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# Interdisciplinary reflections on repetitive distribution patterns in Scandinavian Mesolithic dwelling spaces



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## ABSTRACT

This paper deals with studies of the culture-specific repetition of dwelling spatial organisation that appears to be a universal phenomenon in small-scale cultures, with a focus on the well-studied prehistoric examples from the South Scandinavian Mesolithic. Repetitive spatial patterning is a promising area of interdisciplinary research, with the potential to provide information about interpersonal relations, gender relations and group structure in prehistoric cultures. It facilitates the comparison of the organisational patterns of prehistoric dwellings, based on the repeated spatial organisation of both the preserved spatial features and the lithic debitage. The interpretation of 'fossil' behavioural patterns such as these requires an interdisciplinary approach involving, as central support disciplines, social anthropology, social psychology and statistics. This approach is a strength, in so far as it facilitates a broad focus on the interaction between single individuals in human culture's smallest groups. But it is also a weakness, as interdisciplinary collaboration must overcome significant inherent barriers of tradition, ideology and territoriality within the disciplines involved. Therefore, interdisciplinary work unavoidably becomes a rather personal matter of navigation between more or less incompatible and individually defensive ideologies and knowledge systems. This paper is two-pronged, outlining a highly potent interdisciplinary research area on the one hand and, on the other, giving examples and personal reflections on the typical interdisciplinary problems one meets when working in such a scientific no man's land.

## 1. Introduction

Gordon Childe's extensive excavations at Skara Brae in 1928-30 provided the archaeological world with an outstanding example of preserved Stone Age dwellings showing a repeated internal layout, and the consequent need to explain such phenomena. Childe himself highlighted the strong and detailed parallels to Scottish 'black houses', still in use until about the 1850s, as an expression of a dwelling tradition that had continued from the Neolithic until modern times (Childe, 1931: 5-7, 182-183).

The use of ethnography/social anthropology in archaeological interpretation was already well established from the 1830s (Grøn, 2011). I have, however, encountered no earlier use of it than Childe's in the field of dwelling organisation studies, even though ethnography/social anthropology provides comprehensive evidence demonstrating that space in the dwellings of small-scale cultures is organised in accordance with culture-specific repetitive patterns. The positions adopted by the individuals in a specific culture reflect their age, sex and status (e.g. Bourdieu, 1973; Grøn, 1995: 9-10; Ränk, 1949; Tanner, 2014: 136-152) and this principle, with its cultural variations, can be regarded as a kind of 'cultural universal' (Argyle, 1996: 49-70; Canter,

### 1991: Paulson, 1952).

In addition to social anthropology/ethnography, research in experimental, spatial social psychology (sociometry/proxemics), the analysis of the distributions of excavated artefacts in search of repeated patterns (statistics), was necessary for the development of a comprehensive understanding of the repeated dwelling organisation of one prehistoric small-scale culture, the South Scandinavian Maglemose culture. The archaeologically-based research presented here has therefore had to address the familiar problems associated with interdisciplinary research:

"Diversity of disciplinary cultures and habits of mind are serious obstacles to interdisciplinary conversation. Not only do participants have to learn one another's disciplinary language, they have to learn one another's approaches to knowledge acquisition and truth claims, as well as one another's styles of intellectual interaction.

Disciplinary cultures vary considerably across disciplines, yet faculty trained in a discipline learn only that particular discipline's cultural practices; as a result, when colleagues from different disciplines come together, the cultural gulfs they need to bridge are large, perhaps as large as those in international organizations. In a similar vein, disciplines train people to see quite different realities. And they inculcate habits of

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mind—habits that are practiced so frequently in a disciplinary context that they become unconscious. But in interdisciplinary settings, the divergent habits collide." (Strober, 2011: 155).

Even one of the basic disciplines for the natural sciences, mathematical logic, displays such significant differences in the opinions of the mathematicians about what is correct and what is not that there is a discussion of its different personal, national etc. styles (Mancosu, 2010). For instance, in his 1908 paper *Unreliability of the logical principles*, the mathematician Brouwer attacked 'classical logic' and began the development of 'intuitionistic logic' (van Atten and Sundholm, 2015). Another example is the disagreement between mathematicians about whether one is permitted to use some mathematical tools, for example an important element in set theory, the 'Axiom of Choice', which it has been proved cannot be proven (Bell, 2015).

The important natural science-based philosopher Feyerabend makes the point that natural scientific theories go much deeper than just being 'convenient schemes for the ordering of facts'. They are ways of looking at the world, and their adoption affects our general beliefs and expectations, and thereby also our experiences and our conception of reality. What makes it possible to improve scientific theory is, according to Feyerabend, based on the demand that it must be testable, not the theory itself or its implications, but the continued empirical testing of it and accordingly rejection/improvement of the theoretical elements not producing results which match the experimental results (Feyerabend, 1962). In his later works he also directs serious attacks on the logic of scientific theory and underlines the importance of scientific pluralism to avoid becoming 'trapped' in too narrow problem formulations (Feyerabend, 2004, 2009).

This implies that a contextual diversity can exist in relation to different traditions, not only in humanistic theory but also in that of the natural sciences (including mathematical logic), which is generally regarded as consisting of indisputable and unique theoretical elements. For instance, at the institute level, as reflected in a large body of publications published by different research councils as well as by other strategically involved bodies, institutions and individuals, a) analysing this general structural problem, which has serious consequences for, in particular, the efficiency and impact of large and complex research projects such as those addressing global environmental phenomena and broader social-science issues, and b) attempting to cope with this in order to increase the outcome from research funding and generally improve the efficiency of the research sector. Two critical problems that have been identified, and still far from being solved, are the traditional mono-disciplinary departmental/institutional structure with its rigid theoretical/territorial borders and the difficulties in creating properly weighted interdisciplinary review-procedures to evaluate quality and determine funding (e.g. Bromham et al., 2016; Bruun et al., 2005: 5-6, 133-141; Gleed and Marchant, 2016; Ledford, 2015; Lyall and King, 2013; NRC, 2005; Rylance, 2015; Woelert and Millar, 2013).

A further aspect of this paper relates to the ideological/strategic dynamics of some of the involved disciplines over time (see Fig. 1). These have added an extra dimension of complexity to the interdisciplinary, empirically-based study of spatial repetition in human organisational patterns in dwellings. For instance, sociometry, a branch of social psychology well suited to explaining repetitive cultural patterns of spatial organisation in dwelling spaces, was practically shut down in the early 1980s. This was a consequence of the nature versus nurture debate, which at that time rendered it inappropriate to investigate heritable traits in humans (e.g. Lewontin et al., 1984). Around 2000, Beatty and McCroskey managed to prove the importance of inheritable traits in individuals and thereby facilitated reinstatement of this old discipline (Beatty and McCroskey, 2000).

### 2. Social anthropology/ethnography

Social anthropology/ethnography documents the existence of

specific rule sets for the organisation of the dwelling spaces of smallscale cultures far back in time. In his book of 1767, *Beskrivelse over 'Finmarkens Lapper'*, Knud Leem, who was a priest in Alta, Finnmark, northern Norway from 1728 to 1752, describes the life of the Sami. He devotes parts of his text and several detailed illustrations to the strict spatial organisation of the Sami dwelling space, which apparently fascinated him (Fig. 2) (Leem, 1767: 93, 94, 98, 109, 503).

Krasheninikov similarly provides a detailed description of the spatial organisation of the dwellings of the Kamchadale in Kamchatka, recorded during his participation in the Bering Expedition of 1735–41, (Krasheninikov, 1764: 181–183).

Based on his missionary work in Greenland in 1721–36, Hans Egede gives a short but concise description of the now familiar layout of the Inuit multi-family winter houses, with up to seven or eight families in each. He specifies the men's positions at the front and the women's positions at the back of the family sections of the large common platform, with blubber lamps for each section (Egede, 1818: 113–118).

Together with other early descriptions of the strict rules governing dwelling organisation in various other small-scale cultures, these authors document the existence of such patterns without making any attempt to investigate or explain these interesting features.

The first broader description of the ideological context for the rules of dwelling organisation in various hunter-gatherer, pastoralist and farming cultures that offers some kind of general scientific explanation for the phenomenon is the Estonian ethnographer Gustav Ränk's twovolume work *Das System der Raumeinteilung in den Behausungen der nordeuroasischen Völker* (The system of the spatial organisation of the dwellings of the north-Eurasian peoples), which appeared in 1949–51.

Here Ränk states that:

"... in an emblematic sense the organization of [dwelling-]space thus in small scale depicts the structure of the total society of the people concerned. It reflects a concentrate of all observable relations between the different generations, age groups, classes of the community, kin, and the division of labour between them. Since this system of order so to say has grown in an organic way from an economic-social basis as well as from numerous religious conceptions, this means that it must be perceived as a function of economic-social and spiritual life." (Ränk, 1951: 141).

A large number of ethnographical/social-anthropological descriptions from the 19th and 20th centuries substantiate the interpretation of this as a general phenomenon possessing 'universal' elements, as indicated by Ränk's pupil Ivar Paulson (Paulson, 1952). But they accept it more or less at face value and do not attempt to suggest a general underlying motivation or explanation. Tanner's important study on the organisation of social space in the Mistissini linuu is based on structuralist thinking (Tanner, 2014: 136–152; 2016). Bourdieu, in his famous investigation of the spatial-spiritual organisation of the Berber house, also approaches the subject from a heavily structuralist-inspired angle (Bourdieu, 1973). Structuralism seems well-suited to describing the dynamic interaction between individuals and a space organised into a symbolic/spiritual context, while not providing what one could call a 'scientific' explanation for this.

A few descriptions demonstrate that the different cultural patterns of dwelling spatial organisation appear to have a 'life of their own', independent of the, at times, absent physical dwelling structures, so that the organisational pattern of a dwelling can be seen to be more important than its physical confinement, even in cold environments (e.g. Marshall Thomas, 1959: 196; Raglan, 1964: 2; Rapoport, 1969: 18–82).

Briggs, in her book *Never in Anger*, with its remarkable focus on psychology and psycho-dynamics (Briggs, 1998: 10–15), provides – as a rare case – a description of some of the basic spatial-psychological factors at play in the Inuit household into which she was adopted as a daughter. These include the ability of the inhabitant's individual restricted personal areas to function as noise-proof cells, where she – in her area – could type without disturbing the others, and where her 'father' – in his – could relax in isolation for long periods after the

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