The reconstruction of the layout and functions of a Danish farmstead. The case of farmstead no. II in Taarnby 1100-1800

Zur Rekonstruktion der räumlichen Organisation eines dänischen Bauernhofes und seiner Funktionen. Das Beispiel des Hofes Nr. II in Taarnby 1100-1800

Configuration et aspects fonctionnels d'une ferme danoise. La ferme II de Taarnby (1100-1180)

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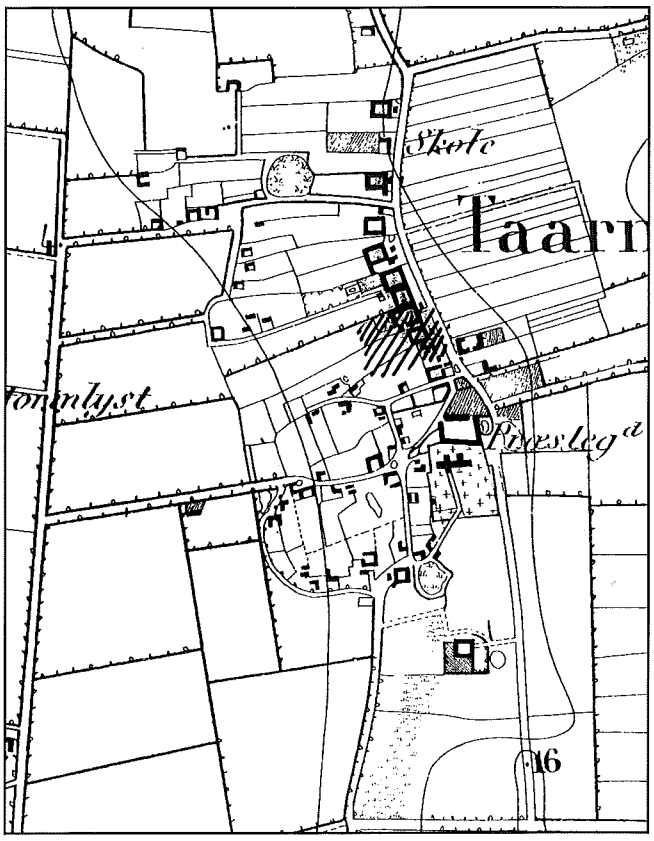
Introduction

Our knowledge of medieval Danish farmstead is extremely limited, for several reasons. One important cause is intensive modern cultivation, which has meant destructive ploughing-down of abandoned medieval settlements, now lying in the open landscape. If the buildings were built on groundsills, a custom which in Denmark became common in the 1200s, there would typically only be traces of the farmstead to be found in the subsoil: pits and wells, fence-lines and ditches on and around the farmstead's toft and croft. In localities where the bearing posts of buildings have been dug into the subsoil, the positions of the buildings can still be seen, and the construction of the farmsteads in these cases can therefore be partially reconstructed. But in Denmark, even traces of these types of buildings can be expected to be destroyed by ploughing inside of the next 10-20 years. On sites where villages have more or less retained their old locations and structure, it is still possible to investigate well-preserved farm sites, but they seldom give rise to any major archaeological exploration.

This was, however, possible in 1993-94, where parts of the medieval village of Taarnby, located on the island Amager south of Copenhagen, were affected by a motorway (*fig. 1*). The excavation was carried out by the Copenhagen County Museum Council's secretariat. Because of a combination of size and well-preserved culture layers, this excavation has allowed us a very rare opportunity in Denmark to analyse a farmstead in time and space from its establishment in the 11th-12th century until it was subdivided into individual houses in the 1800s (presented at Ruralia I, *Kristiansen – Mahler 1996*). Some of the results of this excavation are the subject of the following discussion. The investigation of the excavation's many, often well-preserved, buildings gave us important new knowledge of both medieval buildings and farmstead structure, but paradoxically, the results of the function-analysis were quite limited. In the following, I will present a number of more or less fruitless attempts at function-analysis, and deliberations on the subject, and indications of functional areas derived from these attempts.



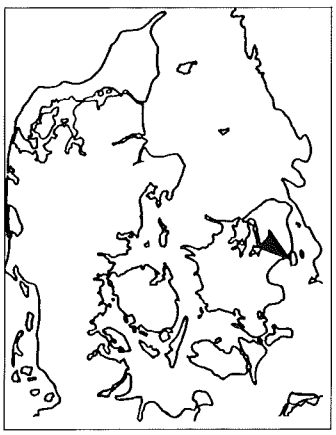


Fig. 1. *Topographical map of Taarnby 1.20.000, 1853 (Frandsen 1995). The excavation area is hatched.*

The excavation in Taarnby

The excavation was approx. 7,500 m² (*fig. 2*). The developmental history of the farmstead (designated Farmstead no. II in the 1682 land register) situated in the centre of the excavation, which can be followed through four main phases from the 10- or 1100s to 1800, was the main theme of the archaeological investigation (*Kristiansen - Mahler 1997*; *Kristiansen 1998*[1]). A total of at least 31 and possibly 42 buildings were registrered. Approx. 1300 features of various types were uncovered in the subsoil (including wells, ditches, pits, fences, etc.).

The structure of the medieval farmstead o croft (mainphase 2-4 dated 10- or 1100s to aro 1550) was particularly well preserved. 24 building (the youngest however fragmented) from these phases were distributed over time around a farmyard, forming up to 70 centimeter-thick sequences of layers, primarily built up of floor layers. Only two buildings withearthfast posts were registered, both presumably from the oldest phase of the farmstead (building U3 and U5, phase 2.1). The remaining buildings all had varying types of sills. The many phases of complicated ditch-systems were especially important to our understanding of the farmstead's structure. Some of these can be interpreted as resource-boundaries (the ditch system in the middle of the area running north-south belonging to an elder settlement structure in phase 1, and still in

Fig. 2. *The excavation with all the features registered in the subsoil, and all the buildings primarily registrered in the culture layers (phase 2-5, see fig. 3) in the northeastern part of the area. Most of the buildings belong to the medieval phases of farmstead no. II (1682)*

[1] Subsequent work on the complicated stratigraphy has resulted in slight changes in the interpretation of the site. A publication on the new results is in progress.

.on during the first phase of the farmstead, se 2.1), others as toft- and croft -boundaries, and .ull others as functional divisions of the toft and croft itself (phase 2.1-3, dated 10-1100s to 1300).

only possible to establish a reliable relative stratigraphy across it in one case (between building C11 in the north and building C3 in the south of the farmyard).

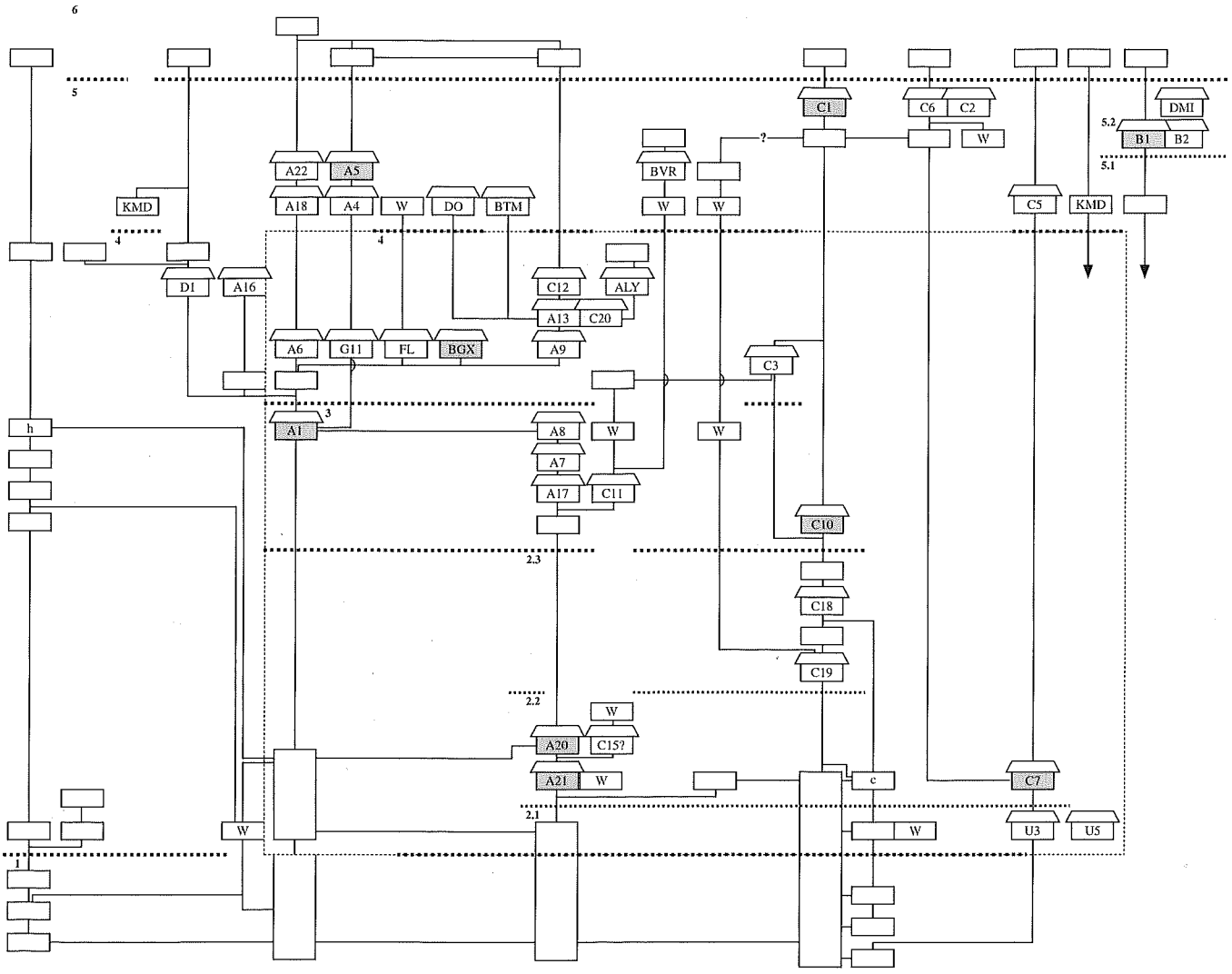


Fig. 3. *The mutual relationships of the 94 phases are here illustrated in a Harris Matrix. Marked with a dotted line, we see the phases belonging to the medieval mainphases of Farmstead no II. The buildings are marked with a roof, gray shades indicate the presence of a fireplace in the building, wells are marked with a W, empty boxes mark phases with other activities, fences and ditches. Structures without stratigrafic relation with the culture layers are not schown.*

Reconstruction of the farmstead structure

The culture layers and features have been arranged in 94 sub-phases, of which a number are partially concurrent (*fig. 3*), the greater part designate a change in the use of some area of the medieval farmstead. A reconstruction of the structure of the farmstead – grouping the many partial phases into main phases – is, as one can see, a challenge. While there is a clear relative sequence in the areas north and south of the farmyard, mainly generated by floor layers from the farmstead buildings, it is far more difficult to gain an understanding of the contemporaneity of buildings and activities. The culture layers transversing the farmyard were loamy and uncharacteristic, and it was

In spite of extensive sieving, we could collect only a limited number of artefacts, probably because of an effective utilisation of rubbish in fertilising the fields. Any dating of the farmstead-phases therefore rests on a broad general framework, and, with few exceptions, a detailed, accurate division into phases is not possible. The reconstruction of the farmstead's development therefore rests on probabilities; one main criterion has been the presence of at least one fireplace in each phase.

The stratigraphical analysis is the platform for much more interesting questions – seen from a culture-historical point of view. They are based on the presumption that the structure of the farmstead, the floor-plans of the individual buildings, and the

functions of the individual buildings and rooms must be suited to this particular farmstead, both in relation to agro-production and utilisation of resources, and in relation to social needs. The changes seen in the peasant's choice of structure and the division into rooms of the buildings must either be explained by changes in the above-mentioned parameters or as an expression of capaciousness in models for solutions where chance must be an unknown variable. In the following I will summarize some of the conclusions.

which meant serious limitations in the possibilities for function analysis.

Even though it was possible to identify the buildings' floor plans in general, the minimal growth from dirt and repairing floors with new layers of added clay meant that the furnishing and function of the rooms, and the inhabitants' behaviour in the individual buildings, and therefore on the farmstead as a whole, could only rarely be read. In addition, we must add to this rather fragmentary picture all the vital parts of the

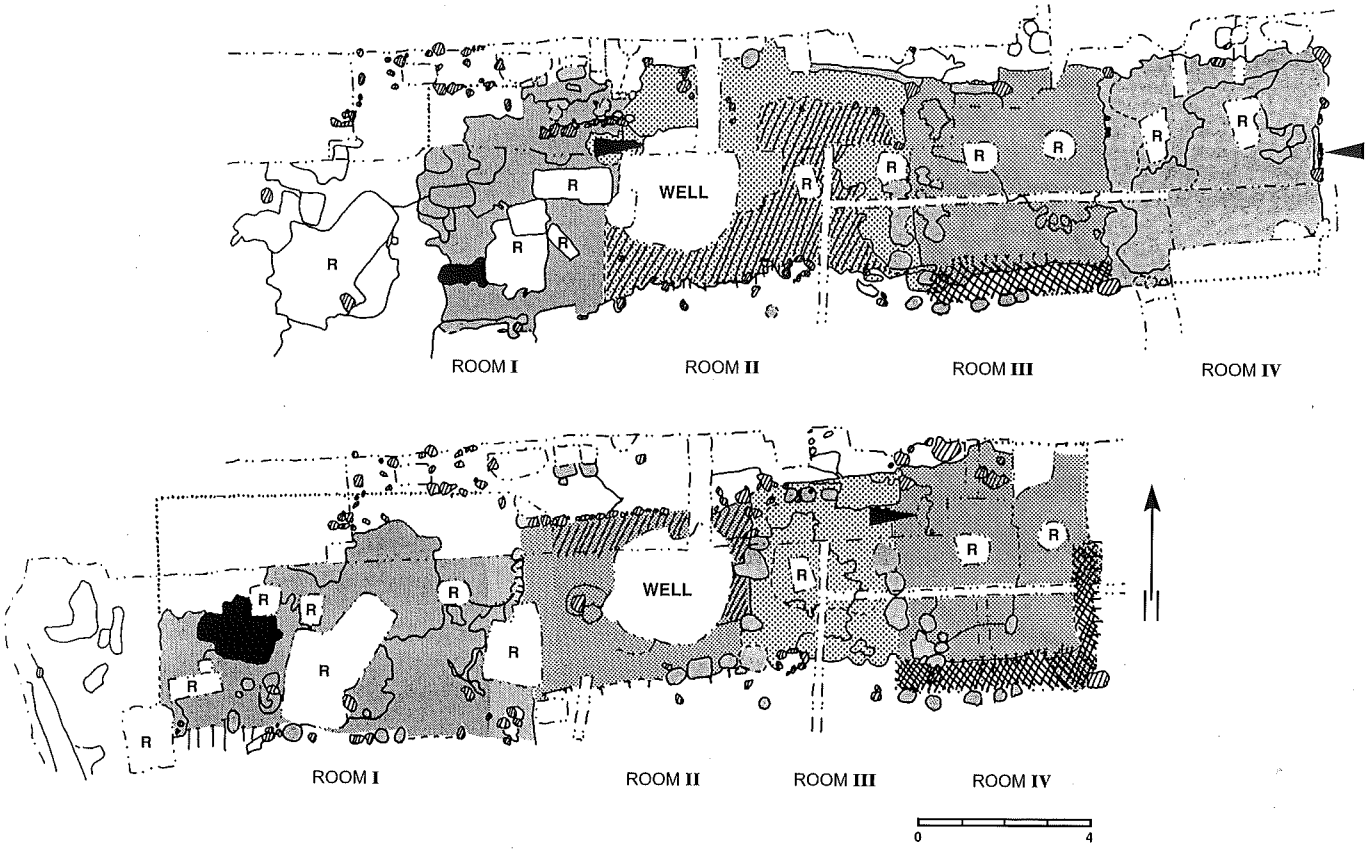


Fig. 4. *Building A 21 (below) and the following building A20. Several parallels can be seen in the room plans of the two buildings. The fireplace (room I) is indicated with black. Areas with plundered cobblestones (room II) are hatched. One of the few observations of fixed inventory, cross-hatched, was propably made in room IV (A21) and room III (A20). Black arrows indicate entrances.*

The functions of buildings and rooms

In spite of careful excavation, aimed, among other things, at a registering of functions and the dynamics of the farmstead, there were only limited results on this point. The reason being that in Taarnby we meet a problem with a culture-historical background: the effective utilisation of rubbish by the inhabitants. The growth of the culture layers on the farmstead was mainly created by the buildings themselves and to a lesser degree by the activities in and around them. Therefore, in by far most of the buildings, excavation were only to a very limited degree left or preserved by the activities taking place in the various rooms. They simply had an unfortunate flair for housekeeping, furnishings that were above floor level, and require "good fire-sites" if they are to leave any trace. For instance, a few fire-sites in the excavation do indicate that there were ceilings over at least parts of some of the buildings.

The most common trace of activity in the rooms was fireplaces, but in a few cases it was also possible to approach the furnishing and function of a room more closely. This was the case in an 85 m² large, 19.5 metre-long well-preserved building from the 1200s, with four rooms (*fig. 4*, building A21). The room farthest west, with a fireplace, is interpreted as a kitchen. There are a few different indications of various forms of storage in the remaining three rooms, but the rooms can also have had other functions, it

was just impossible to trace them. Along the north wall in room II and the dividing wall to room III, there were thus traces of cobblestones, since plundered, which probably marked the extent of a special floor area, which might have been an insulating base for chests and barrels. In room III, the smallest room in the house, a compact layer of fish bones, mostly herring, was preserved, and this is the clearest example in the excavation where an activity has not only left a culture layer on the floor, but where the culture layer can also tell us something about the nature of this activity. One of the few observations of fixed inventory was made in room IV. Along the south and east walls, a shift in level was registered, which was interpreted as the impression left by a bench. A fire in the kitchen was presumably the occasion for rebuilding the entire house (*fig. 4*, building A20). Several parallels can be seen in the room plans of the two buildings, e.g., the position of the fireplace in the west room, and the choice of cobblestones in the following room.

Of the collected finds of the excavation, approx. 7000 numbers, only 1/6 were from buildings. The rest were secondarily deposited and therefore more suited to a description of the inhabitants than to a function analysis. An attempt at using artefacts for an analysis of the function of rooms was attempted in several buildings and proved fruitless (*fig. 5*).

	Ceramics	Animal bones	Quernstones	Knives	Needles and stilettos	Spindle whorls	Whetstones	Other tools	Nails
A 20									
room 1	1								
room 2	6	x			2				6
room 3	1	x							
room 4	7	x			1				5
A 21									
room 1			1						
room 2									
room 3	7	x		1		2			2
room 4		x	1						

Fig. 5. *Overview of artifacts found in building A20 and A21 distributed over the rooms.*

The very dry, collapsed layers were not suited to systematic macro-fossil analysis, which might have been able to contribute to the function analysis. Again, however, it was possible to give a more general characteristic of the farmstead's utilisation of resources, the near environment and field-crops production through time by analysing the macrofossils in the many wells and pits (*Robinson - Harild 1997*). Nor could phosphate analysis be used as a method of analysis, because of seepage in the compact sequences of floor excavation.

Since it was difficult to approach an understanding of the function of the buildings with the aid of culture layers, an alternative method was therefore chosen to investigate how much the buildings themselves could tell us about their functions.

The many houses of the excavation had different characteristics. Some of them were complicated structures, with preserved walls, varied floor levels, details of furnishings and changing room plans through time. Others had left only a thin floor layer and diffuse traces of a vanished wall construction. Possible indicators of various functions could be the type of building construction, the size of the individual buildings or rooms, room plans and the choice of flooring.

The investigation showed that differences in building construction were partly a function of dating, partly of size. Thus in the larger medieval houses, there were many different structural techniques mixed up together, while only one or a few types of foundation were used for the smaller houses. The younger houses (15-1700s) resembled each other more, being dominated by the use of rows of groundsills running the length of the house. In contrast, there was no unequivocal difference in the choice of construction in, for instance, buildings with and without fireplaces. In one fire-site there was an interesting coincidence in floor layer and wall covering, which might be a condition of function. The west room had diffuse floor layers and concentrations of burnt mud-daubing. The east room had a compact pure clay floor, and there was no mud-daubing in the fire layer above it, which might suggest that the room had had wooden walls. There was no reliable identification of stables, as indicated by division into stalls, but the few buildings that have been interpreted as barns/possible stables showed no signifikant difference in construction from the remaining buildings.

The investigation also showed that the buildings of the farmstead can be divided into three different categories as regards size: buildings under 7 m and under 20 m, respectively, while one building with dwelling and barn in one longhouse was 27 m long. Not surprisingly, there is a connection between the number of rooms and the size of the house. With one possible exception, all the small buildings had only one room, and none had fireplaces. Most of the larger houses were divided into three, four or more rooms. Six of these had fireplaces.

If the buildings are sorted according to phases, there is also no marked difference in the relation between large and small buildings through time. In all of phases 2, 3, and 4 it is possible that there were two concurrent buildings with fireplaces. The two buildings with fireplaces could reflect plural users on the farmstead, or more likely a family pattern.

To illuminate the stability or changeability of the farmstead structure, an attempt was made to shift the focus from the building to the farmstead level, and the total roofed-in area was compared between the phases. There *might* bee a small, but interesting, variation that might represent social or production-related changes on the farmstead. There was stability in the 1200s

(phase 2, max. 213 m² under roof), and a possible rise in the 13-1400s (phase 3, max. 313 m²), but it is important to stress the difficulties relating the buildings to phases. This possible increase of roofed-in area, which could be an expression of an increased surplus production, could be an archaeological illustration of written sources' description of a reorganisation of the manor farm system around the middle of the 1300s in favour of medium-sized copyhold farmsteads. Actually, a slight increase in animal husbandry on the farmstead in the period 1300-1550 (phase 3-4) could be seen to be tied in with this, but this increase is also encumbered with reservations because of the limited number of material[2]. The more or less constant need for roofed-in areas otherwise fits well with the constant economic strategy on the farmstead throughout the middle ages, as can be seen both in the analysis of macro-fossils, bones from domestic animals, and fish bones (*Enghoff 1994*).

Because of the lack of culture layers, it has not been possible to show whether these physical divisions of rooms also meant a division of functions. As was illustrated earlier (*fig. 4*), there are examples of several rooms, all apparently with storage functions, lying in extension of one another. Variations in the floor layer may indicate differences in the type of storage, but does that mean the reverse – that the same type of floor layer also means the same function? Conversely, many different activities can take place in the same room without being separated physically, and which cannot be distinguished from each other because of their characteristics. The background for these physically or non-physically separated, like or different, activities can be the social structure of the family or the farmstead, and ordinary practical conditions. Building C18 from the 1200s is an example of how the buildings' physical division into formal rooms and practical zones of usage cannot always be distinguished later. The building may have had three rooms: two rooms with a central passage. The passage, however, was only indicated by the lack of a floor layer and not by any trace of construction from a wall separating it from the west room. The missing floor layer must mark a special area: either no floor was laid, or the floor is worn away, most likely because there was a traffic line here in connection with a door opening to the north. It cannot be determined whether this traffic line was formally separated as a corridor, or was part of the west room. With this basis, it seems, at least in the material from Taarnby, to be every bit as problematic to draw conclusions about functions and functional divisions as to draw a line between two points.

It was seldom possible to prove the existence of doors, and it was therefore impossible to carry out an analysis of access to rooms and buildings. Indications of doors between rooms can be seen in a few cases (building A20 and A21) which in this case must indicate a social or functional connection.

[2] Analysis by cand.scient, ph.d. Anne Birgitte Gotfredsen, Zoological Museum, University of Copenhagen.

It would be interesting to carry out a function analysis of the buildings, based on the presence of various types of floor layer. For instance, would a certain percentage of certain types of floor appear over time? Is there any connection between type of floor and size of room? The choice of floor layer can, however, be guided by many other unknown parameters, and an intriguing result can even be arrived at by chance in the, quite limited, building material from Taarnby. The fact that the small buildings in the excavation all have clay floors may only be an expression of the fact that small buildings can more easily be overlooked, if they only consisted of a sill on four stones, and a plain earth floor.

Mainhouse - outhouse?

The theme of this symposium is the farmer's dwelling and husbandry buildings, primary and secondary buildings, mainhouse, outhouse. We all use these designations. Using Taarnby as an example it should, however, be questioned whether these designations are really appropriate. Do they not often signal a much clearer interpretation of the archaeological remains than they actually allow? The character of the culture layers surviving data invites this unsubtle terminology. Where we are lucky enough to find the culture layers preserved, they typically comprise only simple constructions, usually the fireplace, and not much rubbish form other activities in the room. Nevertheless, the fireplace becomes a metaphor for a dwelling and mainhouse, and buildings with no fireplace, or buildings with few culture layers, become, in contrast, a metaphor for outhouses. The question is, however, to what degree the physical separation of the many functions on the farmstead thus suggested actually existed. At the same time, the focus should be moved from the functions of the buildings to those of the rooms. Why designate a building as dwelling if a fireplace is only registered in one room, and the functions of the remaining rooms are unknown? The complexity becomes over-simplified and perhaps we should find more neutral, more descriptive designations. In Denmark, at any rate, there have been cases where this oversimplification has been applied in a stressful excavation situation, where buildings with "primary", seen as "the most important" functions have been given higher priority than those with "secondary" functions, seen as "less important". I am sure that the inhabitants of Taarnby carried out both important and less important activities in both primary and secondary buildings. Even though one of the purposes of the excavation was to illuminate this dynamics, it is, paradoxically enough, only possible to show where they *may* have done their cooking.

If we delve deeper into the interpretation of the most common construction from this angle, I can see further problems of interpretation. The fireplace has, of course, played a central role on the farmstead: it was the source of heat and light, the centre of food preparation, but also of the making and repairing of various tools for the

running of the farmstead. When archaeological excavations typically connect the fireplace to functions of the dwelling, it is therefore a pitfall. Also, a lack of indications of a fireplace in the excavated building site/room is not a reliable indication of a lack of heating and/or cooking facilities. Typically, it will be possible to show the presence of a fireplace at floor level, whereas identification of fireplaces on raised benches requires good conditions of preservation and culture layers. It is impossible to trace fireplaces on benches as sources of heat, as well as possible mobile fire-sources for cooking. In Sweden we know of fireplaces in stables from the 1700s. Here, the fireplace was used to prepare a special cooked fodder, which could increase the cows' milk production. The fireplace and heat meant that preparation and production of foodstuffs and other raw materials now took place in the stable. What we today conceive of as clearly separated functional areas, such as the stable and preparation of raw materials, were coalesced. The question is whether we pay enough attention to such complexity in the archaeological excavation.

In addition, we must also imagine seasonal variations in the use of buildings. In the summer, it was possible to live in unheated buildings and rooms with other primary functions. Added to this is the social structure on the individual farmstead, which must over time have presented a changeable picture of the habitation, with larger or smaller dwellings spread among the buildings of the farmstead.

So we are facing a complicated interpretation of the functions of buildings and rooms, which were presumably much more flexible in use than the concepts of "mainhouse" and "outhouse" suggest. How the finer nuances of such a pattern of living can be shown archeologically is a good question. If we are to clearly comprehend the possible complexity, perhaps we should completely omit the use of these designations, since they tend to lead to associations linked to our modern conceptual universe.

Translated by Patricia Lunddahl

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