No time out: Scaling material diversity and change in the Alpine foreland Neolithic

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ABSTRACT

Within a project exploring the difference which high-precision chronologies make for narratives of the European Neolithic, this paper examines the place of material culture in the flow of social existence. In contrast to approaches based on imprecise chronologies and stressing gradual change, we examine increasingly high-resolution dendrochronological data in the Neolithic of the northern Alpine foreland, where sharp boundaries between material styles were not in evidence. While 60-year filters allow a more differentiated analysis of the relative distribution of Cortaillod and Pfyn pottery, higher-resolution dendrochronology enables a very detailed narrative of the rapid introduction of Corded Ware in the Lake Zürich area, highlighting significant differences between eastern and western Switzerland. At the scale of individual sites, Concise shows continuity of the local potting tradition, despite repeated episodes of outside influence. At the short-lived site Arbon Bleiche 3, pottery changes much less than diet. This reveals a complex pattern of exactly contemporary diversity, seen even more sharply at the very briefly occupied settlement of Bad Buchau Torwiesen II. To get at agency within the flow of social life, we need as much temporal and spatial detail as possible, close attention to the material and approaches that allow for nuanced narratives.

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1. No time out: approaches to socially embedded material

A convincing case has recently been made for the quiet emergence of a new vocabulary in approaches to the study of the Neolithic, conceptualising the past through 'medium abstract terms' grounded in both theoretical interpretation and detailed scientific observation (Robb, 2014, 26). Interestingly, the list of shifts does not explicitly include material culture itself. Despite claims for a 'new materialism' (Fowler and Harris, 2015, 127), this dimension of Neolithic studies appears to us to remain highly fractured. Strands of several kinds of approach still co-exist, and continue to develop, though in uneven ways.

If culture history seems to many to be interpretively limited, not to say at a theoretical dead end, it still provides the basis for the organisation of large amounts of data at broad temporal and spatial scales and hence remains crucial to the ways in which we model chronological change (right down to the way we classify

material: see Wobst, 1997). Of the many alternative approaches, few have made a direct impact in our study region and period. A relevant debate on ethnogenesis, hybridity and cultural mixing has largely remained a feature of archaeologies of colonialism (Burke, 2009; Liebmann, 2013; Silliman, 2015; Voss, 2015). Post-processual reaction to processual functionalism, in the form of the exploration of material grammar and symbolic action, by contrast, has generally had a very limited spatial scope and frequently explored rather timeless contexts. Finally, in relational ontologies, things themselves are claimed to be active participants in the social world (among many others: Ingold, 2000, 2011; Webmoor, 2007; Witmore, 2007; Olsen, 2010; Jones, 2014; Weismantel and Meskell, 2014; Fowler and Harris, 2015), but this has so far rarely been accompanied by extensive case studies (but see Fowler, 2013). If relational ontology is the prominent and rather noisy new kid on the block, it is also worth noting the thoughtful, socially oriented reworking of older approaches, for example in the literature in German (such as by: Furholt, 2014b; Hafner and Suter, 2005; Kienlin and Zimmermann, 2012; Röder et al., 2013; Suter, 2014). These differences often still seem to follow familiar fault lines, between British, American and Scandinavian theorists on the one hand, and continental European practitioners on the other.

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Yet another approach is provided by the extensive and varied field of evolutionary archaeology, which can be either narrowly concerned with the way the transmission of memes (claimed as culture's analogues to genes) increase an individual's chances of reproductive success (Shennan, 2002) or be applied as a more general approach to change, investigating how material culture 'adapts' to ever-changing environmental and social circumstances (Cullen, 2000; Hosfield, 2009; Bettinger, 2008).

In spite of their evident differences, these approaches share some fundamental ideas about how new items and practices could be introduced into prehistoric societies. For most, the default position is that this would happen gradually. Innovations are introduced slowly, reach a peak and then smoothly decline, as in the 'battleship curve' that is the foundation for much culture-historical work. There is no need to invoke any thought or even awareness on the part of prehistoric actors. Indeed, the analogy chosen by evolutionary anthropologists is of 'drift': undirected, small-scale changes due to some kind of copying error and occurring even at times when there are no outside selection pressures (Shennan, 2002, 54–6). This is the default position of much relational archaeology, as it stresses the embeddedness of actors in much wider networks, meshworks or environments mutually attuned to each other and therefore changing in unison, at a comfortable speed.

The alternative possibility, of rapid and directed change, has been seen as the one in need of explanation and has therefore attracted more controversy in some quarters. While not explicitly denied in relational approaches, it has been more or less shelved alongside the notion of a particularly human kind of agency, which had until recently been the main theoretical foundation for exploring diversity and change at the small scale of social action (Dobres and Robb, 2000). The idea of rapid cascades of change, in which an innovation is suddenly adopted simply because it has reached a momentum of its own, has been introduced into evolutionary approaches (Bentley et al., 2011, 69). This tipping point can be reached for instance when the kind of artefact involved becomes important for signalling group cohesion, or where there is a trend towards following individuals perceived as particularly successful (Bentley et al., 2011, 115). Innovations which spread rapidly over larger scales are still often discussed in terms of adaptations to outside pressures, such as environmental degradation, and their effects on social coping mechanisms (Gronenborn et al., 2014). Even population replacement, long reviled as theoretically unsophisticated, is enjoying a limited come-back on the basis of archaeogenetic studies (see Hofmann, 2015), though these kinds of narratives hold the danger of sidelining local differences. In some archaeological approaches, considerable effort has gone into developing graphs and mathematical models which can help us distinguish between these two options of drift and directed change (Bentley et al., 2011, 115; Shennan, 2009). Yet in all these traditions, they are seen as mutually exclusive and unidirectional processes.

In sum, there is still no coherent, integrated or widely agreed approach to material culture, which exploits to the full both the specifics of time and place, as mapped by now well over a century of data collection in European Neolithic studies, and the possibilities of multi-scalar analysis. Specifically, our claim here is that material culture assemblages are not helpful when seen as totalising entities, as simply instances of a pre-defined type, but only once objects, contexts and practices are considered at a series of scales and at as fine a chronological resolution as possible. One of our main aims in this paper is hence to show how more complex patterns of diversity, change and continuity can be traced on the basis of a more precise chronology. We show that, even when we are just investigating one kind of artefact, different modalities of change can succeed each other in time quite rapidly, and that dif-

ferent practices can coexist when we look at different scales of analysis. We also argue that fluidity and diversity can be traced not only at the small-scale level of individuals, households or local communities, but also in regional trends.

Our approach, like many others, is based in the flow (DeLanda, 2006, 45; Rockefeller, 2011) of social practice. It is best caught in the memorable claim of Harold Garfinkel (1988, 103) that there is 'no time out'.[1] Michael Carrithers (2010, 167) has argued for a 'cultural project' which 'entails the finding and displaying of variation in the cultural rhetorical resources which people use on themselves and one another to establish a scene, make a movement and lead to a performance'. Thus, our approach is broadly speaking contextual, and we explore the potential that non-correspondence, diversity and lack of fit have for conditioning change. Their relevance emerges when we study how the social embeddedness of different kinds of material culture is played out at a variety of temporal and spatial scales. This is what we will examine using a specific case study.

2. The northern Alpine foreland: temporal and spatial scales

Our subject matter is the material sequence in the Neolithic of the northern Alpine foreland, from the later fifth to the earlier third millennium BCE (c. 4300–2800 BCE[2]; Figs. 1 and 2, Table 1), where the well-known, rich data from hundreds of waterlogged settlements provide robust temporal and spatial control for patterns and trends in the development of material culture. Through their well-preserved on-site evidence, such settlements also offer a thoroughly documented domestic context for the use of materials and things. Of these, pottery used in household contexts is the item most often employed to trace sequences of change and it hence also forms the focus of this study, but we additionally draw on other categories of material culture to some extent. The quality of the evidence, with chronologies based largely on dendrochronology (Billamboz, 2013; Ruoff and Gross, 1991), allows us to look not only at regional variation and what appear to be modest rates of change, but also intra-site differences and some situations of strikingly rapid change.

Our starting point is a view of multiple spatial and temporal scales through which social life was played out. For all the wealth of evidence for settlements, the great majority in this area were probably markedly short-lived, coming and going within a pulse of fewer than 20 years; many small hamlets and villages appeared and disappeared, marking a kind of social fluidity at the local level and in the short term (Ebersbach, 2013; Hofmann, 2013). There was probably greater continuity, however, in the tenure of local landscapes and their resources, including fields and clearances (e.g. Hofmann et al., 2016; Styring et al., 2016). How then was material culture employed in this kind of social setting?

3. The large scale: refining culture history

Looking at pottery only, material culture in most of the Alpine foreland Neolithic shows a remarkable stability against foreign influences, even if those were both substantial and repeated. Most of the pottery through the sequence in our study area had rather

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[1] 'For ethnomethodology the objective reality of social facts, in that and just how it is every society's locally, endogenously produced, naturally organized, reflexively accountable, ongoing, practical achievement, being everywhere, always, only, exactly and entirely, members' work, with no time out, and with no possibility of evasion, hiding out, passing, postponement, or buy-outs, is thereby sociology's fundamental phenomenon' (Garfinkel, 1988, 103).

[2] Dating is indicated as follows: 'cal BCE' refers to calibrated radiocarbon dates; short spans with exact years in brackets followed by 'BCE' refer to dendrochronological dates (e.g. 3766–3763 BCE); ranges in centuries BCE are generalisations based on dendrochronology. Dendrochronological dates include only A-dated material with preserved sapwood (*Waldkante*).