

# High-Definition Archaeology, Small-Scale Narratives, and Monetary Practice in Medieval Scandinavian Urbanization

**ABSTRACT** High-definition archaeology is an efficient tool to study medieval urban economic practices. Medieval economy has been synthesized in ‘grand narratives’ which obscure the regional and local variations of economic practice. Through examples from two medieval towns in Norway and Sweden the article aims to show regional diversity in monetary practices as an alternative narrative to the grand narratives that leave a dominant impression of the past as a linear and homogenous development. The article shows the complexity and dendritic development in early medieval monetary practice by using high-resolution data and elements from Social Practice Theory. High-resolution data is required to establish ‘dense chronologies’, which are of importance when reconstructing events and processes embedded in the archaeological contexts, as well as reconstructing norms and concepts of social behaviour embedded in events and processes.

**KEYWORDS** Chronology; high-definition archaeology; horizontal archaeology; medieval urban economy; Trondheim; Sigtuna; Social Practice Theory; horizontal chronologies; ‘dense time’

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## Introduction: Hunting for Small-Scale Narratives

Towns are adaptive, innovative, and expanding. They are places where new social practices emerge, intellectual resources are stimulated, and material environments are created and recreated to adapt and develop within social, political, economic, and cultural contexts. How do we as archaeologists approach, theoretically and methodologically, the diverse and dynamic phenomenon of medieval towns? Scott G. Ortman, José Lobo, and Michael E. Smith declare, like many urban researchers, that towns are ‘complex systems’, but what does this imply? ‘Complex systems entail both variation and structure [...]. Only by adopting an explicitly historical perspective can such fundamental structure be revealed’, they answer (Ortman, Lobo, and Smith 2020).

In Scandinavian urban archaeology, ‘structure’, in the sense of a set of common functional and topographical characteristics in urban development, has received more attention than ‘variations’, in the sense of diversity (cf. Andersson 2017 [1972]; Helle 2006; Christophersen 1997; 2015; Larsson 2017). Ben Jervis (2018) has thought-provokingly discussed the discrepancies between the conventional historical narrative of Southampton in the Late Middle Ages and the narrative that can be told from the archaeological context: the material remains show a diversity of activities which do not match the macroeconomic explanation of the situation in Southampton in the fourteenth century AD: ‘By seeing the town not as a

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purely economic and political entity, but as an entangled web of social interactions' he states, the narrative about fifteenth-century Southampton's economy changes content and direction drastically (Jervis 2018, 140). To discover urban diversity and its preconditions, we need to hunt for the 'small-scale narratives', or, as Jervis (2018, 143) puts it: 'a case study of the local articulation of large-scale processes of royal power, international relations and economics'. Small-scale narratives are rooted in practice patterns, and we need to perceive the structure and tautness of these patterns. To be able to do this we need to collect data which combine historical events and processes close in time and place with archaeological contexts relevant to the research question(s). This task demands 'dense chronologies and detailed location data, which has been difficult to achieve until recently, when high-resolution data has become more commonly accessible'. Rubina Raja and Søren M. Sindbæk (2020, 173–74) have recently discussed how new isotopic, biomolecular, and geoarchaeological scientific methods can provide archaeologists with the high-resolution data necessary to establish close relationships in time and space internally and between archaeological contexts and historical events and processes. Quoting Raja and Sindbæk (2020, 174–75), high-definition archaeology is a methodological approach to the archaeological context that 'refine[s] the precision of time, the character of excavated contexts, and the networks traced by materials found therein'. They point to three fields where high-resolution data are of particular interest: 1) in stratigraphical and contextual analyses by use of geochemistry, micromorphology, etc., 2) in reconstruction of chronological sequences, and 3) in environmental and raw material studies, and I would like to add bioarchaeological studies. High-resolution data provides urban archaeology with the long-awaited opportunity to establish dense chronologies required for linking events and processes deeply embedded in the complex sequences of Anthropocene layers and material entities (houses, etc.).

To study 'urban diversity' as more than a hypothetical statement, I have for practical reasons limited the study to a frequently discussed theme about early medieval urbanization in Scandinavia, which is the emergence of monetary practice. The purpose of the study is to investigate 1) how exchange of goods was carried out with a particular focus on how money was enrolled in early medieval exchange practices, and 2) to investigate how practices differ, and why. Comparing diversity in practice patterns on a local level will be viewed against the grand narrative of early medieval economic development. The result will finally be the point of departure for a theoret-

ical discussion of generalization and synthesis in the construction of the past with a particular focus on the use of the concepts 'time and temporality' in urban archaeology.

### The Diverse Use of Coins in Early Medieval Urban Communities

The use of money in early Nordic urban communities has been studied extensively (i.a. Gullbekk and Sættem 2019; Klackenberg 1992; Ramberg 2017; Skaare 1995; Skre 2011; Horsnæs, Moesgaard, and Märcher 2018), including in Trondheim, Norway (Risvaag 2006; Risvaag and Christophersen 2004; Skaare 1989) and in Sigtuna, Sweden (Söderberg and Gustafsson 2007). A key question has been the role of coins in economic transactions: Henrik Klackenberg (1992) and Jon Anders Risvaag (2006) have been inspired by Fernand Braudel and the Annales school and share their understanding of the introduction of coins in Scandinavian towns as a political tool in the early kings' struggle for control over people and territory. Risvaag conceives the use of coins in Trondheim in the period AD 1000–1150 as an ordinary means of exchange in a small-scale commodity exchange practice and explains the introduction of general-purpose money by referring to the town's 'otherness' in terms of different demographic, social, and material realities compared with the rural surroundings. Dagfinn Skre (2011, 85), on the other hand, describes the discussion about means of payment as reductionist and of 'too little significance within the total economy'. Rather, he sees the use of coins as a significant indicator of profound changes in society during the tenth and eleventh centuries AD. Linn Eikje Ramberg (2017) has a similar approach in her study of coins and their use in Norwegian society during the twelfth century, as she argues for the diverse use of coins, ranging from votive offerings to payment of taxes and fees, and in exchange for goods, although it is not possible to decide whether they were a part of reciprocity, redistribution, or market-economic integration mechanisms. These divergent presentations of background and process in early medieval exchange practice and use of coins call for a change in perspective, where we go from macro-scale narratives of economy in a Braudelian 'longue durée' tradition to small-scale narratives, a condensed time perspective, or from a 'vertical' chronological approach to a 'horizontal' one. Below I will present two case studies, one from Trondheim and one from Sigtuna, from which the following theoretical discussion of time and temporality is based. Trondheim, located in central Norway close to the large Trondheim

Fjord, and Sigtuna, located in Upland in Sweden, are among the oldest towns in Scandinavia. Both towns played a vital role in the Christianization and rise of the Swedish and Norwegian kingdoms in the Late Viking Age and Early Middle Ages. Extensive archaeological investigations have been carried out in both towns, and the findings have provided valuable opportunities for comparison of their early urban economic activities (i.a. Ros 2001; Kjellström and others 2009; Tesch 2016; Christophersen and Nordeide 1994; Christophersen 2020; McLees 2019).

**The Sigtuna Experience**

Mats Roslund (1994; 2018) asks what makes the qualitative difference between rural and urban communities in terms of social content and cultural expression, and he points to the urban networks in which medieval towns were entangled. Production and exchange are basic urban practices that create and recreate urban networks, in which material, knowledge, and intentions (‘meaning’) circulated. To understand better how the exchange practice of traded goods and craft products were rooted in traditional social and cultural concepts, Roslund carried out a distribution analysis of how weights and coins were dispersed within five plots excavated in an area known as Trädgårdsmästaren in Sigtuna (Roslund 1994). The courtyards were divided into functional zones which, according to the types of activities and buildings, would have been used either for private or public functions, or sometimes mixed. Of the twenty-four weights and twenty-three coins from the investigated courtyards, six coins and weights were found in the craft milieu closest to the street, nine were found in a zone with mixed household functions, and thirty-two coins/weights were found among the dwelling houses (Roslund 1994, 153). According to Roslund, this distribution pattern shows that for the second half of the eleventh century the dwelling zone was ‘preferred for transactions where it was necessary to weigh silver’ (Fig. 2.1). This practice, argues Roslund, continued well into the High and Late Middle Ages (Roslund 1994, 155–56). The contemporary productive area closest to the street where the workshops/booths were erected from the second half of the eleventh century did not use coins as a medium for trade (Roslund 1994, 154). The reason for this, he proposes, is that the goods produced and sold from booths along the street were of less value than the transaction objects inside the private houses (Roslund 1994). He concludes that exchange of valuable goods, such as bundles of furs or slaves, were performed by routines embedded in two dif-

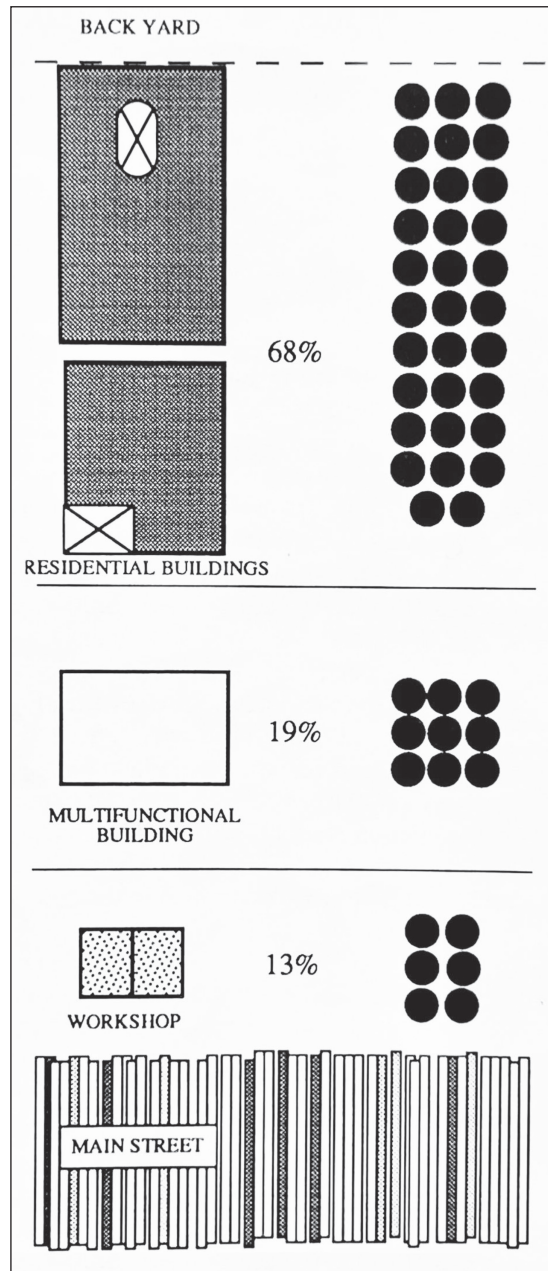


Figure 2.1. The distribution of coins and weights in the settlement zone, from the second half of the eleventh century. Trädgårdsmästaren 9 and 10, Sigtuna. After Roslund 1994, fig. 4.

ferent practice patterns, one that involved the kings’ aspiration for control and tax, and one related to the townsmen’s need to take control of their own trading activities with as little interference as possible from the authorities (Roslund 1994, 154). However, during the Middle Ages, the exchange activities encapsulated in private environments gradually shifted to the booths and public spaces.

There are, however, alternative explanations for this shift. One explanation arises from an article published by Roslund (2018), in which he states that a



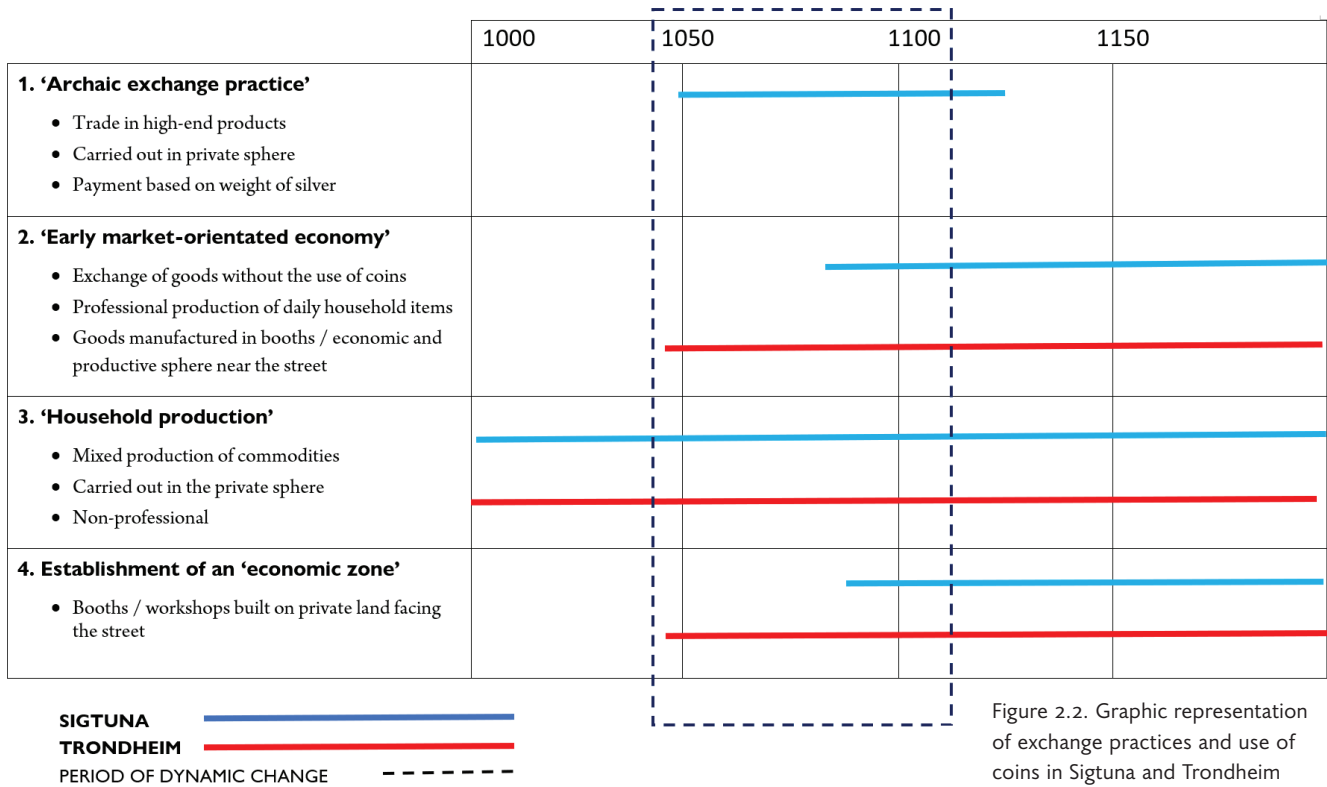


Figure 2.2. Graphic representation of exchange practices and use of coins in Sigtuna and Trondheim c. AD 1000–1150.

mix of productive activities, metal casting, textile crafts, and horn and antler crafts, took place within the private sphere during 'most of the 11th century' (Roslund, 2018, 33). From the last decades of the eleventh century, metal casting moved away from the private sphere and took place in booths erected along the street, but it is not clear, though, whether coins are found related to this activity as early as this. From the beginning of the next century, casting and bone and antler production concentrated more and more around the booths, at the same time as the volume of waste production increased significantly (Roslund 2018, 32). This might indicate a significant shift against a beginning of market-orientated production, which also is indicated by the expansion of the booths along Stora Gatan.

Horn- and antler-craft production continued to be practised inside private houses and did not move from the private sphere and into the booths in the public sphere until later (Roslund 2018, 31–33). The same is claimed about the 'archaic exchange practice'. Based on this pattern it appears, at least as a tentative hypothesis, that in the last two to three decades of the eleventh century three different modes of production existed simultaneously, but they were located in different places and had different target groups: one mode was related to 'household production' concerned with the need for daily household products, one was related to 'early market produc-

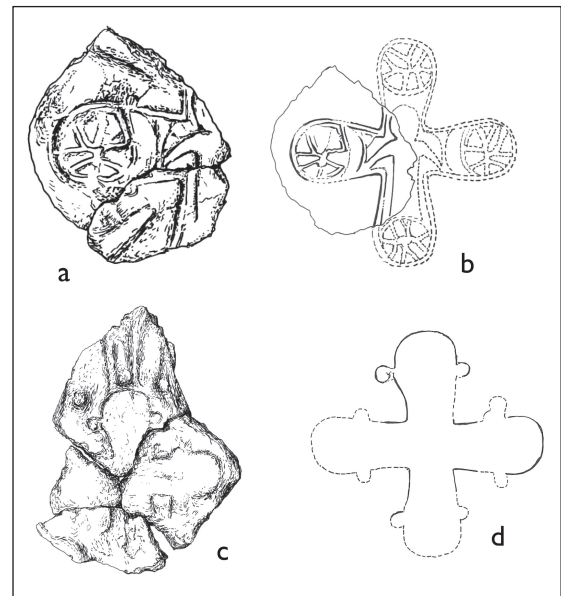


Figure 2.3. Fragments of casting moulds from Library site, Trondheim. **a)** and **c)** mould fragments. **b)** and **d)** reconstructions, phase 4/5 c. AD 1075–1125. After Bergquist 1989, fig. 43. Drawing by Runi Langum.

tion' concentrated around the booths facing the streets, and an archaic mode of 'elite exchanges of valuable goods' also existed. The early use of coins, however, seems not to have taken place where one would expect the emergence of coins as ordinary



Figure 2.4. Section of the booths along Kaupmannastretet, Library site, Trondheim, phase 4, AD 1050–1100 and phase 6, AD 1150–1175. After Christophersen and Nordeide 1994.

means of payment first took place (that is, around the booths), but within the private sphere and in archaic exchange relations that involved valuables and exchange means in weighed silver coins.

It seems then, that the significant change in production and exchange practices in Sigtuna did take place during the last decades of the eleventh century and the beginning of the twelfth. The scene for this change was complex and has not been fully described and understood, but it seems that it took place both in the private sphere, where an archaic exchange practice continued well into the High Middle Ages, while a tiny household production of commodities continued (Fig. 2.2).

### ***The Trondheim Experience***

The spatial organization of the early medieval urban landscape in Trondheim was like Sigtuna: oblong plots with their short ends bordered the town's main street, which in a written source dating from

the thirteenth century is named Kaupmannastretet (the merchants' street). Kaupmannastretet was the town's market street and the only public commercial space in the town throughout the Middle Ages. Around 60 m of the street with ten to seventeen plots on both sides were excavated during the period 1973–1985 (Christophersen and Nordeide 1994). The first permanent and solid log-built houses were erected around AD 970–980 on large platforms along the shoreline around a dried-out bay. On some of these plots, small-scale, craft production of cast metal items together with some bone, antler, and leather craft-working took place periodically. The production of metal objects was located at open air 'workspaces' close to the gravel-paved street (Bergquist 1989, 120; Nordeide 1989, 163), while the waste from bone-, antler- and leatherworking was scattered all around the plots. No coins or weights were found together or close to these workplaces. The metalworkers produced luxury goods, small crosses, and clasps in silver and brass, and they mastered gold-foil stamping and repoussé techniques (Fig. 2.3). These high-class, professionally made objects might indicate that metal casting was made by professional craftsmen, which produced luxury goods for a local

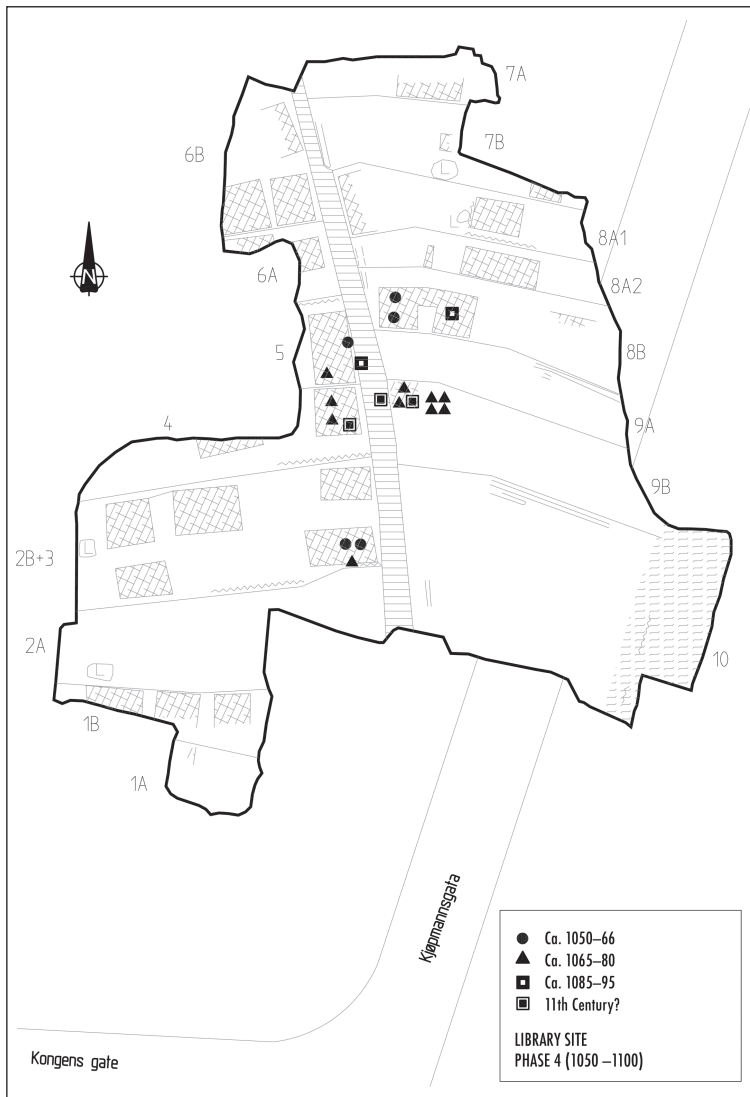


Figure 2.5. Finds of coins from c. AD 1050–1100 in the booths and at Kaupmannastretet, Trondheim. After Risvaag 2006, fig. 7.

or regional elite. No coins, hack silver, or weights were found in or in the vicinity of these open-air production areas of the first half of the eleventh century, which indicates that the exchange practice did not include the use of any ‘tools of trade’ but was performed as a barter transaction. The bone, antler, and leather craftwork were, as in Sigtuna, carried out within the private households and with a small amount of waste material.

From around AD 1050 or some decades earlier, a new practice pattern appeared: multifunctional booths were erected on the private plots along Kaupmannastretet on the same spots as the former open-air workplaces. In the following one hundred years, booths were erected on almost every plot along Kaupmannastretet (Fig. 2.4). Mixed waste material

from within and around the booths indicates that either craftsmen with different specialities shared booths or different craftsmen worked periodically in the same booths. The mixed use of the booths from the mid-eleventh century indicates that the booths probably functioned as rented workshops and stalls, within which small-scale professional production of a variety of items in leather, bone, antler, and metal took place. The craftsmen probably worked in direct contact with the consumer and made the products on direct order according to the consumer’s wishes.

At the same time, as a professional commodity production developed around the economic zone of booths along Kaupmannastretet, scattered deposits of contemporary waste material and tools from leather-, bone-, antler-, and metalworking were found in the private houses and their backyards. This indicates that household production continued parallel to the professional craft production in the booths.

Although the main development in craft production seems to have a parallel development in Trondheim and Sigtuna, the introduction of the use of coins as a means of payment was different both in time and context: in Trondheim, coins were used from around AD 1050, and their usage increased gradually during the second half of the eleventh century (Risvaag and Christophersen 2004): twenty-eight coins date from the reign of Harald Hårdråde (Harold the Hardruler, AD 1047–1066) and thirty-two from the reign of Olav Kyrre (AD 1067–1093) (Gullbekk and Sættem 2019, 108). In total, twenty-one of the coins were found in seven of the ten booths (Fig. 2.5). At most, seven coins were found in one booth, but on average one–three coins were found in each booth. Additionally, a lump of twenty Harald Hårdråde triquetra coins that were likely to have been in a purse, were found out of stratigraphic context, and four further lumps of coins dating from the reign of Olav Kyrre, also struck in Trondheim (Nidaros), were found. These coins have been interpreted as ‘empirical evidence for the persistent use of coins during the reigns of Harald Hårdråde and Olav Kyrre’ (Gullbekk and Sættem, 2019, 108, trans. by author). It is reasonable to assume that the coins were a part of an upcoming new practice pattern that developed when itinerant craftsmen for a longer period stayed in the booths which they had rented for the purpose of craft production and trade. The booths along Kaupmannastretet functioned as the town’s earliest ‘economic zone’ and probably became a meeting point between the townspeople and the itinerant craftsmen and tradesmen.



### **Trondheim and Sigtuna in a Comparative Perspective**

In Sigtuna it seems that two, maybe even three, different ‘modes of production and exchange’ were practised simultaneously, at least in the second part of the eleventh century. Hence it follows that the forces behind the introduction of coins as a means of payment failed in profoundly changing archaic but still viable practices within the economic sphere in Sigtuna. This is opposed to Trondheim, where no such archaic exchange practice seems to have existed, which probably made the introduction of coins as an ordinary means of payment by the unscrupulous king Harald Hårdråde (in English: Harold the Hardruler), greedy for power and influence, easier than in Sigtuna. Alternatively, the king could have introduced coins as a means of payment in a way which brutally eradicated older practices, except those encapsulated in ordinary household production. This would have prepared the town for a possible early restructuring of the space close to the public spatial area, Kaupmannastretet. The early introduction of money as an ordinary means of payment may also have something to do with the town’s demographic boom during the eleventh and twelfth centuries: the population expanded from some few hundred inhabitants in the beginning of the eleventh century AD to 1400–1500 inhabitants around AD 1100, and around AD 1200 maybe as many as c. 2400–2500 inhabitants (Christophersen 2020, 178). The rapid population growth together with the profound changes in power structure and income from taxes, fines, and fees — a consequence of the Norwegian state-formation process during the eleventh century — might have been an inspiring and motivating backdrop for the successive transformation from a professional production based on personal relations to an open ‘anonymous market’ where prices and quality ultimately became law-regulated, in Norway by King Magnus Lagabøte’s *landslov* (state law) from AD 1274 (cf. Christophersen 1980; Carelli 2001, 201–09; Risvaag 2006, 298–307). In Sigtuna, the early Swedish kings Olof Skötkonung (c. AD 995–1022) and Anund Jakob (c. AD 1022–1050) struck coins too, but their intentions are obscure, and they did not follow the same strands in Sigtuna as in Trondheim (Malmer 1991, 43). The use of coins as a means of payment in Sigtuna seems to have grown popular first in the latter part of the eleventh century, at least in the exchange environment around the booths towards Stora Gatan.

The above examples from Sigtuna and Trondheim, although very simplified and based on a tenuous empirical material, hopefully demonstrate the poten-

tial in local archaeological context to establish ‘small-scale narratives’ and local adaptations to the early monetization process. These small-scale narratives are important in the way they uncover the diversity in the development of the medieval economic practice complex, dominated by the grand narratives established and refined by historians for generations. In the following, I will give a short overview of the grand narrative’s explanation of how the development of medieval economic practices evolved.

### **Urban Economy or Economies?**

When Fernand Braudel (1982) wrote *Les Structures du quotidien: le possible et l’impossible* in 1979, he included among other variables everyday consumption patterns, money, and towns to describe and present an overall comprehension of how economy in the Middle Ages evolved (Braudel 1982, 13). In his search for trajectories, he found that a market-oriented economy was but one of many possible economies. By market-oriented economy Braudel referred to production and exchange mechanisms in which population growth, rural activities, marketplaces, stalls, workshops, banks, and stock exchange all actively participated as agents. However, he claimed that underneath those ‘transparent realities’ there was an opaque zone of basic activities generated from the daily life needs and routines of ordinary people. Manuel De Landa (2016, 14–16) has made an important note on Braudel’s approach to the medieval economic development: the medieval economy should *not* be seen as a ‘single macro-entity’ but should be approached as dynamics operating at different scales and being ‘able to capture the heterogeneity of practices and variety of social entities’, that in De Landa’s view constitutes the real agents of economic history. How do we as archaeologists reach, or approach, this ‘Braudelian challenge’? Peter Carelli (2001) has acquired similar knowledge from a comprehensive archaeological and text-based study of the emergence and development of ‘a capitalistic mind’ in medieval Denmark in the twelfth century: the traditional point of view that the Viking Age silver weight and exchange economy was replaced during the twelfth century by a pure monetary economy is a rough simplification. The two systems existed in parallel, and probably were complementary to each other, but they rapidly changed in favour of a monetary based economy during the thirteenth century (Carelli, 2001, 196–205). Parallel to that, significant changes took place within urban commodity production towards a production for an anonymous market, explained by Carelli (2001, 175) as due to changes

in the urban consumption: from limited consumption to mass consumption, and from production of a few and simple forms to overall diversity in urban material culture. Carelli (2001, 376–77) links these changes to an overarching disintegration of the social relations that previously governed economic practice and brought the individual to the centre of economic intentions and actions. Both Braudel and Carelli deny that there was a unilinear economic development and instead suggest the possibility of a more ramified and ambiguous urban economic development that was dependent on regional and temporal preconditions in ordinary people's social, daily-life practices. Harald Kleinschmidt's (2000, 161) characteristics of production and distribution practices in Europe in the twelfth century seem to support the theory of diversity in economic activity, when trade relations that facilitated the consumption of goods at places where they were not produced also could occur in competition with local production. Furthermore, if towns are, as traditionally stated, not a single type but multiple types which manifested themselves as various forms of urban identities and sociality (Thrift 2007, cited in Jervis 2016, 392; Larsson 2017, 226), then economic actions dependent on variations in time, place, and space developed a variety of local and/or regional production- and consumption-routinized practices. The last statement challenges the traditional large-scale views, or *grand narratives*, of medieval economic development outlined by historians such as Henri Pirenne (1927), March Bloch (1964a; 1964b), Michael Postan (1973), and Adriaan Verhulst (1999), in which the elite, seigneurial estates, long-distance trade, and financial institutions played decisive roles from 'above'. I will now return to the two examples from the outskirts of Europe to take a closer look at how local urban archaeological contexts can be studied to generate alternative narratives and modifications to the grand historical narratives of medieval economic development. How can this be achieved, and with what theoretical and methodological approaches?

### Time for Rethinking Time?

If coins were used as a measure of value and not as a means of payment in exchange routines, and exchange of goods took place in a privatized sphere in Sigtuna at the same time as King Olof Skötkonung struck coins some few metres away from where those exchange activities occurred, then the use of coins followed different trajectories in Sigtuna and Trondheim both in time and in events. Why the development followed different trajectories in contemporary Sigtuna and

Trondheim is still obscure because of loss of spatial and chronological data which could have linked material and events 'embedded' in the local archaeological contexts together in dense chronological sequences. This challenges our methodological abilities, but also, and above all, our understanding of the concepts of time and how archaeology documents time sequences in archaeological contexts: a stratigraphic matrix, the Harris Matrix, is a representation of a time course arranged in an ascending line. The graphical matrix tells us that events at a certain level in the matrix take place because of events at a level further down in the matrix, and at the same time they have consequences for events recognized in the levels above. As such, the Harris Matrix appears as 'materialized time sequences' where events take place as vertical sequences in the matrix. Keeping this in mind, I will put focus on the movement that takes place along the horizontal lines in the matrix, or more precisely described, I will look for the very small and overlooked 'events' of entangled intentions, materials, and knowledge generating a social practice pattern hidden in the archaeological context. I will briefly elaborate on this in the following.

### A Horizontal Past?

When we construct historical narratives, we intentionally focus on the past as an object. When we intentionally focus on an object, different aspects of that object will appear more dominant than others because our intentions are governed by different confirmations of our expectations: we will find what we expect to find, and our expectations will be built up through our participation in the present, our experiences in the past, and our intentions about the future. Such 'intentional acts', or *noesis*, as Edmund Husserl (1969) called them, are decisive for how we think of time as an actant in our constructions of historical narratives (Rassi and Shahabi 2015). Another important factor highlighted by Husserl is that all material and intangible objects are attributed an a priori 'meaningful content' (*noema*) that affects us because such objects appear concrete to us (Husserl 1969, 238). In that sense, our presentations of the past can never be anything other than shaped through our intentional approach to and a priori attribution of the meaning of history. However, this does not mean that such presentations are incorrect or tendentious, but rather that they will never be complete in the objective meaning of the word. Husserl's understanding of how the real world becomes apparent through systemic interactions of noetic and noematic approaches is fundamental for all thinking



about action in time and space, and hence about the past (Christophersen 2015, 116–17; 2018, 61–63). A modernist a priori attribution of the past prescribes a forward-looking line of development, an ‘evolutionary’ understanding of time (Orderud 1995, 85). Studying the past is therefore often about revealing, exploring, and explaining the development no matter which aspects of ‘The Social’ led to where we are today. This modernist ‘historical imperative’ is a point of view on historical development based on a notion that events and happenings are connected in links arranged linearly in a progressive movement — this is how we humans often perceive past time (cf. Rönby 2004, 71): we have become who we are through the events and happenings we have experienced in the past, and this rules our life and use of time (Shove, Pantzar, and Watson 2012, 12). An alternative approach to the past would be to start by approaching the past rooted in synchronous rather than in diachronic events and apply a methodology focusing on parallel events and contexts, which have come into being by entangled elements of material, meaning, and knowledge as practice patterns that appear ‘here and now’ — that is, ideally simultaneously. How could such an approach open for new archaeological ways to construct historical narratives, and hence alternative ways to examine urban economic activities?

Based on what has been referred to above as Modernism’s ‘historical imperative’, my starting point is that the grand narrative of medieval urban economy is constructed, implying a *linear understanding of time*: events are ordered in vertical stacks, and the relationships between the stacks constitute the meaning content of Modernism’s historical grand narratives. To ensure that a narrative is sufficiently consistent and can be approved by the rest of the research community, researchers must 1) clean the narrative of events that are not deemed to fit in its temporal logic and 2) strengthen the links that connect the stacked events together into a vertical structure. The glue that holds this pyramidal structure together is the perception of a linear temporality, and memories are organized accordingly. In archaeological research, time is expressed in relative and absolute chronological sequences that are established and systematized through stratigraphic observations and verified through either conventional methods for relative dating or methods used in natural sciences for absolute dating (Harris 1989, 41–43; Lucas, 2012, 76–82). Generations of archaeologists have found it a constant challenge to refine their methods for relative and absolute dating. The more secure and precise the absolute dating is, the better are the possibilities of organizing and describ-

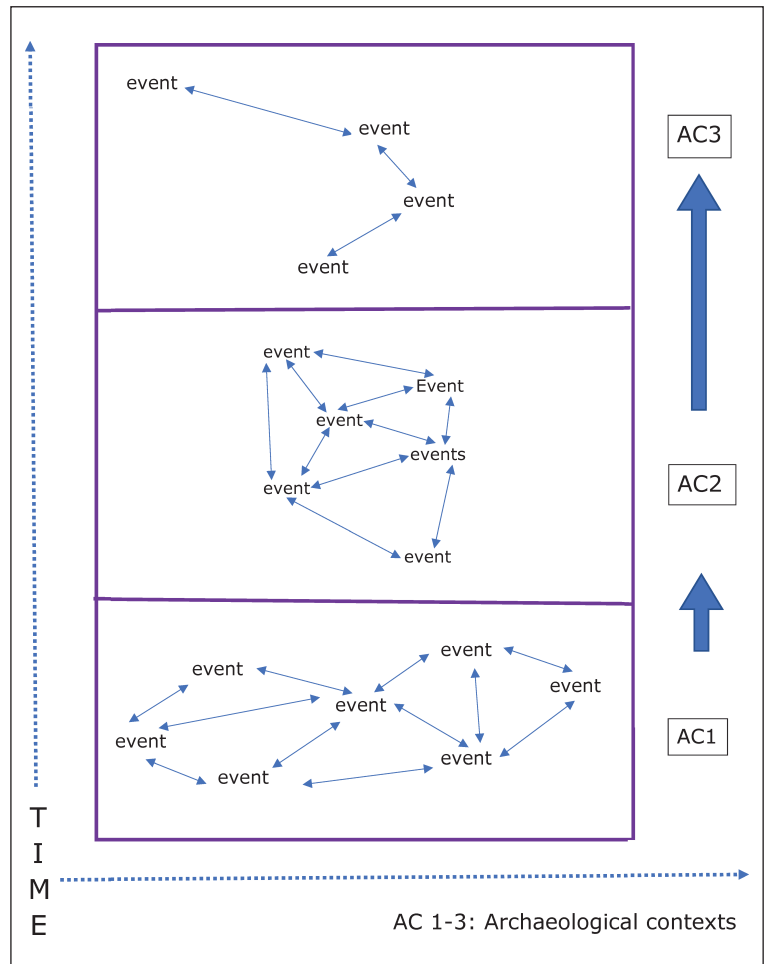


Figure 2.6. ‘Vertical time’: archaeological contexts follow each other in dependent time sequences. ‘Horizontal time’: fragments of social practice patterns (‘events’) entangles in complexes through performative actions.

ing events sequentially correct, and to a higher degree do we approach the historical realities. In turn, this enhances the credibility and intersubjective acceptance of a linear structured narrative. An alternative approach, at least on an experimental basis, is to perceive time sequences in a flat, or horizontal, perspective and link events embedded in archaeological contexts according to this. This temporal perspective can be recognized as an alternative to Modernism’s historical imperative past, conceived as vertical sequences of events, situations, etc. in a pyramidal order. Alternatively, ‘events’ can be perceived as social practice patterns which fundamentally originates from intentions, materials, knowledge/experience, and meanings entangled ‘here and now’, and consequently takes place in unpredictable connections and develops in erratic directions and speeds. What happens takes place, occurs, in a figurative sense as a ‘horizontal movement’ (Fig. 2.6). These introductory considerations about perception of

vertical and horizontal ‘movements of time’ could inevitably affect how archaeologists are practising the principle of stratigraphy, a pivotal tool for documenting time in archaeological contexts, which will be considered in the following paragraph.

### ***Harris Matrix as Materialized Time?***

A theoretical approach to social practices is critical for conventional archaeological research, whereby the urban past is presented as if it has been ‘uncovered’ through observations of objects and structures encapsulated in overlapping stratigraphic layers. Several generations of archaeologists have contributed to the importance of the ‘below–above’ relationships of stratigraphic layers as the ultimate documentation of processes articulated in time. Excavations are done from top to bottom and thereafter the timeline of events and happenings perceived as significant for the comprehension of the archaeological context are reconstructed upwards along a vertical axis by using single-context sheets, land-use maps, and Harris Matrices to envisage the ‘movements of time and events’. Through these increasingly refined methods of documentation of relative stratigraphy, time has been materialized by means of rectangular boxes that are linked with lines and arrows in an ascending continuity in which the boxes represent fossilized events, and the lines represent the relative chronological relations between the events along the time axis. But time is not a thing, it is an idea, and ideas cannot be empirically substantiated and supported. Time is, and will be, a construction that facilitates people’s ‘beings in the world’. Over the last forty years, increasingly sophisticated methods for documenting stratigraphy have contributed to the perception of vertically ordered series of events as synonymous with ‘historical development’ and as a road map to the past. Stefan Larsson (2017, 217) has thought-provokingly characterized urban stratigraphic sequences as objectifying the performative practices of actors within a specific habitus (i.e. the towns). Consequently, he raises doubts as to whether high-definition archaeology (HDA) builds on a simple assumption that the higher one can make the resolution of the description of a ‘historical process’, the closer one can come to an understanding of that process, which will thus open for new cognitions. How can HDA provide archaeology with such a required precision?

### ***The Potential of High-Definition Archaeology in the Construction of Time***

A ‘horizontal dimension’ is embedded in all social practice analyses. Hence, the comprehension of the dynamics of social practice development calls for a ‘horizontal archaeology’ and dense chronologies. So far, HDA has been dominated by a wish to revise grand narratives by replacing approximate observations with more exact ones. What *can* be positively assumed, is that HDA has the potential to revolutionize our possibilities to determine the synchronous occurrences of events in a way that conventional stratigraphic methods have never been close to achieving. The high-resolution dating methods provide us with the sophisticated opportunities we need for delimiting and arranging sequences of events in increasingly finely ordered temporal constructs, which in turn can provide us with new and inconceivable opportunities for linear time control. If this possibility had been present in the examples from Trondheim and Sigtuna, we could have been far more precise and reliable about 1) how the objects chronologically and spatially were related to each other, to the built environment, and to the stratigraphic layers varying in volume, content, and physical structure, 2) how the observations and collected data could create an empirically solid base for an interpretable archaeological context, and 3) how these, from the archaeological context inferred sequences of constructed events, happenings, situations, and circumstances were chronologically related to what happened in the street and around the booths. The possibility of creating dense chronologies allows for experimentation in a ‘horizontal archaeology’ and search for small-scale narratives, which mostly come into being from local self-organizations and initiatives. De Landa has discussed the non-linear development of medieval towns and pointed to the fact that the norms that governed medieval economic life did not have a ‘global’ impact, but were ‘based on self-defence, retaliation and other local control’, and he quotes Braudel, who has put forth that medieval economy was a combination of centralized decision-making and a ‘self-regulating mechanism compounded by a balance of terror and lively sense of mutual advantage’ (De Landa 2000 [1997], 33).

Does this mean that we are now closer to the possibility of revising grand narratives by replacing approximate observations with more exact ones? It is clearly worthwhile considering the possibility that improved dating methods are extremely useful for constructing events with a hitherto unknown degree of high resolution. However, the accuracy of the consequences derived from this statement







is not a clear-cut reality: ‘Even minor adjustment of the chronologies of archaeological evidence can change the order of assumed causes and effects, and fundamentally alter the understanding of political events and cultural developments’ (Raja and Sindbæk 2017, 5). In essence, this quote by Rubina Raja and Søren M. Sindbæk expresses a hope that further refinement of our control of the order and the distance between sequences of events and places can change our understanding of political events and ultimately cultural development. The underlying uncertainty as to whether this hope is realistic is that the concept of high-definition narratives fundamentally does break with Modernism’s ‘historical imperative’. My reservation concerns the fact that the concept of high-definition narratives embraces four factors that I consider as hindrances to the ability to research fundamentally new cultural-historical narratives: 1) the concept cements the understanding of history as a linear and pyramidal course constructed of sequential events; 2) the concept seems to deprive the ‘small-scale narratives’ of the past of their significance for the historical process; 3) the concept seems to give priority to the diachronic sequence of events; and 4) the actor perspective does not appear to be attributed a key role in the narratives. If the goal is to alter the understanding of political events and cultural developments, another angle is that we adopt approaches that emphasize alternative temporal movements, distances, and directions, namely ones that give priority to everyday or ‘small-scale narratives’ in which interactions between individuals, intentions, materials, and knowledge highlight the unpredictable direction and speed of the historical process (Christophersen 2015, 111). The past does not move along given strands; on the contrary, much of the past moved sideways — horizontally — and never came to existence in vertical processes that terminated in apparently nothing, but nevertheless could have been important ‘pushers’ in past times. According to Tim Ingold (2013, 132), this is what makes history ‘a proliferation of loose ends. What relevance does this rhizomic conception of the past have for the investigation of medieval urban economic activities?’

### **Events – Inferred Realities**

One of the main aims of research on the past is to find relationships between events in the historical process. People, events, and ideas that are dispersed in time and space can be described as history’s building blocks. The modernist approach to historical research has been about discovering, describing,

and understanding the emergence and importance of these relationships in our time and within the historical imperative’s horizon of understanding. It is methodologically a common procedure to create chronologically rooted spaces between occurrences and events, but the creation of such space has influenced our research on history, including urban archaeology’s schematization, development of methods, and explanatory models in terms of a reductionist comprehension of temporality and times (Larsson 2006; Jervis 2018). Modernists’ linear concept of time has strongly contributed to the cementation of the conception of the existence of logically coherent and rationally explainable links between the past and present life. Javier Tapia’s painting ‘A Time for Seeds’ from his 2015 exhibition titled *High Density: Fragments, Stories and Traditions* depicts another understanding of the past, such as relationships dependent on fragmentary remains passed on through stochastic processes that provide an entirely unpredictable and disparate totality. The fragments of depicted realities are structured in a way that invites the audience to participate in a reflexive journey through stories, myths, and traditions (Fig. 2.7). As archaeologists, we are the audience invited to take a similar journey through past fragmented stories, and we determine how we group events and link them together. This process is basically ruled by the preferred theoretical approaches and *not* the data or the methods applied. In this respect, the tricky concept of ‘event’ is of major importance: What and how are mental and material elements connected in a way which create an ‘event’ conceived of as practices of social practice patterns? To what extent can the physiognomy of an ‘event’ be subject to observation and recognition in archaeology? Gavin Lucas (2012, 198) has discussed this theoretical and methodological subject and argues, with certain pessimism, that archaeological records by nature do not have the potential to reveal single acts embedded in a stratigraphic sequence ‘insofar as it represents a sequence of connected object-events whose relations cannot be dissected but only inferred’. The introduction of and increasing use of HDA methods will in the future challenge Lucas’s pessimistic remark about ‘archaeological records by nature’. Based on the above brief theoretical considerations we will now return to the opening question of the diverse past and the need for small-scale narratives in the history of medieval economic development.

### ***A Fragmented or a Diverse Past?***

Despite the differences in how the towns of Trondheim and Sigtuna practised and developed early production and exchange routines, they both underwent profound changes within their established practice patterns in the period *c.* AD 1050–1150. Traditional craft production continued in both places parallel to the emerging market-orientated craft production and corresponding use of coins as an ordinary means of payment. This picture of a diverse and ambiguous development of urban economic activities adds important perspectives to the grand narratives in medieval economic history and its recognized sequence of events: Carelli (2001, 196) argues that the use of coins as a means of payment had a breakthrough during the period AD 1150–1250 and that the exchange in economic expansion took place in the second half of the twelfth century. Seen from the Sigtuna–Trondheim perspective, this expansion was rooted in an older and ongoing history of practice changes, which in the long run seems to have affected existing practice patterns and complexes, such as 1) the introduction of new knowledge and experience in production processes, use of technical equipment, and organizational structure, 2) the intentional extension of networks and relations between town and the surrounding rural producers and suppliers of raw materials, 3) the development of new norms and concepts regarding how to meet, change, negotiate, and terminate trade transactions, and 4) the introduction of legal regulations governing trade and crafts activities. All these topics call for a wide range of in-depth analyses that will challenge archaeological sources and traditional methods in archaeology. Finally, I will point to some central subjects and consequences for further research in medieval urban activities, based on the theoretical perspectives presented in the second half of this article.

### **The Trondheim–Sigtuna Constellation Once More Encountered**

Time, space, and place are essential elements in the birth and development of practice patterns and bundles. The key question is, *how* the practice elements of knowledge, meaning, and materials are entangled, rather than *why*, which is of interest when addressing questions about intentions. From the interpretations presented above, essential questions arise for a more profound comprehension of the temporality of local development, such as the following:

1) What kind of craft production in Sigtuna took place inside the private houses compared with the

craft activities in the booths? Isotope and DNA analyses of the bone and antler material could be used to reveal the sources of the raw material: if it came from different places or from different cervid strains, it may indicate a different organization and network within which the raw material reached the producer. The same question arises when the small-scale craft activities on the plots in Trondheim are compared with the contemporary craft activities in and around the booths.

- 2) What were the chronological differences between the activities inside the houses and outside the houses? A time-lapse of one or two years between the activities would have indicated a practice development that is different from a time-lapse of twenty years. Using HDA will clarify the sequences of events and happenings inside and outside of the house which eventually led to different developments.
- 3) When and with what intentions were the booths erected? If a dense chronology could have been established based on the material remains from the first craft activities and the booths, it could have produced some possible clues about what intentional thoughts and aspirations was behind the erection of the booths.
- 4) How fast did the erection of the booths along the streets happen? The speed at which that happened could reveal clues about the forces behind the investments in terms of the time, place, and costs that each plot owner incurred in the construction of the booths.
- 5) Did the different craftsmen work simultaneously or ‘sequentially’ in the booths? This question could be answered by creating dense chronologies between or even within the sequences of homogeneous and mixed accumulations of waste material from craft production.
- 6) If the craft production took place periodically, for how long was the work done on one plot or in one booth? Did the periods of use vary from booth to booth or from time to time? The answers to these questions could illuminate how the production processes were organized according to individual and collective use of time, place, and space in the booths, and how this changed throughout the Middle Ages.

## Concluding Remarks

In this article, I have aimed to show how the reconstruction of small-scale narratives of urban economic development in the Middle Ages is dependent on a comprehensive understanding of the diversity and multilinear temporality of urban economic practices. A multidimensional understanding of past economic urban realities will require data that enable the establishment of 'horizontal' chronologies in archaeological contexts that integrate place, things, texts, and environmental data in 'condensed' time sequences and 'narrow' spatial analyses. HDA offers these possibilities to future research in urban medieval economic development. However, high-resolution archaeological analyses seem so far to have been dominated by an overall wish to revise the grand narratives by replacing approximate observations with more exact ones. This is a relevant desire, but even greater expectations must be set to the sophisticated HDA methodological opportunities

required for delimiting and arranging sequences of events in increasingly finely ordered temporal constructs. HDA affords archaeological research practices precise methods to determine synchronous occurrences of events in a way that conventional use of stratigraphy and scientific dating methods have never been close to achieving. This in turn provides new and inconceivable opportunities for linear time control and opens for an archaeology that searches for parallel events, processes, and formation of practice patterns and complexes, where the entanglement of intentionality, materiality, and meanings can be described, analysed, and interpreted. The time has arrived to fill the creation of the past with new historical narratives, and HDA has the potential to do so. However, to be able to release HDA's full potential, it is necessary to rethink how to approach the methodological challenge of a 'horizontal time perspective' and the further sophistication of stratigraphic and chorological on-site documentation methods.



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