented in the graves and in the hoards. In order to accomplish this comparison we here use the chronological stages elsewhere proposed by the present author. The period BP II/III is represented by one Idrisiid dirham. Idrisiid dirhams seldom occur, apart from stray specimens, in hoards with a terminus post quem later than the beginning of the 840’s. The most probable date of the coin in the context of the hoards agrees fairly closely with the date in the grave context. BP IV is represented by one Sassanian coin, one Omayyad, and five ‘Abbasid dirhams. This body of coins also yields rather good agreement between the coin-stocks of the hoards and the burial finds although we could also expect to find one Ṭāhirid or Ṣaffārid dirham. But when we turn to the following period, corresponding to BP IV or VII-VII-VIII or VIII the agreement is not satisfactory. This period is represented by one Omayyad, one ‘Abbasid, one Ṭāhirid and one Samānid dirham. Hoards with a terminus post quem later than the first decade of the 10th century generally include some 90% Samānid dirhams. BP VIII is represented by three ‘Abbasid and three Samānid dirhams which gives a better representation of Samānid dirhams but apparently the coin-stock of the grave finds differs somewhat from that of the hoards. It is characteristic that the single coin representing BP VI is an ‘Abbasid dirham. Sixteen grave finds could not be more accurately classified than BP VI–XII. The coins found in these graves include three Omayyad, eight ‘Abbasid, one Ṭāhirid, one Ṣaffārid and 11 Samānid dirhams. Samānid coins are no more numerous here but ‘Abbasids are certainly less well represented. The heavy presence of Omayyad coins is remarkable. With the six finds unquestionably datable to BP IX which include one Omayyad and seven Samānid dirhams we reach a better agreement between the dynastic composition of the coin-stocks of the burial finds and the hoards. The Samānid dirhams were however, with few exceptions struck before A.D. 930. BP XII is irregularly represented by two ‘Abbasid and one Samānid dirham. Our conclusion must be that the coin-stocks of the burial finds and the hoards are of similar although hardly identical composition for the greater part of the ninth century. During the first half of the 10th century there is little or no correspondence. The number of ninth century and earlier coins is much greater in the burial finds than in the hoards. In the second half of the 10th century, at least temporarily, there is a closer likeness between grave finds and hoards, although mainly with the hoards from the first half of the century. As we know, late Samānid dirhams reached Scandinavia in very small quantities only. We may state that there is little reason to relate coins found in graves directly to the coin-stock represented in the hoards.

A peculiarity of the coin-stock represented in the graves is the heavy presence of Eastern Omayyad dirhams. As we have made clear elsewhere, the Omayyad dirhams constitute a considerable part of many ninth century hoards (Calmér 1977b pp. 180–1). It is of great interest to note that hoards with termini post quem including the third quarter of the ninth century, which contain an average or excessive representation of Omayyad dirhams, came to light in Sweden, including Åland, and on the Volga Route. Consequently it is probable that these Omayyad dirhams reached Scandinavia during the first half and the middle of the ninth century along the Volga route. It is interesting to note a very strong representation of Omayyad dirhams in a burial ground from the late eighth or ninth century in the Udmurtian ASSR (Janina 1962b, Goldina 1970 pp. 91–3). Hoards with a more southerly location have with few exceptions considerable numbers of Omayyad dirhams. We must now turn to the question of the character of the stock from which the coins found in the graves were derived.
It has been suggested that minting of Scandinavian coins started ca. A.D. 825 in Schleswig-Holstein (Malmer 1966 p. 209). It is surely not too bold to interpret this minting as a phenomenon directly connected with the prosperity of Hedeby and perhaps also of Ribe at that time. The minting may be regarded as motivated by commercial transactions rather than by taxation of land. Consequently we may assume that commercial transactions in Schleswig-Holstein and Southern Jutland could be so complicated that coins were constantly needed. It is highly significant that we do not find coins of this minting in hoards in Scandinavia until the 10th century and with a single exception not earlier than the 940's (Malmer 1966 p. 202 Tab. 33). This observation seems to suggest that these Scandinavian coins were part of a coin-stock which for a considerable period had few if any connections with the coin-stock of the hoards. Oriental coins may also have been part of this presumed coin-stock. In fact they probably dominated it. It is likely that a coin-stock was accumulated for practical reasons during the second quarter of the ninth century and perhaps a little later. Exactly at this time and up to the middle of the 860's we find the *termini post quem* of the majority of the finds which are rich in Omayyad dirhams. Thus we may assume that from c. A.D. 825 to the middle of the ninth century a coin-stock adapted to complicated transactions in a well developed trade system was built up. This system was most probably used mostly in the major trading centres.

The emergence of the Scandinavian mint to supplement coins of foreign origin has parallels in the East with similar trade systems operating. Both the Chazarian (Bykov 1971, p. 26 sqq.) and the early Volga-Bulgarian (Fasmer 1926 p. 29 et seqq, Janina 1962 p. 192) minting has the same character. It is interesting in these cases to note the dependence of these mintings on foreign patterns.

The commercially motivated coin-stock remained largely unchanged for about a century although stray specimens of Samānid dirhams may have occurred from c. A.D. 900. This stability could be considered proof of the efficiency of the system. Not until BP VIII are the Samānid dirhams more frequent. From this period onward the coin-stock was continuously supplemented with Samānid dirhams. The old part of the coin-stock continued to play a major role for a long time to come. Only in BP IX do we encounter a clear dominance of Samānid coins. Scandinavian coins from the early stage of the late minting are also included in the coin-stock in the mid 10th century (Arbman 1943, graves Nos. 735, 738, 847, 943, 968). This late Scandinavian minting appears to differ from the early one. This time Scandinavian coins appear in the hoards fairly rapidly. The upper time limit of the existence of this presumed coin-stock is difficult to fix. It is possible that it outlived the 10th century for it is only c. A.D. 1000 that Anglo-Saxon and German coins start to appear frequently in burial finds. In Eastern Europe dirhams are still found in graves throughout the 11th century (several examples in Potin 1971 pp. 76-118). During the second half of the 10th century this system certainly existed parallel to other non-monetary and perhaps also monetary systems in Scandinavia.

To sum up we think that there existed during the Viking Period a functionally motivated coin-stock which is not identical with the coin-stock of the hoards. We believe that the coins which appear in the graves were derived mainly from this and not from the coin-stock of the hoards. This coin-stock we think functioned in a well balanced exchange system. The paralysed multitude of coins in the hoards seems in many cases to be an exponent of a different and less well balanced exchange situation. Probably in that situation prestige rather than economics motivated one of the partners. The occurrence of hoards may generally be attributed to the failure of two different sides to conform in an exchange situation.

The period of optimal function of this “Scandinavian” coin-stock may well have been the period from the middle of the ninth
to the second third of the 10th century. Using other premises Bolin argued that this period was of prime importance for North-European trade in Viking times (Bolin 1939). At the end of this period we meet phenomena of instability, the most important of which is the occurrence of non-monetary hack-silver. A certain connection between the weights of these hack-silver fragments and coins is probable, first with the dirham (ca. 3 g) and later with the West-European pennies (ca. 1—1.5 g) (Kiersnowski 1956 p. 238, Lundström 1973 p. 81). It has been suggested that non-monetary hack-silver was introduced and regularly used as early as the beginning of the 10th century (Hårdh 1976b pp. 135—7). The very few, prima facie reliable, finds with terminus post quem earlier than A.D. 940 weigh very light in comparison with the vast majority of hoards with non-monetary hack-silver with a terminus post quem A.D. 940 or later. Among South- and West-Scandinavian (i.e. from Norway, Denmark and the Swedish provinces Bohuslän, Halland, Skåne and Blekinge) hoards comprising non-monetary hack-silver and including more than ten intact datable coins with a terminus post quem A.D. 900—929 we may note Grimestad (Skaare 1976 p. 138), Bräcke (Hårdh 1976a find nr 40), Oppmanna (ibidem, find nr 108) and Sandvik (Sarauw & Alin 1923 p. 339). Among hoards from the same area with terminus post quem A.D. 930—939 we may only cite Teisen (Skaare 1976 p. 130) and Halmstad (Slottskvarnen) (Hårdh 1976a, find nr 19) The find from Pålstorp (ibidem, find nr 112) may include one German Otto coin. Two hoards have a terminus post quem A.D. 940—949: Terslev (Skovmand 1942, find nr 11:45) and Ronnvik (Skaare 1976 p. 173) The find from Bovlund may certainly be later since it comprised 2 Buwaihid dirhams. The number of finds from the second half of the century is overwhelming.

The situation before the arrival (in large numbers) of West-European coins, with the point of gravity among the Oriental coins in the Samanid dirhams struck during the early decades of the 10th century including the early years of Naṣr b. Aḥmad’s reign (to ca. A.D. 933), certainly poses considerable problems for the dating of hoards. The decline of Oriental silver circulating after A.D. 933 is connected with the so-called silver crisis in the Caliphate (Janin 1956 p. 128 e.s., Davidović 1959 p. 38 sqq, Fedorov-Davydov 1962 p. 186 sqq.) and it is probable that the most striking consequences of this crisis were in the Barbarian periphery of the Caliphate. These changes of major economic conditions should not be forgotten when treating the economic development also of Northern Europe. The occurrence of the non-monetary hack-silver proper should be seen against the background of the monetary hack-silver which appeared earlier and which is well known from the Caliphate (Lewicki 1952 p. 225 e.s., Štěpková 1956 p. 300 e.s.) The occurrence of the non-monetary hack-silver is primarily motivated by a deficit in monetary silver. The development in the second half of the 10th century of exchange systems with monetary and non-monetary silver is highly complex, as suggested above, certainly including different levels. It will not be treated here.

A diagnostic feature of the unstable economic situation from the 930’s onward is the frequent appearance of weights in the find-material of Northern and Eastern Europe. Weights and scales are not unknown earlier but the introduction of the spherical weights with flattened poles as gravegoods is synchronous with the instability of the Samanid coinage after A.D. 933. Not one of the numerous finds of weights and scales listed by Hatz (1974 pp. 110—4) could be dated earlier than ca. 930.

Another important factor, possibly political, results in a certain check on the flow of Oriental silver to Scandinavia. There is also a notable change in the centre of gravity of trade material found from Western to Eastern Scandinavia which may have meant problems of reorganization (Callmer 1977a pp. 162, 175—6).

There is however a small group of finds with non-monetary hack-silver with a possible
date of deposition in the first third of the 10th century (see above). This small group includes the finds from Grimstad, Teisen, Sandvik and Halmstad. They are all located in the vicinity of the Oslo fjord and Swedish Westcoast area. To this group we may perhaps attribute the finds from Bräcke and (more controversial) Oppmanna. The relation of the find from Kättilstorp (Wideen 1955 p. 81) to this group is uncertain but should be considered. In this connection we may remember the shift in the centre of gravity of long-distance trade from Western to Eastern Scandinavia in this period. It is thereby possible that these western finds indicate an exchange system in the shadow of the better balanced older (and at that time Eastern) system.

The concept of different spheres of valuation put forward by the author (Callmer 1977b p. 181) may explain minor deviations in time but will not suffice to account for the whole phenomenon of differences in dates described above.

The segmentation of the economy of the Viking Period, however, seems to be widely agreed although its character is differently appreciated (cf. Odner 1973, Keller 1976). The integration of silver in everyday transactions at the subsistence level seems improbable in Scandinavia prior to ca. A.D. 1000 (cf. Kiersnowski 1956 p. 247).

The boom in trade and exchange, of which the appearance of the Oriental coins is one of many manifestations, and the emergence of sovereign states make the Viking age one of the most dynamic and important periods in the development of Scandinavia. The importance of long-distance trade for the development of states is stressed by several authors (e.g. Callmer 1977a pp. 178–9). Believing this to be the major achievement of the Viking Period in Scandinavia we are greatly concerned about the evolution of long-distance trade in the Viking Period and its true dimensions of which the Oriental coins are an outstanding source-material.

It is notable that a clash of opinions on datings similar to that between Welin and the author has recently been prominent in East-European archaeology. We are here concerned with the question of the dating of the Brody-Nevolino complex. Early datings based directly on coin dates (Erdélyi et al. 1969 pp. 50–1, 82–3) were criticized for their lack of appreciation of the fact that coins may be old and very old at deposition (Kovalskaja & Krasnov 1973 p. 282). A comparison between the two different approaches discussed above shows late dates for the method with recognized strata of find combinations (ibidem pp. 283–4). The date suggested for the complex in question is seventh-eighth century (ibidem p. 286, Goldina 1970 Table A (second half of the seventh century to first half of the ninth century), Ambroz 1973 p. 298 (c. A.D. 680–690 to the middle or the second half of the ninth century); see also Kovalskaja 1969).

Kovalskaja and Krasnov (1973) stressed the importance of combinations in their treatment of the chronology of the burial ground at Nevolino. The construction of a simple combination graph for the different types of artefacts allows discernment of three groups which may be supposed to be chronologically valid. These are one early, one late, and one intermediate. In an analysis of belt mounts Kovalskaja is able to indicate the lack of imported Siberian mounts which can be dated to c. A.D. 800. This observation makes a dating to the eighth century very plausible (Kovalskaja & Krasnov 1973 pp. 286–7 and Kovalskaja 1972 p. 108). The connections between Nevolino and the two famous burial grounds Polom I and Mydlan Saj are also studied and yield the same indications (Kovalskaja & Krasnov 1973 p. 286).

Goldina (1970) sought to clarify the chronology of the Lomovatovo culture in the basin of the Kama river using a number of scientifically excavated burial grounds including that at Nevolino. The basis of this analysis comprised a carefully devised classification system for the artefacts found in the graves. The relationships are valued according to a statistical formula (Goldina 1970 p. 95 sqq). This method was also successfully applied to the problem of dating Medieval
Finds of belt mounts of Brody-Nevolino type.

nomad graves in South-Eastern Europe (Fedorov-Davydov 1965, 1966a, 1966b, 1970). Goldina’s analysis also includes a far-reaching comparative study with commentaries on the entire East-European and West-Asian material.

It is interesting to note, also in this material from other parts of Eastern Europe and Asia, a considerable number of coins which were apparently very old when they were deposited. This suggests that a coin-stock similar to that sketched above was functioning earlier along the Volga Route than in Scandinavia.

These datings are highly significant as indicating, inter alia, the beginning of the Saltov-Majaki complex (typical phase) must derive from the late eighth century or perhaps even a little earlier than A.D. 800. In the Saltov-Majaki complex and contemporary cultures we encounter dirhams, several of which are of early minting (c.f. Andrae 1975 p. 155, Arne 1935 pp. 188–9, Janina 1962b).

Moreover the Brody-Nevolino material mentioned above may be relevant to our understanding of early Scandinavian contacts with the East. The belt mounts characteristic of this complex are found from Gamla Uppsala in the west to Tomsk in the east with frequent occurrences in Western Finland and the Basin of the Kama river (see Fig. 1; the map is based on Ambroz 1973 and Kivikoski 1973; the map is incomplete for the Kama-Vyatka region). The ultimate South-East European origin of these types of mounts is evident and they probably reached the Baltic as a result of trading along the Volga route which presumably carried north-south traffic already in the seventh century (Leščenko 1971 pp. 18–21; cited after Bulkin & Lebedev 1974 p. 12).

In an attempt to define these early contacts we suggest that by reason of ancient east-western communications in North-Eastern Europe between the Finno-Ugric peoples Finland became involved during the eighth century in the developing trade systems on the Volga north-south route (c.f. Hackman 1938 pp. 186–8, Kivikoski 1939 pp, 113–4, 241–2, Vilkuna 1965 p. 86, Meinander 1973 pp. 149–50). In all probability, however, no Oriental coins accompanied these Eastern
belts with mounts. Nevertheless other Eastern material, e.g. beads, may occur somewhat earlier in Finland than in Scandinavia proper although this question needs to be further elucidated. Scandinavia’s major exchange areas to the east were in the eighth century Finland and the Baltic states and not further east.

Addendum

The following corrections to Fig. 1 in Callmer 1977b are necessary. Nr 3 on the map is Nr 4 in the key. Nr 8 on the map is the locality Mokajmy-Söjki (e.g. Storchnest), district of Gdańsk, Poland (Markov 1910 pp. 110–1). Nrs 59, 60 and 74 are outside the map, whereas Nr 72 is on the map.

Notes

1 Arbman 1943, graves No. 83A, 644, 707, 731, 834, 886, 943, 954, 967, 1057, 1151.; grave No. 750 as omitted for obvious reasons.

References

1 Arbman 1943, graves Nos. 83A, 550, 632, 639, 1151.
2 Arbman 1943, graves Nos. 59, 60, 74.
3 Arbman 1943, graves Nos. 99, 524, 1010, 1081.
4 Arbman 1943, graves Nos. 834, 838, 843B.
5 Arbman 1943, grave No. 844.
7 Arbman 1943, grave No. 457.
9 Arbman 1943, graves Nos. 99, 524, 1010, 1081.
10 Arbman 1943, graves Nos. 834, 838, 843B.
11 Arbman 1943, grave No. 844.
13 Arbman 1943, graves Nos. 943 and 954.
14 Arbman 1943, graves Nos. 93x and 954.
15 Callmer 1977B hoards Nos. 4, 6, 10, 12, 13, 16, 17, 20, 21, 22, 23, 25, 26, 30, 31, 32, Kropotkin 1971 hoard No. 124, Markov 1910 hoard No. 313 (Russia); The exceptions are Callmer 1977B hoards Nos. 14, 29, 36.

The exceptions are Callmer 1977B, hoards Nos. 9, 28, 34 and Kropotkin 1971 hoards Nos. 12, 76, 92.

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