

## Original copies: seriality, similarity and the simulacrum in the Early Bronze Age

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This article explores inter-artefactual relations in the Nordic Bronze Age. Notions of copying and imitation have been dominant in the description of a number of bronze and flint artefacts from period I of the Nordic Bronze Age (ca. 1700–1500 BC). It has been argued that local bronze manufacturers copied imported foreign artefacts, and that lithic producers tried to imitate bronze artefacts in flint. This article argues that these archaeological attitudes to resemblance in the material repertoire are a product of typological analyses, but that it is possible to reclaim the cultural reality of similarity by looking at artefactual similarity as the results of prototyping and as a production of simulacra. In this light, the concept of copying turns out to be more than simply a matter of trying to imitate an exotic or prestigious original, and it fundamentally raises the question how different a copy can be from its model and still be a copy.

**Keywords:** copying; imitation; similarity; difference; types; prototyping; simulacra; flint; bronze; Nordic Bronze Age period I

### Introduction

By the beginning of the Bronze Age, metal artefacts began circulating in Southern Scandinavia in quantities that were hitherto unknown. While standardised objects of a limited number of types had been around for centuries, the earliest Bronze Age (ca. 1700–1500 BC, Montelius period I) witnessed an expansion in the quantity, quality and forms of metal artefacts. In the archaeological literature, some of the most famous examples of metal objects from this time are frequently referred to as ‘copies’ or ‘imitations’ of artefacts imported from faraway landscapes; for example, swords of the so-called Hajdúsámson-Apa type, which were imported from present-day Hungary and Romania. However, so-called imitation not only occurred in bronze, but also across material categories. Thus, flint objects were occasionally made to look like bronze artefacts, and archaeologists also regularly refer to these objects as copies or imitations of other artefacts; for example, the flint scimitar from Favrskov on Funen, which is believed to be modelled on the bronze scimitars from Rørby on Zealand. Hence, the logic is that objects with approximately similar forms can be regarded as copies of one another.

But when we look at the production of bronze artefacts in the same period from a more critical perspective, the occurrence of artefactual resemblance turns out to be slightly more complicated. The archaeological literature typically uses other terms than ‘copy’ or ‘imitation’, when describing artefacts of similar forms manufactured in large quantities, namely ‘type’. Hence, a spearhead of the so-called Bagterp type is not referred to as a copy of another spearhead of similar appearance; the two

spearheads are instead seen as repetitions of the same form or, in conventional archaeological terminology, two examples of the same type. The problem is, however, that when we look closer at the different examples of the artefacts that are described as belonging to the same type, then they all turn out to be different. Sometimes the differences are minute, at other times they are immediately apparent. We may thus identify a tension between archaeological notions of ‘type’ and ‘copy’, which calls for a critical engagement with how we define the concepts and what attributes we recognise in artefacts. Conceptualisations of ‘copies’ may differ widely and are inherently circumscribed by cultural notions. In a stringent positivist sense, there can never be exact copies as the copy will always be different in time and place from the original (Groom 2001, p. 9, Lefebvre 2004, p. 7). On the other hand, cultural perceptions may deem even rather different things ‘same’, which means that sameness and difference can oscillate between the conspicuous and the subtle (Groom 2001, p. 10, for a variety of perspectives, see Goodman 1981, Goodrich 1988, Preciado 1989, Elkins 1993, Schwartz 1998, Willerslev 2004, Cox 2007, Boon 2010, Jiménez 2010, Kalshoven 2010, Tinari 2010).

In this regard, the nature of bronze work turns out to play an interesting role for our understanding of similarity and difference at the beginning of the Bronze Age. Since the production of bronze artefacts implies a casting procedure, it also offers the potential for replicating existing artefacts by making identical models in clay or wax or by reusing moulds for new casts. This means that the similarities and differences that can be observed in the metal repertoire of period I of the Bronze Age in Southern

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Scandinavia should be seen in the light of the new manufacturing technology that would have the potential for generating novel epistemologies and new notions of objecthood. Even though metal was also circulated and produced in the Late Neolithic, the repertoire and quantity clearly seem to expand in period I. The epistemological underpinnings of the expansion of the new technological potential moreover imply that similarities as well as differences in the metal repertoire can be seen as deliberate and culturally meaningful at this time and cannot exclusively be treated as mere typological differences or variations of types. Following, the question is to what extent archaeologists conflate the similarities and differences that are constructed in typological analyses with culturally meaningful resemblances and differentiations.

This article seeks to address artefacts from an analytical angle that explores artefactual similarities and differences at a cultural level, rather than approaching sameness and diversity through typological analysis. The motivation for exploring an alternative to typological analysis is based on a general problem in the typological approach and emerges from the issues raised above: do analytical types correspond to 'real' types? This is, of course, a classic debate in archaeology (see also discussions in, e.g. Krieger 1944, Spaulding 1953, Ford 1954, Steward 1954, Hill and Evans 1972, Adams and Adams 1991, Sørensen 1997), which I do not wish to recapitulate here, but simply make the point that if we seek to understand an interplay between similarity and difference as a cultural mode of perceiving and constructing artefacts, then we also have to acknowledge that 'resemblance' is a cultural phenomenon and not a schematic category.

A closely related problem transpires from the issue above: do typological classifications of artefacts correspond in any way to past perceptions of the very same artefacts? Can we, in other words, assume a connection between the analytical coordinates of a group of objects and the cultural perception of those objects? Recent anthropological work, for example, contains a challenge to the ease with which archaeology frequently looks at artefacts through an analytical gaze with no or little reference to the cultural perception of the artefacts. It has been suggested from a number of perspectives that objects and concepts can sometimes be understood simultaneously at a variety of ontological strata or as constantly changing, implying that ontologies may be 'multiple' (e.g. Henare *et al.* 2007, Holbraad 2009) or 'chronically unstable' (Vilaça 2005). If this was also the case in the Early Bronze Age, we may suspect that a given artefact would not be broken down to one firm artefactual category, which means that the correlation between the archaeological typology and the cultural perception of the artefact in the past dissolves, because typology does not accommodate multiple and dynamic ontologies.

The aim of this article is by no means to debunk typology as an analytical construct, and I fully acknowledge

the tremendous usefulness of typology for analytical purposes, such as dating (for the Nordic Bronze Age, see, e.g. Montelius 1885, Müller 1909, Jacob-Friesen 1967, Lomborg 1969, Vandkilde 1996). Nor does it mean that I refrain from referring to artefacts by using their formal, typological epithets as they offer a starting point for observing how generalised schematic groups of artefacts look similar to or different from each other. Expanding on and redirecting the typological approach, this article then scrutinises notions of copying and imitation from disciplines outside of archaeology (especially postmodern philosophy), where the cultural and conceptual qualities of repetition, resemblances, sameness, difference and alterity have been discussed critically for many years (but see also Biehl and Rassamakin 2008, Frieman 2010, 2012).

Through this critical perspective, we may explore how similarity works at a cultural level, looking closer at concepts such as originals, models, copies, simulacra and prototyping. Methodically, this article begins by observing that a number of artefacts display what seems to be a *deliberate* juxtaposition of repetition and difference, leading to the next conceptual step in the analysis which reconstructs meaningful choices in the production of the objects. Hereby, we may move on to recognising different modes of establishing likeness and disparity within and across artefacts. This mode of analysis allows us to address how the individual object relates to the other individual objects, or, to phrase it axiomatically, the aim is to explore the material, social and philosophical relationship between the one and the many (whereas typology describes the relationship between parts of a perceived whole).

Swords from period Ib (ca. 1600–1500 BC) propel the discussion in the main body of this article, because they are often referred to in the archaeological literature by terms such as 'copies' and 'imitations' from a typological point of view. The intention is to offer a critique of this terminology by exploring an alternative approach to the artefacts. It is worth noting that swords constitute only around 8% of the bronze repertoire in period Ib, while other artefacts are more widespread. In comparison, flanged axes, spearheads and shaft-hole axes make up 69.5% of the total amount of bronzes in this period (based on Vandkilde 1996, p. 244, but including the swords from Dystrup). Hence, the choice of focusing mainly on swords in this article is based on how they have been analysed in the archaeological literature, and not so much because of any particular quality in swords as a cultural phenomenon.

### Seriality in the Early Bronze Age

When bronze working became increasingly common in the beginning of the 2nd millennium BC, and especially in the course of period Ib, a growing number of people would have been confronted with the potential to produce

artefactual similarity by using and reusing models and moulds. The reproducibility of bronze did, however, not automatically lead to an increased standardisation of material forms. On the contrary, the idiomatic repertoire expanded in period Ib (Vandkilde 1996, p. 264); while the formal repertoire of period Ia (ca. 1700–1600 BC) was dominated by flanged axes and spearheads, constituting almost 90% of all the metal work (Vandkilde 1996, p. 219), the repertoire widened in period Ib and now also included several types of axes and spearheads, swords, daggers and ornaments in addition to flanged axes and spearheads (Vandkilde 1996, fig. 261). At the same time, the design of certain artefacts may be seen as becoming fixed and standardised from the Late Neolithic through period I (Vandkilde 2000, pp. 19–20), at least in a typological perspective.

Period I as a whole can thus be characterised as a time of experimentation and discovery of the technical and social possibilities of metal work. We should keep in mind that this is a time span of some 200 years, which means that it would be culturally superficial to consider it a transitional period, disregarding the social reality of any given moment within those two centuries. Instead, the material variability – especially in period Ib – should be acknowledged and taken seriously as a cultural norm in its own right, which means that experimentation and discovery would have constituted normative cultural attitudes to bronze working. In this, I contend that we see a pattern of simultaneous repetition and differentiation of material forms, which might have been triggered by the very properties of metal production itself. The particular mode of manufacturing bronze artefacts implies working with transient and transforming material qualities: some stages of the production of an artefact entail working in wet, malleable clay, at other times in solid or fired clay, at some stages with wax models, which are then melted and disappear, finally ending up with fluid and subsequently solidifying bronze. This means that the production of an artefact undergoes several stages of positive and negative material forms and is host to a repetitive interaction with becoming and dissolving materials (soft, wet clay and hard, dry clay, solidifying and melting wax, fluid and coagulating bronze, etc.). In this article, it is argued that these shifting material properties offer a fundamental potential for exploring bronze as form and medium.

The particular mode of production of metal in the earliest Bronze Age was characterised by manual work, centred on craftsmanship and technological experimentation. These activities seem to have been centred on workshop environments, and a variety of modes of production have been suggested in the archaeological literature (Levy 1991, Budd and Taylor 1995, Harding 2000, Kristiansen and Larsson 2005, Goldhahn and Østigård 2008, Kuijpers 2012), yet empirical evidence for places of production is extremely limited, especially for period I (see Jantzen

2008). Identifying actual workshops or specifying individuals producing metal artefacts is, however, not the aim of this article, which instead focuses on the conceptual framework circumscribing the particular qualities of metal production.

One innovative aspect of metal work at this time is that it allows for a serial reproduction of artefact forms to a hitherto unseen degree. Bronze casting offers for a relatively high degree of reproducibility of forms by reusing or copying moulds or models. However, this does not mean that things become reproduced with identical sameness as in industrial mass production (Alder 1998), but that artefacts can be reproduced in series with the relative differences that are the results of the mechanical conditions of this type of work such as deviations resulting from manual work or differences in the degree to which individual artefacts shrink when cooling (Hiorns 1912, p. 301, Eerkens 2000). The point is that it is possible to achieve a very high degree of resemblance between artefacts by exploiting the resilient plasticity of clay moulds and wax models from which a chain of similar objects could be manufactured. On this basis, we may speak of ‘seriality’ in the production of bronzes in period I, by which is meant a series of independent actions that produce individual artefacts on the basis of existing artefacts that serve as models, prototypes or sources of inspiration.

### Imitating imports

Swords of the so-called Hajdúsámson-Apa type are an example of such seriality. The swords are commonly believed to have been imported from present-day Hungary and Romania, which lead to the ‘imitation’, ‘copying’ or ‘derivatives’ of these foreign types in Southern Scandinavia (Müller 1909, p. 13, Lomborg 1959, p. 93, 1969, pp. 97–99, Vandkilde 1996, pp. 225–226, Randsborg 2006, p. 16, Rasmussen and Boas 2006, p. 103). Two particular swords from Stensgård and Torupgårde (Aner and Kersten 1977, nos. 1675 and 1680) in south-eastern Denmark display a number of traits that are described in the archaeological literature as very similar to swords found in Hungary and Romania (Figure 1); their handles and pommels, the curvature of their blades and decorative patterns are frequently argued to resemble the Carpathian swords so much that the two specimens found in present-day Denmark are to be interpreted as imported artefacts (Lomborg 1959, p. 94, 1969, p. 97, Vandkilde 1996, p. 225, Rasmussen and Boas 2006, pp. 102–103).

Other swords with similar features, also found in Denmark, are on the other hand interpreted as local copies of the Carpathian artefacts (Figure 2). One sword, found at Bøgeskov (Aner and Kersten 1977, no. 1682), not far from the two above-mentioned specimens, is characterised by a similar style decoration on the pommel, and the decorative pattern on the blade furthermore supports this

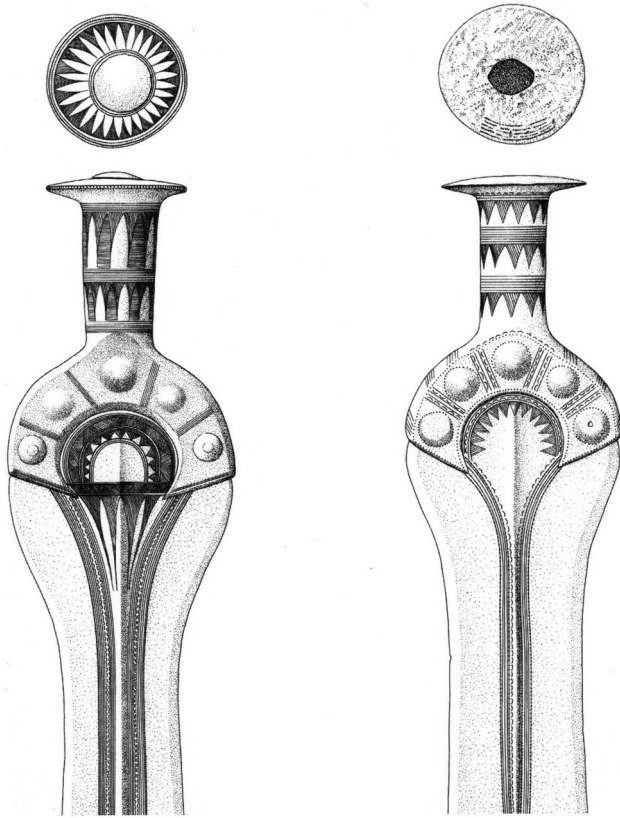


Figure 1. Imported swords of the Hajdúsámson-Apa type found at Torupgårde and Stensgård on Lolland in south-western Denmark. After Aner and Kersten (1977).

resemblance with the imported artefacts. At the same time, this particular sword is clearly distinct from the imported swords in that its handle is decorated with horizontal grooves rather than vertical triangles, and it does not have the same pronounced curvature of the blade.

Of the presumed local copies of the Hajdúsámson-Apa type swords and daggers, a specimen from Guldbjerg on northern Funen (Aner and Kersten 1977, no. 1882) probably bears the least resemblance with the other artefacts commonly described as imitations of imported originals. It has an entire lack of decoration, a straight tubular handle, a short blade with no curvature and an almost perpendicular transition from handle to blade.

The relationship between presumed imported originals and local copies thus calls for a critical discussion of how close resemblance is needed in order for something to be deemed a copy of another artefact. In essence, the archaeological designation as 'copy' in the case of the swords is based on a coexistence of resemblance and alterity: the copy looks like the original, but it is also different. In other words, the copy deviates from the original, which logically means that the copy must contain a new element or an original combination of imitated traits from its

alleged model or models. This might imply that the archaeological vocabulary does not do full justice to the complex relationship between originals, models, copies and imitations. By looking at objects such as the period I swords as the results of a serial production based on the principle of prototyping it becomes possible to appreciate them as independent yet inter-referential artefacts, which will be elaborated in the following. At the same time, we also need to pay attention to the specific ways in which similarity and difference materialise in particular artefactual contexts.

For instance, a group of eight swords found in a deposition at Dystrup in eastern Jutland (Rasmussen and Boas 2006) can be seen as 'imitations' or 'copies' of the imported Carpathian specimens (Figure 3); relating to the imported 'originals' by having similar decorative patterns and the same slight curvature of a section of their blades, but since they are cast in one piece they are also different (local imitations of foreign swords are commonly believed to be cast as one piece rather than with separate hilts or handles (Müller 1909, p. 11, Lomborg 1959, pp. 94–96, Rasmussen and Boas 2006, p. 104)). Furthermore, the eight swords from Dystrup are among themselves so similar in shape, proportion and finish that they may even derive from the same workshop, as suggested by the excavators (Rasmussen and Boas 2006, p. 105). So, while they may in one sense be 'copies' of imported artefacts, they also adhere to a common design idiom among themselves, sharing the majority of characteristics, while also being different in certain details.

In particular, two of the eight swords appear to be set apart from the majority of the group in a number of respects; by only having four imitation rivets, instead of five, by having a slightly different decorative pattern on the handle and on the pommel, or no decoration at all, and by having handles with a flat oval profile instead of a rounded profile. Yet at closer scrutiny, details reveal how all the swords differ in one way or the other. Some of the differences seem to be patterned, which might suggest that moulds were reused for the production of new swords. However, the differences are not structured in a way that can support such an interpretation.

The reconstructed lengths, for instance, are given by the excavators as follows: two swords are 43.7 cm (X2 and X7), two are 44.8 cm (X3 and X5), two are 45.4/45.6 cm (X4 and X1), while one (X6) is 45 cm long (and thereby very close to the two swords of 44.8 cm) and one (X8) is 46.6 cm long. These reconstructed lengths are of course tentative (especially regarding X1 and X2, which are the most incomplete swords), but they may nevertheless offer an impression of associations between the swords. So if swords X2 and X7 or X3 and X5 had been made from the same mould, we should also expect

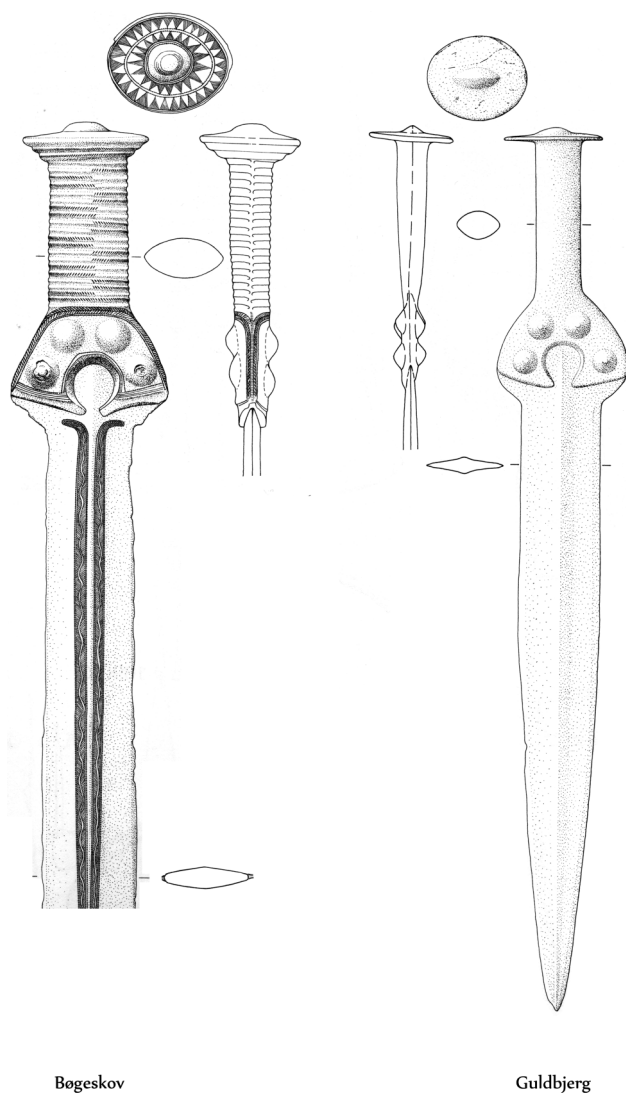


Figure 2. Locally manufactured swords of the Hajdúsámson-Apa type found at Bøgeskov on Lolland and Guldbjerg on Funen. After Aner and Kersten (1977).

other distinguishing features on these swords to be identical, which is not the case: X2 is decorated and X7 is not, and X3 has a straight casting seam on its handle, while the casting seam on X5 is slightly bent towards the pommel.

Differences in the reconstructed lengths should of course not be overemphasised as all of the swords are very similar in lengths, and dissimilarities might be caused by post-production treatment (cold-hammering or polishing). However, a number of other features do seem to suggest patterned connections between some of the swords. Swords X2 and X4 are related in that they share the same raised middle rivet; and swords X4 and X7 are related in that the terminal ends of their hilt forks are slightly more convex than the concave hilt forks that characterise sword X1, X2, X3, X5 and X6. The terminal

forks on the hilt on sword X8 are almost straight (for details, see Rasmussen and Boas 2006).

The excavators also argue that there are no signs of punching in the decoration, concluding that it must have been made on the wax model prior to casting (Rasmussen and Boas 2006, p. 93). This is particularly interesting as five of the eight swords (X1–X5) are ornamented in almost identical ways; the uppermost parts of handles have two bands of lines with opposing triangles, forming a space of lozenges in between the bands. They also have two bands of lines towards the hilt, which are bordered by flattened arches. The triangles on sword X6 are smaller than those on the other swords, which means that no lozenge-shaped decoration materialises between the bands of lines. The decoration on the handle of sword X8 only has three bands of lines, where the top of the uppermost band is decorated with triangles facing the pommel. The lower side of the band is decorated with arches. The middle band is bordered by curved arches on the upper side and flattened arches on the lower side. The lower band does not have any arches on its upper side, but broad, flattened arches towards the hilt. Sword X7 is devoid of decoration.

Likewise, the decoration on the blades appears to be very similar for swords X1–X6 with an roughly ogival-shaped border of two lines that run from the terminal ends of the hilts towards the middle part of the blade and are filled in by an arch-like decoration. Sword X8 is different in that it has closely grouped lines with a row of arches on the inside, rather than two parallel lines that are filled in. Again, sword X7 is undecorated (for a schematic ordering of similarities and differences in the Dystrup swords, see Table 1).

It may of course be argued that this copresence of similarity and difference in the swords is simply an unavoidable result of manual reproduction (cf. Eerkens 2000). However, the excavators claim that six of the swords are so similar that they must be based on the same model, referring to the Carpathian originals circulating in Denmark (Rasmussen and Boas 2006, p. 104). This implies that the visual resemblance between the imported and locally produced artefacts is so great that we should expect the local artefacts to be directly inspired by the imported objects, which would have been available as a direct visual source of inspiration in front of the bronze manufacturer. Hence, the individual artefacts served as sources of inspiration in a process of modelling, prototyping and referentiality in the workshop environments. It is this process that can be seen as giving rise to subtle differences in the choice of designing each of them, and the difference between ‘local’ and ‘imported’ artefacts is thereby also not so much a result of a lack of understanding of the original, but the outcome of a continuous process of prototyping, where differences and similarities were produced deliberately when working in clay and wax

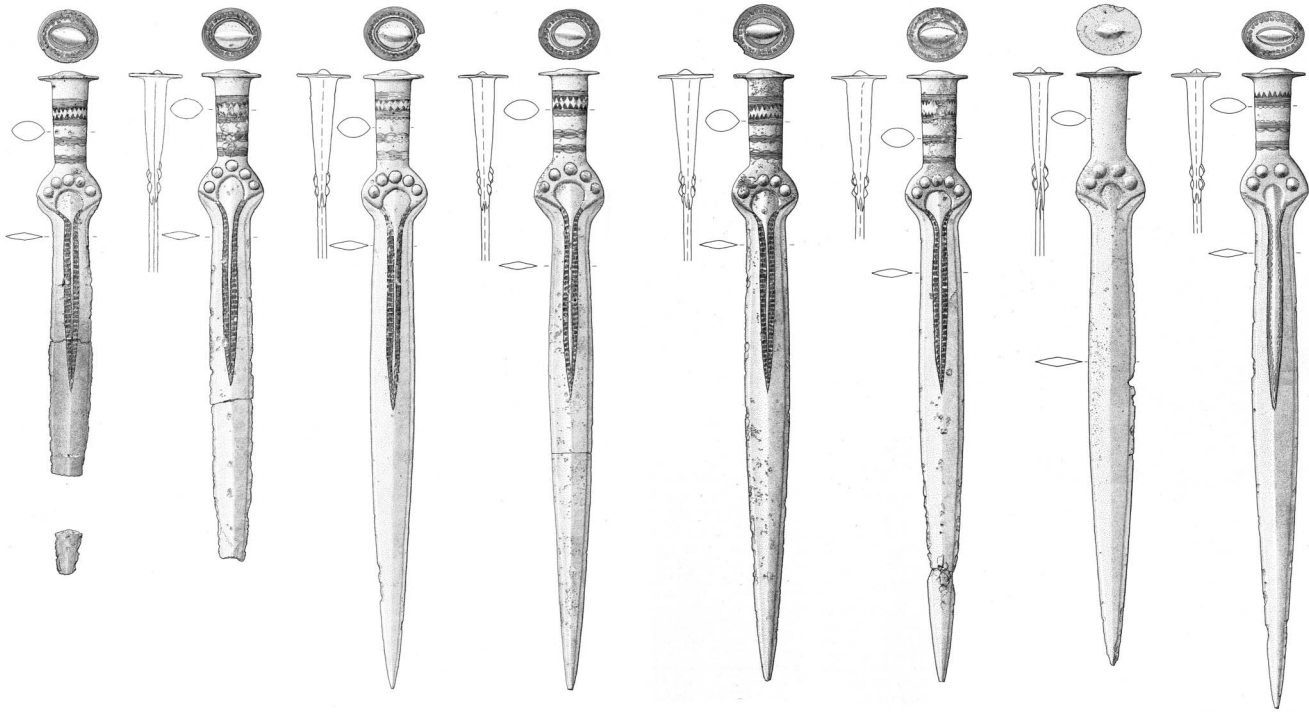


Figure 3. Locally manufactured swords found at Dystrup in eastern Jutland. After Rasmussen and Boas (2006).

(and wood?) before the cast was made. Differences and similarities were thus a part of the conceptualisation of the individual artefact and its relationship with the group of artefacts.

### Striking similarity

This line of thinking leads to the question if the distinction between original/model and copy/imitation is merely a matter of scales of difference. Does greater difference imply less originality, and does more similarity in a copy mean that it is closer to its original? The famous Rørby scimitars from Zealand (Figure 4) offer a perspective on modelling and seriality in Early Bronze Age metal work by their high degree of similarity. The scimitars (Aner and Kersten 1976, no. 617) are two curved swords that were discovered roughly 10 m apart, but may originally have been derived from the same deposition context (Mathiassen 1958, pp. 38–39). The scimitars are commonly believed to have been manufactured by the lost wax method and they are so morphologically similar that they have been argued to have been made from the same model, if not from the same mould (Mathiassen 1958, p. 43, Vandkilde 1996, p. 232, Kaul 1998, pp. 73–74, Rønne 2008).

Three other scimitars have been found elsewhere in Southern Scandinavia: two in Scania at Knutstorp (Södra Äby) and Lilla Slågarp and one in Östergötland at Norre

(Oldeberg 1974, no. 798, 2258, Jacobsen 1986). They display traits that connect them all closely together, not just a 'type' but also as individual artefacts, which implies that they are not simply related by looking similar in an analytical perspective, but by being intentionally similar. Bo Gräslund (1964, p. 285) and Bengt Jacobsen (1986, p. 283) observe that there are only minor differences between the scimitars from Rørby and Knutstorp produced by the post-cast polishing of the artefacts, indicating that they could have been made in the same workshop. Ebbe Lomborg (1959, p. 118) further suggests that all of the scimitars from Southern Scandinavia could derive from the same workshop due to their high degree of resemblance. Gräslund claims that the scimitars from Rørby and Knutstorp would derive from the same mould (Gräslund 1964, pp. 300–301), and John-Elof Forssander similarly connected the scimitars from Norre and Knutstorp to the same mould (Forssander 1935, p. 186). In addition, Jacobsen (1986, p. 287) argues that the dimensions and proportions of the incomplete Slågarp scimitar match those of Rørby and Knutstorp (Figure 5), and that the minor differences between the scimitars are the products of post-cast treatment and in one case a casting error (there is only one rivet on one side of the Slågarp scimitar, while there are two rivets on the other side). Jacobsen concludes that all four scimitars must derive not only from the same workshop, but also from the same mould.

Table 1. Similarities and differences among the Dystrup swords. Based on Rasmussen and Boas (2006).

	X1	X2	X3	X4	X5	X6	X7	X8
Length (cm)	45.6	43.7	44.8	45.4	44.8	45.0	43.7	46.6
Number of rivets	5	5	5	5	5	5	4	4
Raised middle rivet		+		+				
Fork shape	Concave	Concave	Concave	Convex	Concave	Concave	Convex	Straight
Hilt arc	Open	Elongated	Open	Open	Open	Open	Closed	Closed
Pommel shape	Circular	Circular	Circular	Oval	Circular	Circular	Oval	Oval
Ornament on handle	Same	Same	Same	Same	Same	Slightly different	None	Different
Ornament on blade	Same	Same	Same	Same	Same	Same	None	Different
Casting seam on handle	Straight	Straight	Straight	Straight	Bent	Bent	Straight	Straight
Handle profile	Rounded	Rounded	Rounded	Rounded	Rounded	Rounded	Flat	Flat

Therkel Mathiassen, on the other hand, believes that the Rørby scimitars – despite their high degree of visual similarity – would require separate moulds, because the individual clay mould would have to be broken after the casting and therefore could not have been used as a ‘mimetic machine’ (Taussig 1993, p. 24) to cast another, identical scimitar (Mathiassen 1958, p. 43). Recent technical experiments with clay moulds support this observation, suggesting that clay moulds tend to break when releasing the cast (Wang and Ottaway 2004, p. 34). It should be noted, however, that Gräslund (1964, p. 301) argues that the Rørby scimitars are produced in a single bivalve mould, which had been reused to produce the second scimitar. Hence, the decoration would have been made by punching (Gräslund 1964, p. 286) rather than prepared on the model as implied by arguing for a single mould explanation of the scimitars. Preben Rønne (2008, see also Vandkilde 1996, p. 232), however, argues that the decoration was present in the mould stage, which means that the scimitars were differentiated physically and conceptually prior to the casting.

A number of differences do characterise the decoration on the Rørby scimitars (see Table 2), and the presence of what appears to be a ship on the blade of one of them can be emphasised as the defining difference between the two specimens (Vandkilde 1996, p. 232, Kaul 1998, ch. 5). But, at closer examination, there are several additional features that set the two specimens apart: one scimitar

has two zigzag bands on the pommel, while the other has one; one scimitar has five bands of triangles on the handle, while the other has six bands of triangles, a band of lozenges and then another band of triangles; one scimitar has two bands of triangles at the beginning of the blade, while the other has a band of lozenges and two bands of triangles; the decoration towards the point of the blade on one scimitar is made up of a band of triangles, an imitation rivet, a band of lozenges, an imitation rivet and a band of triangles, while the other scimitar has a band of triangles, a band of lozenges, an imitation rivet, a band of lozenges, an imitation rivet, a band of lozenges and a band of triangles; the thickness and profile of the blades towards the point of the blade differ for the two scimitars; and lengths of the zigzag bands that run along the upper and lower edges of the blades differ (see also Mathiassen 1958, p. 42, Gräslund 1964, pp. 300–301).

These minute differences in details mean that the scimitars from Rørby cannot have derived from the same mould, but that they were cast in two different moulds that embedded different decorative patterns among other things. Backtracking the manufacture of the scimitars and their production sequence, the decorative patterns must therefore also have been made on two dissimilar models that generated different moulds: two wax models were cast in a single clay mould that produced identical (undecorated) wax models by using it twice. The clay mould would then have been an imprint of a clay

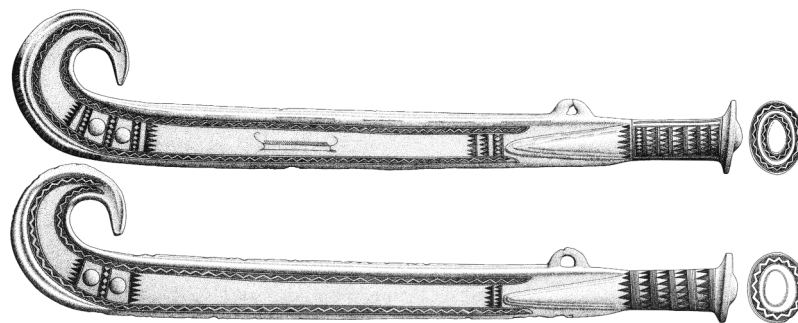


Figure 4. The scimitars from Rørby on eastern Zealand. After Aner and Kersten (1976).

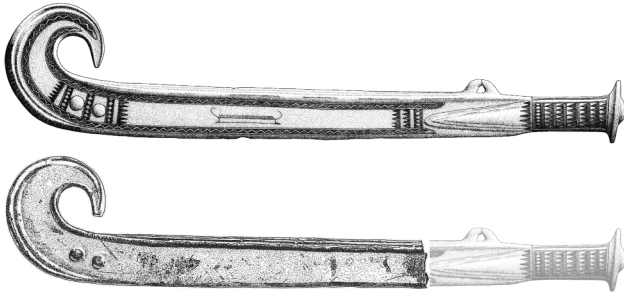


Figure 5. One of the Rørby scimitars and the incomplete scimitar from Slågarp with a tentative reconstruction of the missing part. After Aner and Kersten (1976) and Jacobsen (1986).

prototype of a scimitar, which may have had a wooden precursor. Or, in reverse order: the first step was to make a wooden or clay prototype (a positive) on the basis of the fantasy of a conglomerate artefact compiled of several separate artefact components; the second step was to make a clay mould (a negative) from the wooden prototype; the third step was to cast two identical wax models (two positives) from the clay mould; the fourth step was to discriminate the wax models by decorating them differently (an action that would technically turn the wax models into prototypes); the fifth step was to make two divergent clay moulds (two negatives) from the wax models; and the sixth step was to cast two different bronze scimitars (two positives) from the clay moulds.

This suggests that the disparity between the Rørby scimitars is deliberate and deeply motivated by the manufacturer, offering a number of moments for reflecting on the form and appearance of the artefact in production. While the differences in thickness and profile of the blades

could hypothetically be attributed to post-casting treatment (annealing, cold-hammering and/or polishing), the differences in decoration would certainly have been made as a conscious choice and would have been developed in the prototyping stages. As such, the two Rørby scimitars would have been forged with an embedded conceptual difference but with a shared genealogy. While it may be difficult to assess whether all of the scimitars found in Southern Scandinavia were made on the same *physical* prototype, the distinct similarity of the scimitars at least implies that they share a *conceptual* prototype or source of inspiration as their common point of reference, thus binding them together as artefacts with a shared biography.

It has been argued that the inspiration for the scimitars derives from sheathed swords in Hittite Anatolia (Gräslund 1964, p. 296, 1967 see also Engedal 2002, Kristiansen and Larsson 2005, p. 290), and Thomas Larsson goes as far as describing the Rørby scimitars as ‘a deliberate attempt to copy a powerful foreign [i.e. Hittite] symbol’ (Larsson 2000, p. 63, see also Larsson 1997, pp. 72–79). It is worth noting that the rivets on their blades are non-functional, and thus do not serve the purpose of joining separate pieces of the artefact, but seem to be purely ornamental as they are all cast in one piece. Gräslund (1964, p. 293) argues that these rivets are imitations of rivets or other forms of decoration that were part of their supposed model, which could have been a curved scabbard or chape rather than a sword. The Scandinavian scimitars would thus have been imitations of a sheathed sword or, rather, the combination of a handle of a sword and a scabbard, which might suggest that the bronze imitations were not necessarily designed with an actual sword available in front of the bronze worker.

Table 2. Similarities and differences between the Rørby scimitars. Based on Mathiassen (1958), Gräslund (1964) and Aner and Kersten (1976).

	Rørby 1	Rørby 2
Length (cm)	60.7	60.7
Weight	1612 g	1526 g
Bands on pommel	1	2
Crest of pommel	Rounded	Pointed
Bands of triangles on handle	5	7
Bands of lozenges on handle	0	1
Bands of triangles at beginning of blade	2	2
Bands of lozenges at beginning of blade	0	1
Bands of triangles at imitation rivets	2	2
Bands of lozenges at imitation rivets	1	3
Ship on blade	No	Yes
Triangles on edge of curvature	0	1
Zigzags on band at upper side of blade	45	51
Zigzags on band at lower side of blade	54	62
Profile at curvature of blade	Straight	Narrow at bend
Profile at point of blade	Rectangular trapezoidal	Square trapezoidal
Signs of wear	Yes	No



### Impossible copies

The Scandinavian scimitars as well as the Hajdúsámson-Apa swords can thus be seen as postulates at several levels. Both types of artefacts carry imitation rivets that are entirely non-functional, since the artefacts are cast in one piece (e.g. the swords from Bøgeskov, Guldbjerg and Dystrup, and the various scimitars). Such a non-functional feature is ordinarily termed a 'skeuomorph', which may be defined as an imitation of form and not function, typically in the translation from one medium to another (Sayce 1933, pp. 80–81, Vickers 1989, Knappett 2002, Harrison 2003, Frieman 2010). As illustrated above, such functional loss may also occur when translating artefacts within one medium, in this case bronze. Furthermore, the swords and scimitars are reproductions, replications or representations of artefacts or ideas that derive from remote regions, and in the case of the scimitars it appears that the translation of the 'original' resulted in an entirely new form; a fusion of the handle of a sword and a skeuomorphic scabbard.

But while the swords with imitation rivets are the results of a continuous chain of prototyping that ends up in artefacts with a formal reference to its models (i.e. Carpathian Hajdúsámson-Apa swords), the scimitars are built on a physical model. Or, at least we can say that the conceptual model (the idea behind the scimitar) is a synthesis of several artefacts (i.e. a sword handle and a scabbard), which means that the scimitar is a copy of a non-existing model or, in other words, a postulate. But if the scimitar is the copy of an object that can best be described as virtual, how do we understand an actual, subsequent imitation of the scimitar? How far removed from the original (yet virtual) object is the imitation of the copy? Does it retain any connection with the initial, virtual model at all?

A number of flint artefacts from period I of the Nordic Bronze Age take this question to an extreme by appearing to be explicit replications of bronze artefacts, including a flint scimitar from Favrskov on Funen (Aner and Kersten 1977, no. 1773 D). This imitation of bronze objects in flint does not appear to have constituted a widespread and common practice in the Early Bronze Age of Southern Scandinavia, but this does not mean that we can brush flint imitations aside as oddities that are not representative of a broader cultural expression. Even though certain material forms are unique or rare, they cannot be relegated to a status of expendable cultural anomalies; they may in fact be expressions of a more deep-seated play with material forms in the course of a process of exploration and discovery (for some recent interpretations of the relationship between bronze and flint, see, e.g. Varberg 2007, Fahlander 2008a, 2008b, Frieman 2010, 2012).

The flint scimitar from Favrskov (Figure 6) is thus a unique artefact (yet a questionable specimen of similar shape has been found in Southern Sweden; Oldeberg

1974, no. 1719a). The flint scimitar is commonly believed to be modelled on the Rørby scimitars (Forssander 1935, p. 178, Lomborg 1959, p. 146, 1960, p. 157, 1973, p. 63, Willroth 1985, p. 63, Vandkilde 1996, p. 232), displaying the same remarkable curvature of the blade as the bronze specimens, and it furthermore has a protrusion at the transition from handle to blade that appears to replicate the fastening loops found on the bronze scimitars. Obviously, there are logical differences between the flint sword and the bronze swords; the flint sword has a different surface character, a different colour, shimmer, volume, weight and balance, and it is not decorated. In addition, the bronze swords are 60.7 cm long, while the flint specimen only measures 31.3 cm. Despite these differences, we may conclude that the flint sword clearly refers to the same conceptual form as the bronze swords. It may furthermore be argued that the flint sword is not simply a derivation of the bronze swords, because even though it replicates the curvature of the blade and the fastening loop, it draws at the same time on the flint-working tradition by reproducing the handle of a dagger type VI (Lomborg 1960, p. 157, 1973 p. 63).

Another example of this dialogue between bronze and flint can be found in a composite flint sword from Åtte in south-western Jutland (Aner and Kersten 1986, no. 3924). At least 17 specimens are known from Denmark (Rønne 1988, p. 87) with the Åtte sword being the best known and most complete example (Figure 7). The sword is composed of six flint pieces that make up a handle, a point and four blade pieces, reaching a total length of 46 cm. The sword has been argued to be a 'copy' of or 'modelled' on bronze swords of either the Sögeler type or the Hajdúsámson-Apa type (Müller 1907, p. 82, Forssander 1935, p. 180, Lomborg 1960, p. 154, Rønne 1988, p. 92, Vandkilde 1996, pp. 225–226, Rasmussen and Boas 2006, p. 105).

This kind of idiomatic replication of material forms thus occurs across material categories and across functionalities, as neither the curved flint sword nor the composite flint swords would have accomplished exactly the same practical function as the bronze artefacts (for a discussion of different notions of 'function', see, e.g. Preston 2000, Vandkilde 2000, Risatti 2007, Crilly 2010). Moreover, the flint artefacts would have been made along the lines of existing lithic specialisation and would therefore have referred to a different mode of production than bronze work. The logics behind the artefacts would thus have been different. This suggests that we may move one step further and disentangle the notion of copying from function and mode of production altogether. If functionality is not necessarily inherited in the copied object, then functional categories also become irrelevant in the question of replication. The copy, rather, produces an image of its prototype, regardless of the formal classification of the original or the way it was manufactured. In other words, if there is no link between original and copy in terms of

function, production or material properties, then we may instead argue that copying revolved around a more basic, superficial resemblances in form.

To take this line of thinking one step further, it will also be possible to approach the development of material forms without referring to function. To illustrate this, we may consider how it has been suggested that manufacturers of flint daggers in the Late Neolithic attempted to imitate bronze daggers of the Central European Únětice horizon (Varberg 2007, p. 68, see also Vandkilde 1998, p. 254). Much of the connection that has been made between these artefacts is based on their mutual classification as ‘daggers’. In period I, however, we could turn the flint daggers on their heads, for example, the flint ‘dagger’ from a grave at Nordborg on Als in southern Denmark (Aner and Kersten 1978, no. 3159), where it was found in association with a bronze spearhead (Figure 8). We may here disentangle the archaeological classification of the artefacts as belonging to different functions, and instead observe how the contours of the two artefacts are relatively similar. Such a non-functional and purely form-based notion of imitation implies a closer relationship between flint ‘daggers’ and bronze ‘spearheads’ than between flint daggers and bronze daggers. The point is not whether one object was handheld and the other hafted, but how they appear as basic visual forms, where the resemblance would have been known to the manufacturer of ‘daggers’ and ‘spearheads’, respectively.

The issue here is thus not *exact* sameness in form (in the sense of a facsimile), but – just like we saw with the curved flint sword and the composite flint sword – rather a matter of a material dialogue that creates simultaneous resemblance and difference. This is not to argue that daggers and spearheads were seen as the same artefact category at the beginning of the Early Bronze Age, but simply that the inspiration between forms was not necessarily restricted by functional or formal classifications. Nor is this to say that the dialogue between flint and bronze was entirely abstract or arbitrary. The Favrskov flint scimitar does indeed resemble key traits of the bronze scimitars, and we can also point to the flint dagger from Serup (Lomborg 1960, p. 157, 1973, p. 63), which appears to be the imitation of a contemporary hilted metal dagger. The point is, rather, to argue that the dialogue across materials appears to have opened up for a creative play with the translation of formalised standards (following Benjamin 1973a, pp. 75–77). In other words, even though we may make the observation that several flint artefacts are very likely to be inspired by bronze artefacts, it does not necessarily mean that they have to be understood in the light of the individual source of inspiration or were valued in the same way (but see also Schwenzer 2004, Frieman 2010). Once the flint object was a reality, we may argue that it achieved an autonomous existence with an objecthood of its own.

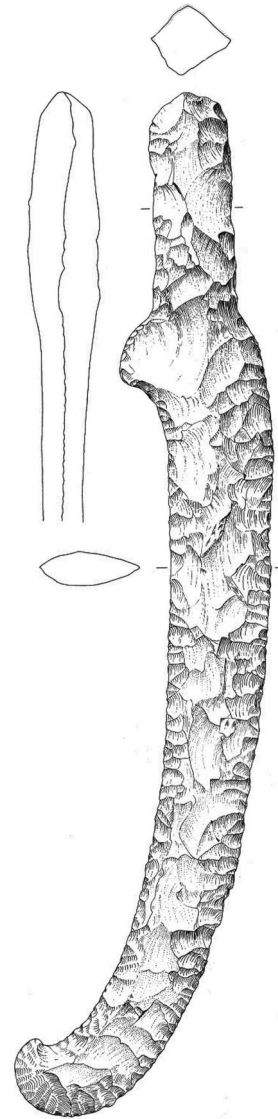


Figure 6. The flint scimitar found near Favrskov on Funen. After Aner and Kersten (1977).

### The paradox of similarity

The lack of a functional imitation in the dialogue between flint and bronze allows us to return to the bronze scimitars that appear to imitate a sheathed sword, where the imitated artefact incorporated sword as well as scabbard in one piece. As explained previously, this constitutes a true skeuomorph, i.e. a copy that only refers to its model by superficial, visual resemblance and not by function. Skeuomorphic elements can also be found on the Nordic imitations of Hajdúsámson-Apa swords in the form of non-functional rivets. The Nordic swords are cast in one piece rather than several pieces (blade, rivets, pommel, hilt or two-part hilt), and their ‘rivets’ thus have no function as they do not serve the purpose of joining the separate parts of the artefact together. Locally produced swords thus

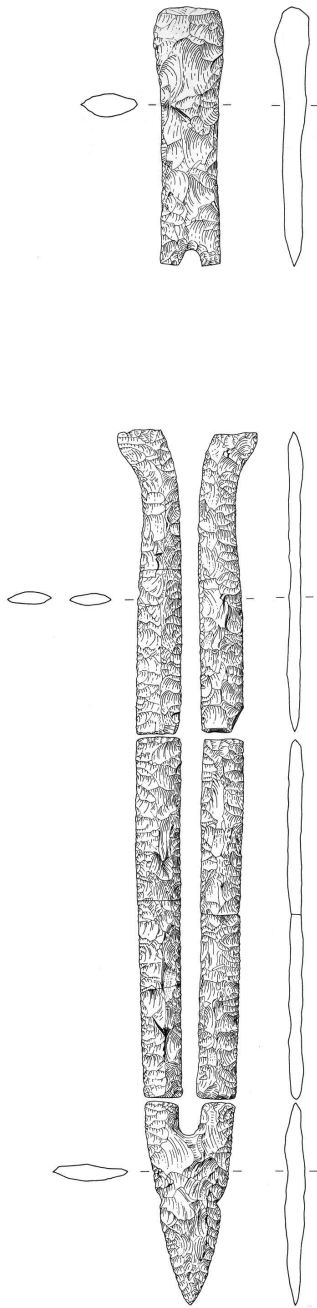


Figure 7. Composite flint sword from Åtte in southern Jutland. After Aner and Kersten (1986).

imitate details in foreign artefacts without replicating their function, just like we saw with the flint reproductions of bronze artefacts. For the sake of definition, we may here recall how Central European Hajdúsámson-Apa swords are also adorned by imitation rivets, but since they are made on the swords that also have functional rivets, I choose to define them technically as ornamental rivets and not as skeuomorphic rivets *per se*.

Once again, the skeuomorphic traits in Nordic swords invite a more critical scrutiny of the relationship between original and imitation, model and copy, prototyping and production. Fundamentally, the conventional notion of a model sees it as an ideal that is reproduced, but with deviation (Deleuze 1983, p. 48, 2004, p. 333), and a prototype is something that other things are based on, but may be rather different (Maniura and Shepherd 2006, Buchli 2010, Guggenheim 2010, Küchler 2010). The reason for these deviations and differences is, in the case of the model, that the copy cannot live up to the ideal, as argued by Plato (Deleuze 1983), and, in the case of the prototype, that the prototype is meant to be an instrument for evaluation, inspiration, testing or learning (e.g. Kirby 1995, Latka *et al.* 2001). So, in other words, copies will always be incomplete reproductions of the ideal model, and prototypes are always meant to lead to the production of difference. The question is, then, how these differences matter as material, social and philosophical facts, and furthermore, at an archaeological level, how similarity and difference can be appreciated in the past.

In archaeology, copies, imitations and similarities are often seen as expressions of competition, inspiration or skeuomorphism (e.g. Renfrew 1986, Knappett 2002, Kristiansen and Larsson 2005, Vandkilde 2010, Frieman 2010), producing 'derived' or even second-rate artefacts (e.g. Müller 1909, pp. 12–13), utilising inferior materials (e.g. Varberg 2007, p. 87) or being restricted by material properties or technological capabilities (e.g. Willroth 1996, pp. 78–79). However, philosophical and cultural explorations in other fields of research have shown how the relationship between presumed 'originals' and their succeeding 'copies' is far more complex than often assumed in archaeology (e.g. Benjamin 1973b, 1978, 1979, Massumi 1987, Taussig 1993, Baudrillard 1994, Groom 2001, Deleuze 2004, Cox 2007, Boon 2010).

Plato, for example, distinguished ideal forms, or models, from copies (*Sophist* 236a–d; see also Deleuze 2004, p. 333). He argued that copies can be good copies or bad copies, which can be judged qualitatively on their fidelity to the ideal. Then, there are simulacra, which are a lower order of copies, lesser in nature than the ideal models and than poor copies. Copies, for Plato, thus assume a position between the ideal (the model) and the inferior (the simulacrum), and he distinguishes 'essence from appearance, the intelligible from the sensible, the Idea from the image, the original from the copy, the model from the simulacrum' (Deleuze 1983, p. 48).

This distinction forms the starting point for Gilles Deleuze's (1983, 2004) discussion of the simulacrum, exploring further in what way copies are copies. He argues that the copy is meant to represent the image of the model, but at some point the connection between the two can grow so close that their distinction is not a matter of the *degree* of differences between them, but instead of their

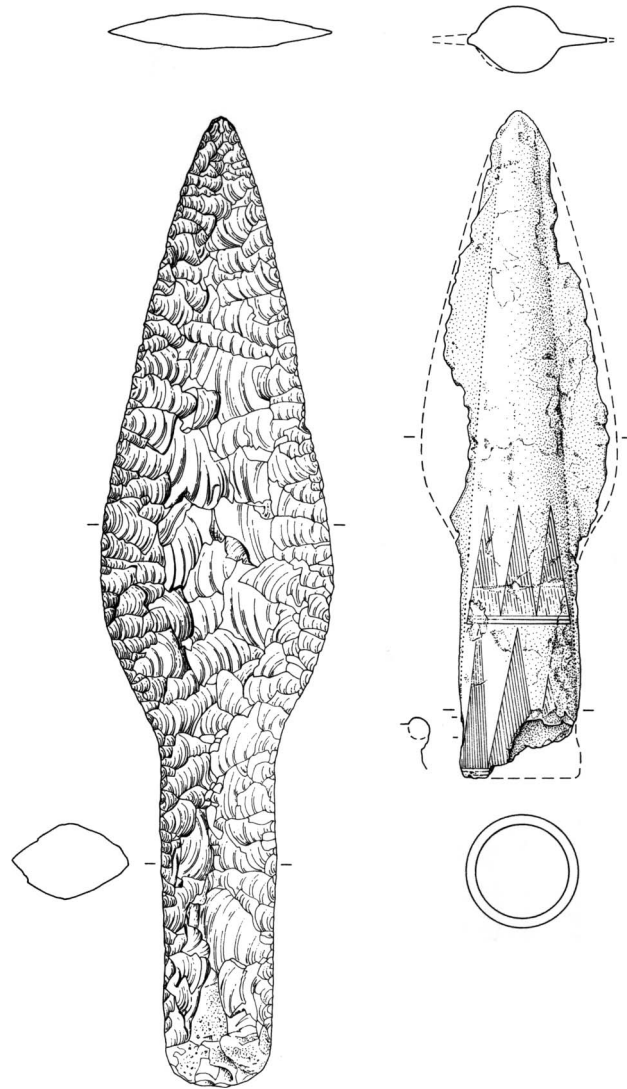


Figure 8. Flint dagger type VI and Bagterp type spearhead from Nordborg, Als, in southern Jutland. After Aner and Kersten (1978).

perceptual qualities or their effects (Deleuze 1983, p. 54). In turn, the simulacrum, according to Deleuze, plays on this resemblance, because it looks superficially similar to the model from the outside (Deleuze 2004, p. 366). However, at closer scrutiny a simulacrum does not *do* the same thing as its model and has different effects on its surroundings. The simulacrum does not imitate its model or try to become the model, but simply uses its resemblance with the model to achieve an autonomous existence (compare with Taussig 1993).

This is what allows Jean Baudrillard (1994) to state, famously, that simulacra are copies without originals, and he further argues that ‘simulation is the situation created by any system of signs when it becomes sophisticated enough, autonomous enough, to abolish its own referent and to replace it with itself’ (Baudrillard quoted in Smith 2003, p. 70). Baudrillard thus identifies a fault line

between the model and the bad copy, which for him is identical with the simulacrum. Thereby, the simulacrum basically generates an order of existence that is without an essence of meaning (Baudrillard 1994, p. 82).

Brian Massumi, however, claims that Baudrillard creates a pessimistic image of simulation that leaves the understanding of resemblance as ‘floating images that no longer bear a relation to any reality whatsoever’ (Massumi 1987, p. 90), where signs no longer represent or refer to an external ‘real’ model. Massumi further stipulates that Baudrillard’s reading of simulation means that when signs do not refer to something else, then they become interchangeable and their meaning implode; they essentially become indeterminate. Massumi argues that the copy is defined by having internal, essential relations of resemblance to a model. The simulacrum, on the other hand, only bears superficial, external resemblance to a putative model (Massumi 1987, p. 91);

yet unlike Baudrillard, Massumi does not see this as a bad quality, because it contains the promise of and a potential for innovation and new identities (echoing Deleuze 1983, p. 53). This implies that the simulacrum seeks to achieve or stir a different range of effects, and as such it does not merely copy the model, but also creates something new. Thereby, simulacra have the ability to be emancipating phenomena that may offer an alternative to the tyranny of tradition, formality and normativity. Simulacra can thus become new originals and thereby destabilise the ontological relationship between the ideal and the copy, and the real and the virtual.

In this light, we may argue that the swords of the Hajdúsámson-Apa type that were manufactured in Southern Scandinavia have no *origin* and no *originals*. Instead, they only have a *beginning*, and that beginning is characterised by repetition (see also Nielsen 1990, p. 15) by being inserted into a seriality of manufacturing events based on the principle of prototyping (Buchli 2010, Kùchler 2010). In the course of this seriality, one artefact continuously leads to the next, but does not pass down a biographical trajectory in the form of a formal genealogy. Instead, the relationship between objects in a serial relation is entirely horizontal. In fact, even the alleged ‘originals’ from the Carpathian area are characterised by a degree of dissimilarity (Rasmussen and Boas 2006, p. 99, Meller 2010, p. 51) making it difficult to appreciate them as anything but the expressions of a dogma of seriality and materialisations of continuous differentiation (Figure 9). The only distinctly similar artefacts within this complex of swords are in fact the swords in the Dystrup hoard, while all other Hajdúsámson-Apa swords and their local derivations display so many differences in proportions, decorative patterns and construction that they are better characterised by a heterogeneity resulting from a complex process of prototyping in which the ontological positions of originals and copies collapse. Other swords adhering to the Hajdúsámson-Apa idiom and related expressions should of course be embraced in this interpretation, e.g. the swords from Blindheim (Norway), Bragby (Sweden), Nebra (Germany), Rosenfelde (Germany) and Vreta (Sweden) (Ekholm 1916, Kersten 1958, no. 607, Engedal 2005, Meller 2010, Schwab *et al.* 2010). The extreme version of this heterogeneity is obviously the composite flint version from Àtte, which even breaks with the technological uniformity of sword production, yet at the same time clearly refers to the same design idiom.

Furthermore, it is also legitimate to see the bronze scimitars as the result of a process of prototyping in that they are brought about by a complex manufacturing process that is centred on a dialogue between wax models, negatives in several versions of moulds and potentially a wooden prototype. However, they may even better be characterised as true simulacra. If they were produced in Southern Scandinavia, as is commonly believed, then they are not imitations of imported objects or copies of an

original artefact, because no such artefact existed. If anything, they are copies of a non-existing object and an imagination of a hypothetical object, or in other words a postulate. At the same time, the scimitars clearly refer to each other, not simply by being reducible to an archaeological ‘type’, but by being so similar that they must have been manufactured in a shared context. Within this similarity, we may also identify an array of differences, as spelled out previously, where minute details reveal that the scimitars were not simply the results of a mechanical reproduction by the reuse of a mould producing identical artefacts.

So, being an ultimate simulacrum, the scimitar does not carry a referential meaning content, but is an independent and sovereign artefact, producing its own meaning and presence (for an opposing view, see, e.g. Larsson 1997, 2000, Engedal 2002, Kristiansen and Larsson 2005, Kristiansen 2010). We may see the flint scimitar from Favrskov as the climax of this material fantasy and as an emancipation from the dogma and standardisation imposed by tradition and perceived material constraints. As a cultural statement, the flint scimitar is, rather, a virtual object in that it is entirely removed from any actual, functional or technological predecessor.

## Conclusion

The examination of the various objects from the Early Bronze Age of Southern Scandinavia highlights certain problems in the existing approaches to what is perceived as originals and copies and illustrates how the ontological subtleties of similarities and differences are overlooked in the archaeological pursuit of meaning and in the construction of typological systems. In this perspective, it is therefore questionable if Early Bronze Age metal manufacturers based their design solely on the ‘imitation’ of imported models as a result of aspirations to copy so-called high status or elite material culture or to reproduce exotic styles. Bronze artefacts were not necessarily only carriers of meaningful symbols and a materialisation of interregional contacts (e.g. Kristiansen and Larsson 2005, Vandkilde 2010). Bronze also became emancipated from fixed and dogmatic meanings by being a malleable plastic medium that offered the possibility for deconstructing and reconstructing material idioms in innovative ways, even stirring a critical attitude to the flint-working tradition.

We may therefore consider the possibility that Early Bronze Age craftsmen worked along the lines of a continuous process of prototyping, which implies that there are no originals and no copies, but only ‘original copies’. In short, this means that a prototype is understood here as the first working version of a given material form and a beginning for development and change. Prototyping is thus the process of exploring form by looking at an existing artefact by using that artefact as an ‘exemplar’ (OED)

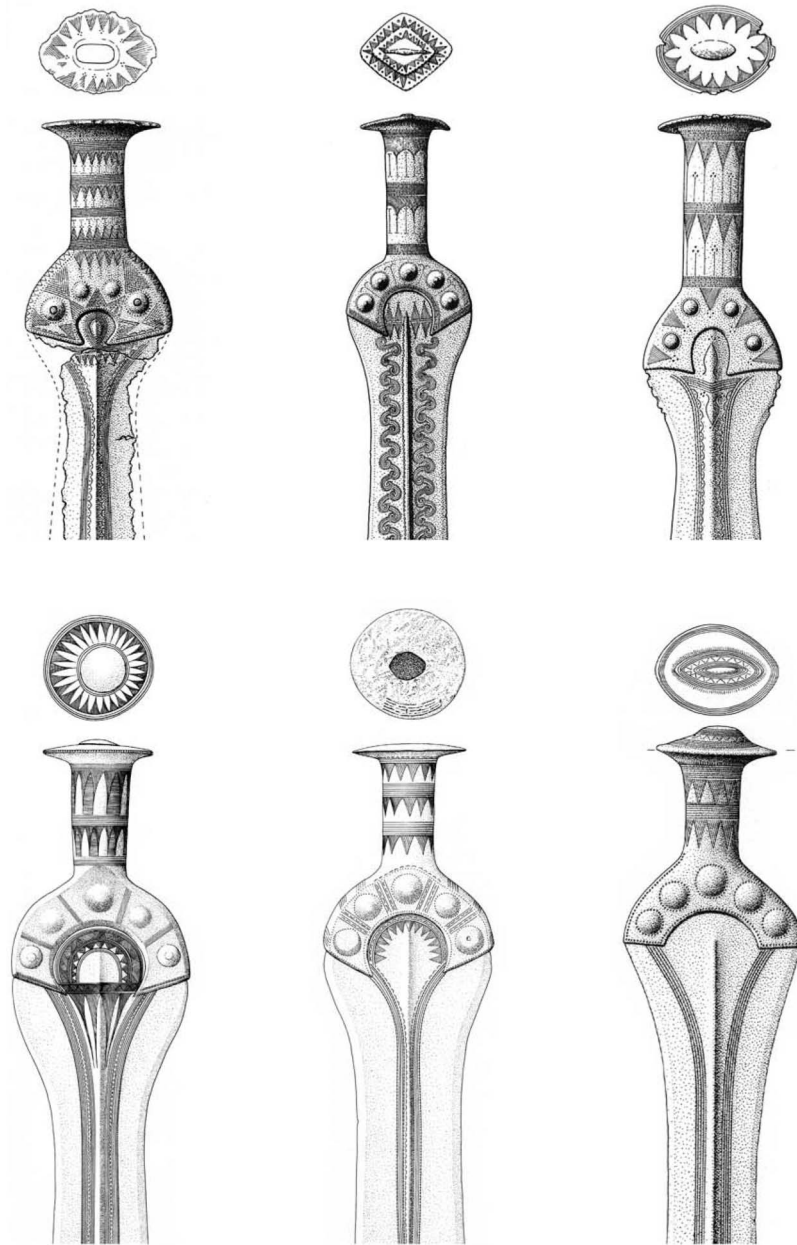


Figure 9. Swords of the Hajdúsámson-Apa type from different places in Europe. After Meller (2010, p. 51, Fig. 20). Used with kind permission from the State Office for Heritage Management and Archaeology Saxony-Anhalt; design by Nora Seeländer).

that is remodelled and reinvented. In prototyping, the individual artefact thus continuously shifts position, significance and status. Accordingly, the model is not superior to the copy, nor is the model a 'pre-copy' of an original (Coaldrake 2007, pp. 199–200), but the copy and the model are different modes of articulating alterity as they will always be different from 'originals' and 'products'.

In this way, the Scandinavian scimitars are not 'misunderstood' Hittite sheathed swords and they do not 'imitate' a foreign ideal, nor are flint replicas inferior to bronze models. These alleged derivatives should instead be

appreciated as reformulations of material idioms, just like laminate flooring uses photographic appliqué to achieve the appearance of wood, or like sculpture translates the texture of fabric, skin and hair into marble or gypsum. This does not mean that the notion of models and copies has to be abandoned, and the production of highly resembling artefacts could very well in certain cases be part of a copying strategy; yet I suggest that bronze workers in period I of the Nordic Bronze Age were either well aware of the impossibility of creating 'ideal' copies in a Platonic sense or that the referentiality to embedded

cultural meanings and values became disentangled from the artefacts in their local contexts. The important consequence of these observations is not simply that resemblance between artefacts is caused by imitation (as phrased axiomatically by Tarde 1903, p. 14), but rather that the repetition of forms produces variation (paraphrasing Tarde 1903, p. 7).

This repetition *cum* variation of material forms, we may expand, were exposed to and stirred heterogeneous attitudes to the conceptualisation of objecthood, which is also reflected in the flint-working tradition. As such, the production of flint artefacts should not be seen as naive and impossible attempts to create bronze artefacts in stone, but rather as a way of distancing oneself from the dogma of bronze work as well as the form-based traditionalism of flint technologies. This did not so much concern the consumer of artefacts, but more so the very notion of artefacts, their manufacturing processes and mechanical properties.

Conceptualisations of objecthood thus became mobile, not pinned down to one shared ontology or circumscribed by one unified cultural attitude, but were in a constant dialogue with technological exploration and inter-artefactual dynamics. This dynamism resembles the multiple and changing ontologies that have been suggested in recent ethnographies mentioned earlier, but I do not wish to argue that the material I have discussed in this article is evidence of multiple or dynamic ontologies in the beginning of the Bronze Age. Rather, I believe that the material shows clearly that seriality, similarity and simulacra were part of a creative reflexivity that stirred new epistemologies; new ways of knowing, extending beyond the knowledge of properties of materials, artefacts and processes of production by raising more fundamental questions as to what is an object.

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