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Dots on a Map

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TRADE AND EXCHANGE IN PREHISTORY

STUDIES IN HONOUR OF
BERTA STJERNQUIST

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Dots on a Map

– Thoughts about the way archaeologists study prehistoric trade and exchange –

By DEBORAH OLAUSSON

In her essay *Models of Commercial Diffusion in Prehistoric Times* (Stjernquist 1967a), Berta Stjernquist points out that in discussions of trade, authors often assume that the places where finds of imported objects have been made (often illustrated with dots or other symbols on a distribution map) mark a trade route (1967a: 14). Stjernquist's point in this paper was to note the source-critical problems connected with such a supposition. Clearly, since trade is a social as well as an economic activity, there is no simple equation which allows us to translate the final resting place of imported objects directly into processes of trade or exchange¹ (cf. White & Modjeska 1978: 277).

The purpose of the present paper, however, is not to pursue this question, which has already been admirably discussed by Stjernquist on several occasions (Stjernquist 1967a; 1967b; 1985). Rather I would like to take a look at the individual "dots" on the distribution map: the dots which represent the spatial occurrence of an object or phenomenon and which form the basis for conclusions about trade. I would like to explore how archaeologists purport to identify evidence for trade, or indeed for any contact between groups.

"Foreign" objects – the dots themselves

"Unique", "idiosyncratic", "imported", "foreign" – are some of the words used to describe objects which are taken to be evidence for trade when they are found in archaeological contexts. In the present paper, I have chosen to use the word "foreign" to

stand for all these terms, to denote objects or phenomena which originate at some (unknown) distance from the site under study. Trade depends of course on objects changing hands; therefore, the minimum requirement for identifying trade archaeologically is proof that an object has moved from its original owner/maker to another person. Small-scale, intimate acts of trade or gift-giving are unlikely to be evident to the archaeologist, who should be able to see an obvious change of location before daring to postulate change of ownership. How then do we identify the change in location which is a prerequisite for arguing trade? One can list at least five arguments used to identify objects as "foreign" when they are encountered in an archaeological context: 1) identification of raw materials which are spatially removed from the site under investigation, 2) stylistic elements or techniques which differ from others of the same class of objects on a given site, 3) two objects found in different contexts at two sites, 4) a lack of local precedent for a given type, or 5) a limited spatial distribution.

The simplest and most straightforward means of identifying a change in location or "foreign-ness" is by an analysis of raw material source. If it is possible to show that the raw material from which an object is made does not naturally occur in the vicinity of the object's findspot, then it is clear that the object (or at least the raw material from which it is made) is foreign. The next step is to identify the source of the raw material, a task which usually requires a great deal more analytical effort than the first step. How the object/raw material got from the location of its source to the place where it was found by

the archaeologist is a far more complicated question, of course. Stjernquist's essay deals in part with this source-critical aspect (Stjernquist 1967a), and it will not be pursued here. The explanation often offered, perhaps too readily, is trade.

This approach for identifying foreign objects by studying raw materials is widely used in archaeological studies. As an example of the first stage (i.e. identifying a raw material as foreign to a particular area) we can cite Hulthén's studies of clay sources for Battle Axe pottery. Based on these studies, Hulthén proposed that the raw material for the Battle Axe pottery from the Hagestad area did not originate locally (Hulthén 1977:157). The contention that, due to lack of native tin or workable copper, all bronze was imported to Scandinavia is also an example of such a statement, although this has recently come into question in some circles (Janzon 1984; Bengtsson 1986). Junghans' metallurgical studies of bronze and gold objects are also an attempt to establish the movement of objects through an analysis of raw materials (Junghans 1968).

The second stage, attempting to identify the source for the raw material under study, has also been widely used in discussions of prehistoric trade. Extensive work in Britain has for instance uncovered evidence for Neolithic stone axe "factories" whose products can be traced petrographically, leading in turn to speculation about the social mechanisms behind the observed patterns (e.g. McK Clugh & Cummins 1979). As another example, Fischer relies on petrographic analysis to argue for a central European origin for certain shaft-hole axes found in Ertebølle contexts in Denmark. Fischer ascribes the occurrence of such objects in Denmark to trade (Fischer 1982). In ethnographic and ethnoarchaeological work, petrographic analyses of raw material sources have also been used to trace the extensive and complex movements of axe blades in South Pacific societies (e.g. McBryde 1978; Binns & McBryde 1972; McCoy 1977).

Due to its geological history, flint is more difficult to "fingerprint", although efforts in this direction have been made (e.g. Sieveking

et al. 1970; 1972; Horan 1977). Some types of flint are distinctive enough to permit their identification as "foreign" when they crop up in locations removed from their natural occurrence. Lomborg notes, for example, that daggers made of Grand Pressigny flint can be found in great numbers up to 900 km from their source (Lomborg 1973:87). A similar argument has been applied to the hoards of axes found in northern Sweden, 1000 km from the nearest source of Senonian flint. Discussion about how to explain this phenomenon, whether as due to trade or colonization, has at times been heated; however the "foreign-ness" of the axes has never been open to question (Becker 1952; Malmer 1962; Clark 1965).

The second criterion used by archaeologists to identify foreignness is stylistic or technical difference. The difference may be in one element on an object or the whole object itself. Usually only the latter case is attributed to trade. More diffuse concepts such as "influence" or "contact" are usually invoked to explain the former case. In fact the whole question of what constitutes "similarity" or "difference", fundamental to all archaeological explanation, is seldom raised. One exception is Malmer's discussion from 1963, in which he breaks down the concept of similarity among objects into similarity in: material elements, proportions, form, technical elements, and decoration (Malmer 1963:24). Thrane has also explored this idea in some detail. He lists several possible indications that an object or type is foreign, one of which he calls the typological criterion. If all or the majority of the typological elements on an object are of local origin, the object is probably local. If some of its elements can be traced to foreign types, the object probably reflects foreign influence. If most or all of its typological elements are foreign, the object is probably imported. Finally, if some of the elements, such as decoration, are local, the object may be a local copy of a foreign object (Thrane 1975:191).

This argument, while seldom explicitly stated, is the reasoning behind any discussion where stylistic similarities are assumed to re-

veal contact and/or trade. Numerous examples of such reasoning can be cited, from *Ciste a cordoni* (Stjernquist 1967b), to Ertebølle pottery (Andersen 1973: 35), to Migration Period glass beakers (Stjernquist 1986). Authors are however often reluctant to claim that stylistic similarity must prove trade; and are more apt to content themselves with the safer proposition that it indicates "contact".

Another element closely related to style, but perhaps a more reliable indicator of the movement of objects, is the technical quality of an object. Objects (or elements) which differ radically in this respect from the others in a certain context are often suspected of representing imported objects or the products of a wandering craftsman. Herner used the criterion of technical quality in spiral ornamentation as one of several for judging if a bronze object was imported (Herner 1987: 174ff.). Andersen cites both stylistic and technical qualities on Ertebølle pottery as evidence for "external impulses" (he is not more specific) in the Ertebølle of western Scandinavia (Andersen 1973: 34). And Stjernquist uses both stylistic and technical elements on Migration Period glass beakers in a discussion of their origins and movement. She suggests however that technical attributes can provide more information about beaker production than can be obtained by studying and comparing stylistic features (Stjernquist 1986: 142).

Technical differences are probably better indicators of the movements of objects or craftsmen than stylistic elements, which can be due to independent invention or copied by chance. Technical differences, on the other hand, are not likely to originate by chance but rather must be the result of experimentation (at their point of origin) or learning (away from this point). Anomalies of technical know-how at a location, not preceded by any evidence for trial-and-error, are assumed therefore to indicate that this knowledge (or the product itself) has moved from its point of origin. Here again, however, it is difficult to know whether this should be classified as evidence for trade, wandering craftsmen, or the

diffusion of an idea. As was true for studies of raw materials, if it is possible to identify a probable point of origin for the stylistic and/or technical traits observed, then the argument for foreignness is greatly strengthened. Once again the question "how similar is similar" is of the greatest importance. Stjernquist's study of *Ciste a cordoni* is a good example of the application of research into stylistic elements used to identify points of origin for an artifact type (Stjernquist 1967b: 141 ff.).

Somewhat allied to this argument is that which identifies foreignness by a lack of local precedent at a site. Those objects which do not fit into the developmental sequence at a site are assumed to be of external origin. For example, Andersen notes seven artifact types which are introduced to Denmark in the Ertebølle culture, apparently without local precedent: transverse arrowheads, symmetrical flake axes, core axes with a particular edge treatment, T-shaped antler axes, bone combs, and round bone discs sawed from shoulder blade bones (Andersen 1975: 33 f.). The fact that these types appear without precedent in the Ertebølle culture, and their occurrence in contemporary Neolithic cultural groups to the south, brings Andersen to the conclusion that the western group of the Ertebølle culture had close connections (of unspecified nature) with northwest German groups (Andersen 1975: 37).

The introduction of cremation burial, along with certain pottery styles, in the late Bronze Age in Scandinavia, is generally also considered to be the result of influence from the Lusatian Culture to the south (Stjernquist 1961: 33, 118 ff.). The argument for foreignness rests here on the lack of local precedent and the complicated nature of the ritual involved. The probability that similarity is the result of contact increases with increased complexity, since simpler forms may as well be due to random variation or individual idiosyncrasy as to imitation.

Arguments based on local precedent can be used to identify locations where types may have originated, as for instance Baudou tried to do in his discussion of regional groups based

on Bronze Age artifacts (Baudou 1956: 20).

An object which occurs in two widely different find contexts on two sites at some distance apart is often assumed to be foreign at one of the sites. The thinking here is that the object itself has been removed from one cultural context and transplanted into another, but without the cultural values which may have been attached to it in its original context. The difficulty for the archaeologist, who has little or no access to prehistoric cultural values, is to recognize the anomalous transplant in a given setting. The contemporary ethnologist has an easier task: the necklace of beercan rings around the neck of a New Guinea Highlands chief is immediately recognizable as an import. But for the archaeologist, forced to deal with an inexact notion of contemporaneity and with no *a priori* knowledge of which group is the borrower and which is the lender, the task is more difficult.

Explicit examples of this reasoning are difficult to find in archaeological literature. In a paper on north Swedish Bronze Age society, Noel Broadbent suggested that Bronze Age cairns may have served somewhat different functions in different parts of Sweden: as territorial markers in the south, and as landmarks for seafarers as one moves north from Denmark and the Continent (Broadbent 1983: 16 f.). Another example more relevant in a discussion of trade can be found in the Viking silver hoards. The damaged coins from e.g. England, Byzantium, Italy, etc. in these hoards have been interpreted as representing a means of payment according to their weight in silver, rather than as money with a standardized face value (Stenberger 1979: 720; Hårdh & Jonsson 1986: 2). Here is an example in which it is possible to observe an alteration in use between the point of origin of the object (the minting location) and the context to which it has been moved (Nordic Viking Age).

In a discussion of trade in pre-Columbian South America, Lathrap suggests "It is far more probable that a unique item in an archaeological sample represents an established trade pattern than that it records a unique

and idiosyncratic event" (Lathrap 1973: 176). A fifth criterion used by archaeologists to identify traded items is related to the frequency of occurrence of the item on a site. Thrane calls this a statistical criterion. He reasons that if 100% of a certain type comes from a limited area, then the type was probably made in that area. Conversely, he finds it unlikely that a type showing only a few examples in an area should have been made there (Thrane 1975: 191). In regard to Thrane's contention, one might object that the reasoning fails to account for the possibility that items were produced solely for trade. If all items were traded away from an area, the first part of the contention should not hold.

The practice of calling the area on the distribution map where the dots cluster most heavily the production or workshop area is quite common in discussions of trade. Ethnographic evidence seems to show that such an assumption is often not valid (e.g. White & Modjeska 1978: 285). Here of course we are entering into a discussion of how and why objects enter the archaeological record, which takes us away from the main theme of the paper.

How did the dots get there?

Having applied the magnifying glass to the dots on the map and examined some of the ways we define foreign items, I would like to explore the possible mechanisms by which foreign objects are introduced into a given archaeological context. These mechanisms will be divided into four categories for purposes of discussion: 1) The movement of objects alone (trade and gift exchange), 2) Objects moving with individuals (traders, craftspeople, bride exchange, etc.), 3) Objects moving with groups of people (colonization, war and foraging), and 4) The movement of ideas, not objects. Discussion of these mechanisms based on archaeological evidence is rare, and often authors are purposefully vague as to how foreign objects have been introduced in the material they are studying.

In several essays (Stjernquist 1967a,

1967b; 1985) Stjernquist has argued against the simplistic assumption that the distribution of foreign items can be used to interpret the mechanisms of trade. It seems that archaeologists are unwilling or unable to set up criteria by which foreign items arriving by trade can be distinguished from those arriving by any of the other mechanisms mentioned above. Commonly, foreign objects are identified, and their presence is explained as a result of "trade", "gift-giving" or more vaguely by "contact" or "cultural connections". Perhaps as archaeologists we can never hope to arrive at the actual processes by which trade was conducted prehistorically. Nevertheless, we can speculate about how it might be possible to distinguish trade/gift-giving (no attempt is made to separate these concepts here) from the other mechanisms mentioned above.

Objects which are interpreted as the result of trade are assumed to be

1. of foreign origin
2. of some value
3. unavailable in the local environment (Moberg & Olsson 1973: 42)
4. in limited numbers at the find site (Thrane 1975: 191).

These criteria are however only valid if trade is assumed to be motivated by purely economic considerations. Economic reasoning suggests that a traded item must be of value if it is to be worth the cost and effort of moving it. Valuable goods cannot be owned by all; hence their relative rarity away from their point of origin. Theoretically it is possible for trade to be carried out locally with goods which are locally available. However if a change in location cannot be proved, it is difficult to see trade in an archaeological context.

Furthermore, ethnographic evidence suggests that not all forms of trade *are* economic. In an interesting study of exchange in the Highlands of Papua New Guinea, Sillitoe has shown that these criteria are not valid for ceremonial exchange in this area. Due to the social importance of ceremonial exchange, economic considerations, such as the ones upon which the above premises are based, are of no importance. For instance, items in-

involved in ceremonial exchange can flow *back* to their source of origin. Likewise, the social value which things have because of their use in ceremonial exchange means that people value highly things which have no utility value (Sillitoe 1978: 268). When economic theory can no longer be relied on as an explanation, it becomes even more difficult to identify trade in an archaeological setting (cf. Larsson 1986: 19 ff.).

Separating items which have been traded hand-to-hand from those which have moved with individuals is a difficult task for the archaeologist. The notion that itinerant craftsmen were responsible for some of the apparently foreign objects in archaeological collections is particularly common in regard to Bronze Age metalwork (e.g. Herner 1987: 172). Any such detailed and specialized handicraft lends itself to attempts to identify similarities which can be interpreted as the work of an individual or a workshop. As another example, a combination of domestic and foreign decorative elements on the same pot from Hallunda led Jaanusson to conclude that the vessel was made locally by an individual who probably had an eastern cultural background (Jaanusson 1981: 124). It can be difficult to distinguish between the movement of individuals and the movement of ideas in such a context. If a higher degree of technical skill is evident in some foreign items or design elements, this would suggest the presence of a non-local craftsman. Thrane disregards the idea of itinerant craftsmen in favor of the diffusion of ideas in accounting for stylistic similarities in Bronze Age artifacts (Thrane 1975: 194). The problem is further complicated by the possibility that craft tools such as stamps or punches could have circulated as well.

Ethnographic studies have indicated the social processes by which objects can move with their owners. Exogamy can result in the introduction of limited numbers of foreign items at a site. White and Modjeska point out that among the Duna in Papua New Guinea, one way in which axe blades are moved is when a widow moves with her children and

her deceased husband's axes back to an area where she has kin (White & Modjeska 1978: 281 f.).

Many of the hoards from Scandinavian prehistory are interpreted as trader's caches, particularly those containing many items of the same class and/or of the same raw material. For instance, the hoards of axes of south Scandinavian flint found in Norrland have been said to represent a trader's warehouse (Bech 1968: 11). The suggestion has even been made that the axes were left here by traders who abandoned them when they found their goods were not attractive to the native population (Becker 1952: 78; Malmer 1962: 513).

We will remain with these northern axe hoards as we consider another possible mechanism for moving objects: the movement of a group of people. The suggestion has been made that these hoards were brought by a group who attempted to settle in this northerly area (Malmer 1962: 515 f.). In theory, it should not be difficult to distinguish foreign objects resulting in trade from those brought with a group of people. One would expect the former to show up as isolated anomalies in an otherwise smooth chronological development, while the latter should result in a whole complex of anomalous items, including perhaps a difference in economic base as well as in material culture. In practice, the difference is not always so clear. An example of this is the discussion of whether the immigration of a new group of people or the spread of an idea through trade contacts is responsible for the change to a Neolithic way of life in southern Scandinavia. As time progresses, any new group becomes assimilated and will lose its foreignness. Therefore it is necessary to catch sight of the traces left by a new group while they are still fresh, if one is to be able to establish a hypothesis of immigration as an explanation for foreign objects in an area.

Objects of foreign origin can also be introduced at a site as a result of war or foraging expeditions. Foreign objects arriving by this process are probably difficult to distinguish from those arriving by trade. Weapons of

foreign origin which have been damaged may represent the spoils of victory. We might suggest that larger numbers of similar objects are more likely to represent trade than the spoils of war, although this seems a tenuous basis for argument.

As discussed above, a minimum criterion for postulating trade is the presence of items which have come from somewhere else; we have called these items "foreign". We have explored the various means archaeologists have at their disposal to determine whether objects are in fact foreign. We have also briefly explored some of the mechanisms by which foreign items can come to enter the archaeological record at any particular site. Trade is of course one of these mechanisms; unfortunately it can be difficult to distinguish between the various processes which can physically move an object from one place to another.

An object (or some element on it) which appears to be foreign may in fact be a local product whose foreignness is the result of a different kind of trade: the exchange of ideas. The diffusion of ideas, rather than objects, is an elusive phenomenon which nevertheless can leave traces in material culture. We tend to assume that cultural groups were isolated and that the exchange of ideas was an exceptional phenomenon in prehistory. While this may to some extent be more true for Scandinavia than for central Europe, the ethnographic record indicates that contact among non-literate societies is frequent and open (Orme 1981: 167).

Raw material studies which can be used to determine foreign origins can as well prove that an object, despite its foreign appearance, is made of local materials. For instance, talking about late Bronze Age pottery in Sweden, Hulthén says: "What started as a brief contact, resulting in changes of vessel shape, continued with the closer connections that must have existed to permit a transfer of more sophisticated knowhow. The use of traditional local raw materials suggests local manufacture rather than an import of vessels" (Hulthén 1977: 202). "Foreign" attributes on a local ar-

tifact may be due to an itinerant craftsman, to chance, or to the diffusion of an idea. As we noted in the discussion about the movement of craftsmen, it can be difficult to separate the movement of an idea from a traveling craftsman's work carried out locally. One might suggest however that the craftsman's products ought to show a higher degree of skill than would be expected in attempts by local craftspeople to copy a new idea. Such an explanation has for instance been applied in a discussion about Swedish house urns. Stenberger says: "This was a foreign idea which was accepted along with many other influences from the outside world to the south, although it was not fully understood. The generally stereotyped appearance of the vessels indicates this. Perhaps there is a connection between the house urns and the ideas which presumably were tied up with the funerary house" (Stenberger 1979: 257; my translation).

Herner suggests that a poorly cast bronze axe blade from Öland, bearing typical Scandinavian decoration, is proof of local bronze casting carried out by the less skilled Scandinavians (Herner 1987: 205). Swedish bracteates are interpreted as copies of Roman coins from which even the Latin inscription was copied. The faulty nature of the writing indicates however that the copier did not always have a knowledge of Latin. In fact the whole development of these amulets in Scandinavia is an interesting example of an idea which was accepted and reworked by the receiving culture (Stenberger 1979: 480ff.).

A source of debate in Danish and south Swedish archaeology is whether the change to a Neolithic way of life was due to the movement of people or to the diffusion of an idea. Proponents of the latter theory argue that Neolithic elements appear gradually and are integrated in the existing Ertebølle culture. They suggest that contact (trade and/or gift exchange?) with fully Neolithic groups to the south led to the adoption of the idea in Scandinavia (e.g. Andersen 1973; Jennbert 1984). The idea would of course not have been accepted if the existing economic system had not been prepared to ac-

cept such change (Stjernquist 1967a: 22f.; Thrane 1975: 192).

Late Neolithic daggers are another example of a "foreign" idea transformed and adopted for local use. Lomborg postulates that local Late Neolithic flintsmiths were copying metal daggers in an attempt to compete with the rarer metal objects from the south (Lomborg 1973: 87). He describes how daggers of Grand Pressigny flint were exported in great numbers up to 900 km from the source of this flint. As in some ways Grand Pressigny flint is poorer raw material than local flint, he suggests it was probably in demand because its color made daggers knapped from it look like copper or bronze (Lomborg 1973: 88). In an illuminating discussion, Lomborg claims that the appearance of the earliest Scandinavian daggers was directly or indirectly influenced from England. As arguments against their being imported, he gives two reasons: 1) Danish daggers are longer, and 2) they are more heavily polished, a practice which continues a domestic tradition (Lomborg 1973: 92). Raw material studies showing a local origin for the flint would of course have strengthened these arguments, which were based on stylistic criteria.

Arguments for the diffusion of an idea often rely on stylistic criteria, in which a particular find embodies a mixture of foreign and domestic elements. At times it can almost seem as though the artifacts themselves are mating and sharing genes! Thrane makes the observation that indirect contact is easier to see archaeologically than direct contact. This is because direct contact (i.e. trade) might leave only a few isolated objects, while locally manufactured objects showing external influences are usually more numerous (Thrane 1975: 246). He also notes that a hoard containing only foreign objects or only one type of object most likely reflects direct contact with another area. Hoards with objects from several foreign contexts represent indirect contact with the groups lying farthest away, and direct contact with those that are nearest (Thrane 1975: 195). One might have supposed that fragile items such as pottery or glass

found at a site would be more likely to be locally made rather than transported from any distance. However, examples of pottery transport during the Bronze Age (Jaanusson 1981: 124) and the extensive trade of glass beakers during the late Iron Age (Näsman 1984) seem to argue against this proposition.²

Foreign elements in rock art cannot directly be the result of trade, although elements or objects pictured in the art may be direct copies of traded items. This in fact is the explanation offered for many of the elements in Swedish rock art (Malmer 1981: 105 ff.). Fett and Fett see the similarities between west Scandinavian and Irish, English and Scottish rock art as a result of direct impulses moving from the British Isles to Norway's west coast. As proof of contact they cite identical axes found in these areas (Fett & Fett 1979: 89).

We have seen that a first step towards identifying trade is to identify foreignness. The second step is then to account for this. Foreign elements or items in an archaeological context can be an expression of one or several mechanisms, of which trade is only one. Other possible mechanisms are the movements of individuals or groups of people, or the movement of an idea alone. It is often difficult to separate these mechanisms archaeologically; nevertheless it is necessary to attempt to do so in any discussion of trade.

What dots are missing?

Having examined the dots on the map in some detail and discussed what factors may lead to their identification as traded items, we will conclude with a brief discussion of one final point: the dots we do *not* see. What evidence for prehistoric trade items is invisible to us?

Stjernquist points out a source-critical problem in interpreting a distribution map: "... a distribution map only shows places in which the goods in question occurred. Blank areas do not mean that the articles did not occur here but only that they have not been found here" (Stjernquist 1967a: 17).

Evidence for perishable trade items is of course difficult to recover archaeologically. Lathrap notes for instance that over 90% of the materials circulating in Amazonian trade networks were perishable (Lathrap 1973: 173). Written records have revealed a large number of trade goods from Mesopotamia which would otherwise be difficult or impossible for an archaeologist to see (Crawford 1973). Indirect evidence such as containers can at times reveal perishable trade items, but often authors are left with little concrete evidence for what was offered in exchange for e.g. bronze items in Scandinavia or flint axes in the north of Sweden. The same is of course true of traded items which have been used up and have therefore vanished from the archaeological record.

Another class of "invisible" trade objects are those which are not foreign but which nevertheless are part of a trade network. Sillitoe notes that items in a network of ceremonial exchange can come back to their point of origin, since social, rather than economic, considerations are the primary motivation behind this type of exchange (Sillitoe 1978: 268). Goods which are not recognized as foreign will not be assumed to represent trade.

Finally, small-scale acts of exchange and/or gift-giving, although they may be of great importance to the society engaging in such acts, are also not likely to be visible to the archaeologist. Large-scale patterns, rather than smaller discrete events, are necessary for identifying trade.

In *Models of Commercial Diffusion in Prehistoric Times* (Stjernquist 1967a), Stjernquist subjected the use of distribution maps in discussions of prehistoric trade to critical study. Dots or other symbols marking findspots for "imported" objects are often used as a starting point for talking about trade. In the present paper, we have studied the "dots" themselves, exploring the ways in which archaeologists identify items of trade. Mechanisms other than trade by which foreign objects or elements can occur at a site have also been discussed. Finally, a few points about the dots we can never see have also been

raised. Trade and exchange in prehistory is clearly a complex phenomenon, the study of which demands rigorous source-critical analysis.

Notes

¹ These concepts are used interchangeably in this paper.

² Perhaps not all glass sherd finds should be interpreted this way: Stjernquist suggests that sherds, rather than whole vessels, could also have been objects of trade (Stjernquist 1986: 162).

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