JAAH 2013 No 8 Rosberg
Log book

Karin Rosberg, Terminology for houses and house remains

Received:	2012-05-20, Swedish version
Length:	*c*. 4000 words
1st Editorial Comments:	The content of the Swedish version was deemed important and useful. Primary translation completed 2012-08-30. Returned for additional comments to author 12-11-20. New version with glossary 2013-01-09. Edited version 2013-01-21. New version 2013-09-01. Final version 2013-10-22. Reviewers are approached 2013-01-31and 2013-03-07
Language edit	YES, as part of the editorial process
Copy rights and credits:	Must be fixed
Author's and reviewers' comments:	Reviewers' comments received 2013-03-11 and 2013-05-15 Author's comments received 2013-09-01.
	Sent for layout 2013-10-23

Dagfinn Skre, Referee

2013-03-11

Statement regarding Karin Rosberg: *Terminology for houses and house remains*

Any attempt to bring archaeologists closer to past worlds deserves support. Although writing the past is a contemporary undertaking, it attempts to include past people's own *Lebenswelt*, their shared experience of the world. We should exploit every possibility to achieve that.

The choice of archaeological terminology offers such a possibility. In some branches of archaeology, the information on cultural practices is too vague or ambiguous to establish a terminology that one confidently can assume has some correspondence to past categories. Stone-Age colleagues tell me that their stone-artefact terminology, although including functional terms like 'scraper' and 'auger', is based purely on form and not on assumptions as to how objects were used in the past. When past categories and practices are too uncertain it may be better for scholars to agree on a purely formal terminology.

So what about buildings? Is there sufficient evidence to establish a terminology that has some correspondence to that of past peoples? Rosberg thinks there is, and she is probably right. Preserved wooden buildings from the 12th century onwards supply evidence for tracing the development of Scandinavian building traditions during the last millennium. One may assume that terminologies used by traditional builders in the 19th and 20th centuries have a considerable resemblance to those of the first millennium AD – perhaps also before.

However: In the past, as today, different terminologies existed for the same thing. Regarding buildings, builders will have needed a detailed and sophisticated terminology to be able to communicate while building. Every component, joint and section will have had a name, as will every technique and tool used for preparing logs, planks, wattle and straw and to incorporate them in the building. Once built, the building will be inscribed in a different terminology; that which covered the needs of its users. It would have more to do with functions and places in the building and less with joints, components and building processes. A builder may say that two buildings are different; this is a corner-timbered building and that is a framework building. The user of the two may say that both are the same, they are *stofur*.

None of these two terminologies is more correct than the other; they just express two different ways of relating to buildings: that of the builder and that of the user respectively. Rosberg touches upon the residents' terminology, but she considers it to be "usually devoid of linguistic confusion" (p. 2), and she devotes herself to that of the builders. That is a fair choice, but she seems unaware of the consequences, namely that the excavator who follows her recommendations will 'see' a building under construction, not one being used. What (s)he thereby is brought to 'see' will probably be closer to past experiences than if (s)he made use of the normal archaeological terminology, which 'sees' the building remains as objects of excavation. However, the terminology of builders is but one of at least two options that would lead us closer to past worlds. Choosing one will make it more difficult to distinguish and interpret features related to the other – especially if the excavator finds them less interesting.

This is a part of a more general point regarding archaeological terminology, namely that one correct terminology does not exist either now or in the past. Every terminology is embedded in a perspective on

the type of evidence in question. That perspective expresses the interest of the researcher, the type of context in which the scholar tends to regard the type of evidence and which research questions the scholar seeks to answer. To be able to distinguish and document evidence relevant to research, excavators need to be aware of the main research interest in the object under excavation, and of the terminologies within those lines of research. Such an ambition is not to strive for objectivity, because the number of possible research interest in an object is infinite and unknown. Excavators should rather strive to supply relevant evidence for research – which is what excavation is about.

This general point about terminology being embedded in research interests has an additional aspect, which I find relevant to Rosberg's paper. She seems content with naming building types according to their principles of construction. I find that this ambition in no way exhaust the potential of pursuing a builder's perspective on building remains. Erecting a building is a dynamic process and building remains hold a potential for collecting evidence relevant to understanding that process. How did builders conceived the building and how did they go about to erect it? Was the roof-supporting post really set in a hole to supply stability to the building, or was the intention just to supply stability to the post until the builders had connected it into the construction lengthwise and crosswise?

Supplying a terminology suited to pursue such an ambition may lie outside of Rosberg's ambition in this paper. Nevertheless, I find it timely to mention the obvious: to name a phenomenon is not the same as understanding it. Developing scholarly terminologies is not a goal in itself; they are mere tools for the scholarly exploration of the past. Treating terminology as if it was given once and for all may induce a less dynamic attitude that could impede this quest for constantly expanding, deepening, refining, revising and overthrowing our understanding of the past.

Dagfinn Skre,
Professor dr. philos.
Museum of Cultural History, University of Oslo

Ulf Näsman, referee[1]
2013-05-15

Observation and interpretation: Comments on "Terminology for houses and house remains" by Karin Rosberg.

Introduction

Participation in the excavation of the settlement fort Eketorp on Öland and the study of the remains of ca 21 + 53 houses from the 4th – 7th centuries and more than 135 houses from the 12th – 13th centuries AD (Borg *et al.* 1976) made me interested in the problems that inevitably appears when you try to reconstruct a building on the basis of archaeological house remains (Näsman 1983; 1986). Thus, I welcome the invitation to comment on Karin Rosberg's paper as an opportunity to revisit an exciting and many-sided research field. It is not often archaeologists discuss their use of terminology. Consequently, it is characteristic that she as an architect was provoked by what she considers to be improper archaeological use of house terminology.

In my opinion, it is important to realise that archaeology is an eclectic branch of scholarship; most of its concepts, methods and theories is borrowed from other scholarly or scientific studies. In the process of translation, some of the original meaning and content of a concept is lost when it is changed to fit its use in a new archaeological context. I think some of Rosberg's objections represent a misunderstanding of how archaeologist observe and interpret their source material.

[1] Ulf Näsman. Professor emeritus at the Linnaeus University, SE-391 82 Kalmar, Sweden. Ulf.Nasman @lnu.se.

This is obvious in the first point she makes. *1. "There may be a focus on remains: e.g. "house with a stone foundation", "sill-stone house" or "post house*". In reality she here jumps directly from the remains observed and described by the archaeologists to their interpretation of the remains. A dark spot observed in the ground below the plough soil may be interpreted as a post hole. Depending on its context, the post hole may be interpreted as a roof-carrying post in a house. A row of stones may be interpreted as part of the foundation of a house. These observations and their interpretation are the basis of further discussions about construction type and function of the house in question.

Also her second point refers primarily to observation. *2. There may be a focus on plan: "one-aisled house", "two-aisled house" or "three-aisled house"*. Later on in her paper, see Framework houses below, she rejects the archaeological use of the concept "one-aisled house" and of course she is right. But the use of the concept is based on observations in the excavation trenches and as such it is well-established in archaeology. The concept "aisle" is useful when describing and analysing houses in excavation plans, and I don't think the danger of misunderstanding is great.

As a third point she discusses *a construction focus: e.g. "framework house," corner-timbered house" or "house with internal roof-support"*. In this case, the archaeologists have gone further in their interpretation of the observed remains in the ground and try to understand the building in three dimensions. This clearly involves the architecture of the buildings and I agree that greater care is needed when archaeologists apply architectural concepts on their ideas about house reconstructions. Too often confusion is created by erroneous use of architectural or ethnological house concepts that are misunderstood by archaeologist.

Lastly, her fourth point is *a functional aspect: e.g. "dwelling", "byre" or "multi-functional house"*. Here the archaeologist usually takes another source material in consideration: the stray finds that give clues to an understanding of how the building was used. This aspect is not dealt with by Rosberg.

She observes that a focus on remains or on plans is the most common in archaeological texts. She realises that this is because archaeologists discuss what they see, and that they write about the remains of houses, not about the once existing houses as constructions. However, according to Rosberg it is not relevant to focus on remains when we discuss *the houses that actually existed*. The remains are a product of the 20th or 21st centuries, she writes, and represent a present perspective that is *an obstacle* when we wish to understand Prehistory or the Middle Ages. In my mind this is naive reasoning; it is impossible to go back to the past and both the remains and our interpretations represent our *present perspective*.

It is hardly surprising that as an architect she prefers to focus on construction. Of course we can try to understand how the ancient builder thought and try to reconstruct his ideas and actions, but our ability to identify with the old house builder will always be something of the present. It is

possible to reconstruct building by other means: by observation and analysis of the archaeological remains with due respect to the technology available in the relevant period (cf. Edgren & Herschend 1979).

Houses with internal roof support

The concept "houses with internal roof support" is good, and the type is the most common in the archaeological record of Scandinavia. I agree that the concept is more precise than the almost meaningless concept "longhouse". But since there is a considerable regional variation in the construction of the type it is confusing that Rosberg is not explicit about which region the houses she is considering belong to. For instance, houses with internal roof supports continued to be built into the High Middle Ages in South Scandinavia (Skov 1983: fig. 10). It is remarkable that she has no references at all to Danish house archaeology. Her description of the house type excludes the houses with internal roof supports and stone walls on Gotland and Öland. Thus, I presume that her area of study is the region surrounding Lake Mälaren.

She emphasises that it is characteristic of the house type that the stability of the building depended on that the roof supporting posts were dug into the ground. This understanding of earthfastness is not correct. There are a sufficiently large number of houses where some or all roof-supporting posts were placed on flagstones and not dug down at all. According to Holger Schmidt and Jochen Komber, post holes are not deep enough to be able to stabilise the construction (Schmidt 1977: 120 and note 28; cf. Schmidt 1994; Komber 1986: 42). In my opinion, the posts were dug down as an easy way to keep them in place during the building process. Consequently, the construction elements that made the houses stable must be found above ground, for example as tie beams between the internal roof supporting posts and the wall plates, creating a kind of rigid triangles (Näsman 1983: 215; Komber 1986: 43-45; cf. Komber 1989; Komber 2007).

Framework houses

This concept covers houses that in the archaeological record are usually described as one-aisled houses (Skov 1994: 140). I agree that they must not be labelled by the almost meaningless term "post houses". Nevertheless, in my opinion the concept "one-aisled house" is a good and sufficient description of what archaeologists have observed in the ground, be it dug down post holes or stones of a sill foundation.

Rosberg emphasis that the joints of the framework have to be carefully made to give the house stability since the house type lacks internal roof

supports. She mentions mortises and tenons, but that alone cannot give sufficient stability. The stabilising factor was probably that the timbers of the roof was held in place by a rigid triangle construction, for instance as roof trusses resting on the wall posts. As Rosberg mentions, diagonal braces were introduced later on to stiffen the connection between timbers in walls as well as in roofs.

In her discussion about wall post put in post holes or on sills she could have mentioned the nice sequence of 11th – 13th century buildings excavated at Fjäle in Ala, Gotland (Carlsson 1979: 127-136; figs 120-135). Here a stone foundation of a sill house was placed on top of the remains of a one-aisled house built with post holes.

She strongly objects to the use of the concept "one-aisled house", because "aisle" is an architectural concept related to the longitudinal partition of buildings through pillars, columns, etc. Of course she is right that the archaeological use of the concept does not represent the original architectural meaning. But is that really a problem? In my opinion archaeologists have adapted the concepts one-aisled, two-aisled and three-aisled to what we see in the ground: one, two or more rows of post-holes, and they also serve as easily understood interpretations of post holes as roof-supports or of stones laid as foundation of a wooden house.

Corner-timbered houses

In this section, Rosberg criticises the use of the concept "sill-stones" on the ground that sills are mode of wood, not stone. I agree that the concept "stone-sill" is misleading. But I cannot see that it is a problem that stones used to support a wooden sill are labelled sill-stones. We talked about sill-stones when we discussed the wooden construction of the high medieval houses of Eketorp-III (Borg 1976).

Hybrids

In this section Rosberg treats two different types of houses built as frames with horizontal planking. As Gunnar Henriksson pointed out, on Öland houses built as frames with horizontal planking have a common origin but the construction has been adapted to two different functions and formed two types. In dwelling houses, the roof load rests on the horizontal planking so that the weight tightens the planking of the wall. In barns and byres, the roof load is carried by the vertical posts, not to put pressure on the wall planking and allow narrow openings between wall plate and planking so that the houses are ventilated (Henriksson 1989: 26; 37).

Summary

In my opinion Rosberg does not take into account that some archaeological concepts are used to describe and give a first interpretation of what is observed in the excavation trenches. However, I find that many of her comments are of relevance, but primarily when archaeologists try to reconstruct the building and thus leave what was recorded in the field. To understand the construction of standing buildings and to apply that knowledge on the "archaeological house" make in essential that archaeologists understand the concepts used by architects. But on the other hand, architects have to accept that archaeologists have developed their own terminology to describe their observations in excavations.

References

Borg, K. 1976. The settlement of Eketorp-III. In: K. Borg, U. Näsman & E. Wegraeus (eds) *Eketorp. Fortification and Settlement on Öland/The Monument*. Stockholm: KVHAA. Pp. 161-188.

Borg, K *et al.* (eds) 1976. *Eketorp. Fortification and Settlement on Öland/The Monument*. Stockholm: KVHAA.

Carlsson, D. 1979. *Kulturlandskapets utveckling på Gotland.* Visby: Press Förlag. Summary.

Edgren, B. & F. Herschend 1979. *Nya gamla hus. Rekonstruktionsarbetena i Eketorps borg 1978.* Stockholm: Riksantikvarieämbetet.

Henriksson, G. 1989. *Skiftesverk på Öland.* Stockholm: Riksantikvarieämbetet.

Komber, J. 1986. *En teknisk-konstruktiv analyse af jernalderens gårdshus i Norge – et bidrag til forhistorisk byggforskning.* Universitetet i Bergen. [magisteravhandling]

Komber, J. 1989. *Jernalderens gårdshus. En bygningsteknisk analyse*. Arkeologisk museum i Stavanger. Zusammenfassung.

Komber, J. 2007. On the reconstruction of aisled houses from an engineering point of view. *EuroREA* 4: http://journal.exarc.net/files/exarc-eurorea_4_2007-on_the_reconstruction_of_aisled_prehistoric_houses_from_an_engineering_point_of_view.pdf

Näsman, U. 1983. "Mellan skål och vägg". Om järnåldershusets rekonstruktion. In: G. Olafsson (ed.): *Hus, gård och bebyggelse*. Reykjavík: Thjodminjasafn Islands. Pp. 191-220.

Näsman, U. 1986. Att rekonstruera. Varför? För vem? *Populär Arkeologi* 4/4. Pp. 34-37.

Schmidt, H. 1977. Bebyggelsen. In: O. Olsen & . Schmidt. *Fyrkat. En jysk vikingeborg. 1 Borgen og bebyggelsen.* Copenhagen. Pp. 107-197. References pp. 199-201. Summary ss. 222-241.

Schmidt, H. 1994. *Building customs in Viking Age Denmark.* Herning: Poul Kristensens forlag.

Skov, H. 1994. Hustyper i vikingetid og tidlig middelalder. *Hikuin* 21. Pp. 139-162. Summary pp. 179-180.

Author's comments

I have acquainted myself with the comments from Ulf Näsman and Dagfinn Skre.

I would like to emphasise that different archaeologists have different degrees of special interest in houses and consequently, different depths of knowledge. My article concerns improper terms, such as I have too often encountered when reading. Moreover, the article concerns reports where construction is specially discussed. To some extent, the article also concerns cases where terms are used that give a semblance of discussing constructions, while in fact, something else is discussed. Possibly, I have not been clear enough about this in the introduction of the article. Therefore, I have made some additions, hoping that they will make things clearer.

The issue of the possibility for people living today to put themselves into the thoughts of ancient builders is an important and interesting discussion. I agree with Näsman that there are parts of this thinking that we will never understand. Nevertheless, the examples I give in the article are rather simple and basic constructions, for which I judge that a fairly correct description is possible, since it involves general principles that are valid in course of time. Additionally, it concerns what may really have existed in the houses, not the considerations that the builders made before their work—however interesting that would be.

The discussion of different construction solutions with internal roof support is most interesting, as well as the discussion of the adaption to the purpose of these different solutions; however, this is a major discussion, which would lead on to another track than the scope of the present article. Therefore, I do not enter discuss that issue, in order that the less essential parts of the article should not overshadow the more essential ones. Nevertheless, I have tried to expand my too brief descriptions.

For the same reason, I have also shortened the discussion of the term 'aisle' ('skepp'). It is worth noting that under "1.3.34 Aisleless Building / Einschiffiger Bau", Volmer-Zimmermann's book *Glossary of Prehistoric and Historic Timber Buildings* reports the following about the Danish term: "etskibet bygning (rare, skib usually would not be used when a building actully lacks any [side] aisle / selten, skib wird eigentlich nicht benutzt, wenn eine Gebäude keinerlei Schiffe besitzt)".

A problem with the article is that its intention is mainly based on literature in Swedish. Translated into English, some discussions do not have the same validity, e.g. as to the word "post house" ("stolphus").

Earlier, my studies were devoted to acquiring knowledge I did not possess. As time went on, I got increasing knowledge and the possibility of reading more critically. My ideas concerning terminology have gradually developed. I studied general North-European building several years ago. Having got so far that I want to object to some use of terms, the literature that I have read more recently lives in my memory in such

a way that I can define my objections. That fact has given an unfortunate dominance in the references, and I will emphasise once more, that I do not aim at pointing out any special author. I do not consider it meaningful to read all the literature once more merely to hunt for improper terms. I also consider my ideas general enough for making sense in a wider geography than the Mälaren valley.

Karin Rosberg

References

Volmer, L. & Zimmermnn, H. (ed.) 2012. *Glossary of Prehistoric Timber Buildings*. Niedersächsisches Institut für historische Küstenforschung, Wilhelmshafen.

KARIN ROSBERG[1]

Terminology for houses and house remains

In order to obtain lucidity, it is essential to choose adequate terminology when speaking of prehistoric houses. The understanding of house construction requires a terminology with a focus on construction. Very often, archaeologists instead use a terminology with a focus on the remains, and use an inadequate terminology for constructions, indicating that they do not fully consider how the constructions work. The article presents some suggestions for adequate construction terminology.

Introduction

When an excavating archaeologist lays bare that which are clearly house remains, s/he terms the type of house – the house that once was there in its entirety and in full use – often according to what the remains look like. As we all know, in most cases house remains are very rudimentary. There is seldom anything left of that which once existed above ground. Indisputably, sometimes houses of different constructions can leave similar traces. The excavator/ report author would preferably imagine the way in which the house was once built, all structures above ground, the procedure of the construction, and how the house was used. The house can thus be described using various types of terminology.

When houses are categorized using a certain terminology, different perspectives can be used.

1. There may be a *focus on remains* – e.g. "house with a stone foundation" ("stengrundshus") – or "sill-stone house" ("syllstenshus") –, "post house" ("stolphus"). The second case usually considers the hole remaining from the post as the remains, with or without remains of the stone lining. This

[1] Karin Rosberg, Björkvallavägen 26, SE- 194 36 Upplands Väsby. info@karinrosberg.se

focus concentrates on what is visible and is documented, and to a certain extent leaves out what the house actually looked like when it existed.

2. There may be a *focus on plan* – "one-aisled house" ("enskeppigt hus"), "two-aisled house" ("tvåskeppigt hus"), "three-aisled house" ("treskeppigt hus"). This focuses on the spatial organization, which spaces that existed for the house's functions, and the layout of these spaces. In some cases, the construction can be considered unspoken; this concerns two-aisled and three-aisled houses but not "one-aisled" ones.

3. There may be a *construction focus* – e.g. "framework house" ("ramverkshus"), "corner-timbered house" ("knuttimrat house"), "house with internal roof support" ("hus med inre stolpbärning"). A construction focus considers how the house was built and how it functioned from a technical point of view.

4. There may be a *functional focus* – e.g. "dwelling" ("bostad"), "byre" ("fähus"), "multi-function house" ("flerfunktionshus"). A functional focus considers the use of the houses and stray finds often play a great part in the interpretation. This focus is usually devoid of linguistic confusion, and I will not further deal with the functional focus here.

Within archaeological literature, the remains focus and the plan focus are most common. A construction focus is much less common than a remains focus. By focusing on remains, we only speak of that which is seen and certain, and we do not speak of houses but of their remains.

However, when seeing and discussing the houses that actually existed, or may have existed, a remains focus is not relevant. It makes us still exist in the 20th or 21st century, although that we intend to describe prehistory and the Middle Ages. Doubtless, the authors want to go back to the prehistorical times in their minds, but the present perspective, now, still forms a bit of an obstacle.

Generally, the construction focus is preferable, and when the discussion directly concerns constructions, this focus is definitely necessary for lucidity. When using a construction focus, we identify with the ancient builder, enter into his deliberations and actions, i.e. building idea and building process. Such a perspective is natural to me as an architect, but archaeologists obviously also aim towards it.

Nevertheless, sometimes archaeologists use an improper terminology, creating the feeling that the writer/speaker has not quite understood the house construction. In the following, I will closer consider the house types present in the unclear terminology. The references mentioned are not meant to underline particular authors, but should only be seen as examples of very commonly prevalent ways of expression.

Houses with internal roof support

Description

We begin with the house types that were dominant from the Stone Age up to the Vendel Period, and which continued to remain in the Viking Age. They were built with a construction framework of standing posts dug into the ground. In the early stages, the posts stood in a single row connected at the top by a purlin. In the later stages, a row of trestles formed two rows of posts, connected at the top by various purlin constructions. The building was delimited on the outside by light walls, often made from wattle with rods stuck into the ground and joined at the top with wall plates. Later, these wall plates were connected with the closest standing inner posts by means of a tie. At these joinery works, the timbers were simply joined, tied with rope or wicker, or merely put together using a mortise and a tenon. The roof consisted of rafters laid upon the wall plates and the inner purlin construction, and on top of the rafters, battens covered by e.g. straw or turf (Herschend 1989:81ff). – See fig. 1.

Most important characteristics

Characteristic of these houses is that their stability depended on that posts, poles and rods were dug into the ground, and that the load of the roof was largely supported by the inner posts and less by the wall construction (the exact division of the weight varied in different stages).

A further characteristic is that as to plan, the houses were two-aisled and three-aisled, respectively.

Remains

These remains usually consist of postholes in clearly defined rows, postholes indicating an entrance and holes from wall poles in the wall line as well as possible hearths.

Terminology

When discussing house constructions, such houses are most suitably termed *"houses with internal roof support" ("hus med inre stolpbärning")*. This is the least complex expression for that which is essential in the house's construction, and differentiates it from houses with other construction ideas. More specifically, we could say, "houses with inner earthfast post construction", an expression which linguistically is not completely successful, although it enhances the importance of earthfastness. However, it should be added that there are occasional exceptions, where single posts stand on an inevitable rock surface, or posts that are systematically stood on a floor of flat limestone rocks (Eketorp at Öland); in such cases, the construction is held in place by the load of the roof.

The expression “house with internal roof support” is simplified, since the outer walls also partly participate in holding up the roof; nevertheless, the term denotes that the internal supports are most important.

A further simplification is terming the houses “post houses” (“stolphus”), enhancing the importance of the posts, which here have a different role than in the framework houses. For the sake of clarification, however, the term “houses with internal roof support” is yet preferable.

Most commonly, archaeologists term the houses two-aisled and three-aisled ones (Göthberg 2000:20; Seiler 2005:49, 53; Göthberg 2007:405). In practice, this means the same thing as “houses with internal roof support”, since two-aisled houses presupposes an inner row of posts, and a three-aisled construction presupposes two inner rows of posts. Thus, even though they are not synonymous with “houses with internal roof support”, the expressions “two-aisled” and “three-aisled” work well in contexts where houses are categorized in a wider sense. However, a in a discussion specially concerning technical constructions, and when comparisons are made with other construction ideas, it is better to use the term “houses with internal roof support”.

A common word for such houses is “longhouse” (”långhus”) (Onsten-Molander & Wikborg 2006, p. 46; Qviström 2007, p. 219). This is a handy term, but somewhat fuzzy. It usually denotes “a long house with internal roof support for several functions”. Thus, it focuses on neither form nor construction nor function; nor is it suitable when discussing construction type, or a particular function. “Longhouse” is a common North-European concept, but is similarly fuzzy in German, English and Swedish. To say that the term is international is not a good enough motive for using it.

Framework houses

Description

During the second part of the Late Iron Age, framework houses become increasingly prevalent. The construction principle for such houses consists of posts in the four corners of the house, as well as one or more posts in the walls, joined at the top by beams; these are termed wall plates in the long walls and tie-beams in the short walls. Posts in the long walls are positioned opposite each other and are joined at the top with tie beams at right angles. Thus, this is a framework, in principle at right angles in three dimensions. The construction demands more careful joints between the timbers than they do in the houses with internal roof support. The most common method is mortises and tenons, with a small allowance for the movements of the timbers in the construction. The spaces between the posts may have different fillings: wattle-and-daub,

upright planks ("framework with staves") or horizontal planks, ("framework with horizontal planking"). The posts are also positioned opposite each other in pairs on the short sides (gables), where they reach higher than the connecting ties, meaning that posts and tie-beams intersect. Between the gable posts is a construction with a central purlin or side purlins that carry the rafters and battens of the roof. The roof may be covered by layers of wood, turf or straw, and its load is entirely carried by the outer walls (Hauglid 1976; Henriksson 1996; Zimmermann 1998; Rosberg 2009). – See fig. 2.

The earliest type of framework shows the posts dug into the ground. At a later stage, sills are joined between the still earthfast posts at the ground level. Even later, the posts are no longer dug down, and the walls are stiffened using diagonal braces, or dowels between horizontal planks, to maintain a stable construction. In this case, sills are necessary. If the posts are earthfast, sills are optional. The earthfast posts do not cease to exist with the appearance of the system of non-earthfast posts. In certain areas and in certain time periods, earthfast posts appear for nearly a millennium, but still the non-earthfast posts are most prevalent in northern Europe.

Framework houses with non-earthfast posts can either be positioned directly on the ground or on a foundation made from wood (blocks of wood in some places) or stone (small or larger stones either in a tight or loose pattern or laid only in the corners). Some houses also have the sills superficially dug down.

Main characteristics

The primary characteristics of a framework house are its construction of posts, wall plates, and tie-beams that forms a three-dimensional framework with right angles, and the fact that the outer walls carry the entire load of the roof. Secondly, two subtypes are characterized by in one case that the house is stabilized through the earthfast posts, while in the other case the posts are not earthfast, the house instead being stabilized through sill and diagonal braces or dowels. In turn, the construction using earthfast posts have two subtypes: with and without sills, respectively.

Remains

The remains from framework houses are characterized by whether the posts have been earthfast or not, and whether the houses have had a foundation or not. Earthfast houses leave post-holes in the corners and the wall lines. If the wall filling consisted of wattle, it is possible to see rod holes. If the wall filling consisted of horizontal or vertical planks, it is sometimes possible to see a shallow groove in the ground. If the houses contained sills, this is usually only visible if the sills had a stone foundation, or otherwise possibly as a groove in the ground. Moreover, if sills were present, it is not possible to judge whether the wall filling consisted of wattle, staves or horizontal planks.

In some cases, parts of posts or sills remain as valuable evidence. Houses with wattle wall filling usually have weaker sills and posts than framework houses built with horizontal planking.

In worst cases, framework houses with non-earthfast posts leave no traces behind. However, they are usually positioned on some form of foundation. In central Sweden, there is practically always some sort of stone foundation in a more or less clear rectangular formation (Ambrosiani & Clarke 1995:31; Bäck & Carlsson 1994:22). Wooden blocks are present in e.g. Norwegian towns (Christophersen & Nordeide 1994:177; Fett 1989:40ff).

Terminology

Framework houses with earthfast posts are commonly denoted "post houses" ("stolphus") by archaeologists (Qviström 2007:225f; Andersson & Hållans 2007:42f, 71f). The term is misleading and makes for uncertainness of what is actually meant.

If the term "post house" denotes the presence of supportive posts, there is equal reason for houses with internal roof support to be termed "post houses". However, since the two types have separate ideas of construction, this difference is not clearly made. As mentioned above, the term "post house" should rather designate the houses with internal roof support, since they are carried by posts but have no framework.

A framework house should be called *framework house ("ramverkshus"), with earthfast posts ("med jordgrävda stolpar")* or *with non-earthfast posts ("med icke-jordgrävda stolpar").* More specifically, we could call it a *framework house with horizontal planking ("skiftesverkshus")* or a *framework house with staves ("stavverkshus*"). The concepts "skiftesverk" and "stavverk" include that the houses have a three-dimensional frame at right angles with a wall filling. The term *wattle house ("flätverkshus*") is more doubtful. Wattle is commonly present in the outer walls of houses with internal roof support. Nevertheless, the risk for misunderstandings should not be very great, if framework houses with wattle filling are termed "flätverkshus". In addition, framework houses with wattle filling are commonly built with weaker wood in the framework, as opposed to the ones containing a wooden filling, meaning that in such cases, wattle houses slightly differ from other framework houses regarding the framework.

"Three-aisled" and "one-aisled" are words that are sometimes used to describe certain framework houses ("one-aisled": Gustafsson 2007:195, 197; Qviström 2007:220; Göthberg 2000:81ff; Göthberg 2007:406f, 410f; Seiler 2005:59, 80; "three-aisled": see below). However, framework houses are rarely of such proportions and rarely have such a plan that using the term aisle is reasonable. According to the Swedish National Encyclopaedia, "aisle" denotes part of a building formed through a longitudinal partition of the building through pillars, columns, etc. In architectural literature, "aisle" is described as a

"rectangular space in a building, particularly in a temple or a church, containing several longitudinal parallel spaces separated by rows of free-standing roof-carrying supports (column or pillars), or free-standing supports and walls carried by those" (Ahlstrand 1969:144, my translation). The word "aisle" can be used for secular buildings, but the word should be retained for comparatively long rectangular spaces and for cases where at least two such spaces are adjacent.

In many cases, framework houses are called three-aisled owing to the presence of load-carrying trestles (Seiler 2005:61, 70, 77; Fagerlund *et al.* 1999:118f). Remains of inner cross-walls are often reported in direct connection with these trestles (or postholes), meaning that we are not dealing with aisles (the long rectangular spaces with visible free roof supports). Even though a trestle may sometimes be free-standing within a framework house, the open space is still too short to earn the title of aisle. In a framework house with one or more inner trestles, these posts are higher than the outer wall posts—they pass through the tie-beams—and carry the purlins. However, this is precisely the case also with posts in the gable walls. Such a framework house is actually quite reminiscent of a modern stud-framed house, where both the outer wall and some of the inner walls cooperate in roof load carrying, not through the walls as such, but through the studs.

Although the term "one-aisled" when used of framework houses cannot be misunderstood, it confuses the concept of aisles: long rectangular spaces delimited by free roof supports. Framework houses are sometimes described as one-aisled in international literature as well as in Swedish literature, but the term is nonetheless unsuitable.

The main roof support for framework houses are the outer walls, and those houses should thus be called *houses with outer wall roof support ("hus med ytterväggsbärning")*, if a closer determination of the house is uncertain. The term is somewhat simplified, since there may be additional internal support for the roof, but mentions the main (Hauglid 1980; Sjömar 1988; Berg 1989-1999; Rosberg 2009).

Corner-timbered houses

Description

From 1000 AD onwards, corner-timbered houses appear and increase. While the houses with internal roof support and framework houses share the feature of standing supportive logs, the corner-timbered house instead uses a very different principle of construction. It is based on quite another way of thinking. The house consists of horizontal logs laid on top of each other in a rectangular plan, joined together in the corners. The joints and the horizontal

seams between the logs can be constructed in different ways. The load is carried in across the wooden fibres and in time, the logs sink down into the ones below, packing the wall tightly, since there are no upright timbers to stop the sinking. The thick walls are simultaneously supporting and isolating.

In addition, the gable-trusses are built from horizontal logs that are dowelled together. Dowels are wooden plugs, 2-3 cm thick, c. 10-20 cm long, that are hammered into pre-drilled holes in both the underlying and overlying logs. The roof is carried by purlins or rafters or by a combination of the two. The load of the roof is completely carried by the walls—with purlin roofs by the gable walls, and with rafter roofs by the longer walls, and with purlin-and-rafter roofs by all the walls.

Corner-timbered houses can be placed directly on the ground, but mostly have some sort of stone foundation, in simple cases only corner stones. A corner-timbered house is heavier than a framework house and is thus in more need of a firm foundation. It must also be built on level ground, i.e. horizontally.

Main characteristics

Characteristic of the corner-timbered house is that the load carrying is done by horizontal timbers, laid on top of each other.

Remains

The remains of corner-timbered houses often consist of a stone foundation, tight, loose or only containing corner stones. If a house lacked a foundation, there are usually no traces left at all. On occasion, the bottom layer or part of it remains.

Terminology

Should the remains clearly indicate a corner-timbered house, it is often termed *corner timbered* (”*knuttimrat”)* in archaeological literature, which is quite unproblematic. However, the interpretation is often not quite as clear. It is often said to be a one-aisled house, which could concern both a framework house and a corner-timbered house (Gustafsson 2007:195, 197; Qviström 2007:220; Göthberg 2000:81ff; Göthberg 2007:406f, 410f; Seiler 2005:59, 80). In this case, the term is for plan, not for construction, and the matter of construction is left undecided. However, as said before, the term “aisle” is misleading when discussing these relatively short spaces, and the concept “aisle” infers at least two adjacent rectangular spaces.

“Sill-stone house” (“syllstenshus”) and “stone-sill house” (“stensyllshus”) are commonly prevalent expressions among archaeologists denoting houses with stone foundations (Qviström 2007:224; Göthberg 2000:83; Andersson &

Hållans 2007:46, 93). These expressions are directly incorrect. First, a sill is never made from stone, but from wood. Stones beneath a house equal a foundation. “Sill-stone” may denote “stone beneath a sill”, but in case of the word being interpretated as a stone as a part of a sill, it is incorrect, and since it may lead to a misunderstanding, it should not be used. Secondly, the terms say nothing about the characters of the house on top of the foundation. Using the term “one-aisled house” is honest, in that only the plan is discussed, but including material and construction part into the term, as in “sill-stone house” implies that the construction as such is discussed, which is not the case. A house may very well stand on a stone foundation, but if it is not known what sort of house it was, it should be termed *house with load-carrying walls (“hus med ytterväggsbärning*”) which could cover both framework houses and corner-tinmbered houses.

Hybrids

So far, I have discussed main house types. Different types of hybrids also exist, not only those that constitute transitional forms between different development stages.

Framework houses may be supplemented with inner carrying posts. A house may have internal roof support in one part of the house and some kind of framework in the other. A house may have corner-timbering in one part and framework in the other, or two corner-timbered parts joined according to the principle of horizontal planking using a post with grooves, through which the pointed horizontal logs run. A two-storeyed house may be corner-timbered in the upper floor with a framework with horizontal planking in the lower one. A corner-timbered house may have a gallery in a framework (with either staves or horizontal planking). The last two cases belong to the Middle Ages or later.

An interesting hybrid is a framework house with thick, possibly hewed, horizontal planks. If the posts are placed fairly far apart (over 3 m), such a house functions partly as a corner-timbered house, since the horizontal logs participate in the load bearing and carry the roof load across the wooden fibres. Into the 20th century, carpenters in southern Sweden spoke about “timbering to corner” (common corner timbering) and, respectively, “timbering to post” (framework with thick horizontal planks and a rather long distance betwen the posts).

A building may also function according to different principles during its lifetime. When building a framework house with horizontal planking, aiming for a tight one, such as a dwelling, it is a common procedure to make the plank part slightly higher than the surrounding posts. In time, when the planks sink down from the pressure of the overlying logs and the roof, that process will

eliminate the gap between the top-most plank and the wall plate, which would otherwise result from the sinking, if the planks would not reach higher than the posts. We would expect that such a way of construction was used during the Viking Age.

There are many examples of hybrids. The flora is so rich, that creating a special terminology with names for each variant is hardly useful. Using adequate discernment, it is possible to describe the hybrids based on the main forms.

Summary

An adequate terminology improves lucidity and understanding. In some cases, improper expressions are prevalent within archaeology.

It is important to separate between terms for remains and terms for the original houses. Some terms focus on the remains. When discussing house constructions and changes in building techniques, terms focusing on construction should be used. Thus, I suggest four terms: *Houses with internal roof support* ("hus med inre stolpbärning"), *framework houses* ("ramverkshus"), *corner-timbered houses* ("knuttimrade hus") and *hybrids*.

It is better to use terms such as "house with internal roof support", rather than "two-aisled" or "three-aisled", when discussing the construction as such.

The word aisle ("skepp") should be retained for adjacent long spaces separated lengthwise by free-standing posts.

Post house ("stolphus") is a blurry expression that is used in a confusing manner. Both framework houses and houses with internal roof support use posts as their most important construction part. In framework houses, posts are essential both in houses that have earthfast posts, and in houses that do not. When referring to framework houses, the term post house should not be used; instead, the terms *framework houses with earthfast posts* or *framework houses with non-earthfast posts* should be used.

Sills are always made from wood. Stones beneath houses are foundation, foundation stones, stone foundation or cornerstones. Stone-sills do not exist and accordingly, neither do stone-sill houses. The term sill-stone house says nothing about the house.

A stone foundation may exist beneath both framework houses and corner-timbered houses, two types with completely different construction principles. The term "stone foundation house" should not be used; a stone foundation is remains that do not characterize the house on the top of it. In cases where it is not known whether the house is a framework house or a corner-timbered house, the term *house with load-carrying walls* should be used.

English-Swedish glossary

batten	raft
beam	bjälke, band
cross-wall	tvärvägg
diagonal brace	snedsträva
dowel	dymling; dymla
earthfast	jordgrävd
framework	ramverk
gable	gavel
gable-truss	gavelröste
gable wall	kortvägg, gavelvägg
groove	nåt (not)
horizontal plank	bål
joinery work	sammanfogning
longer wall	långvägg
mortise	tapphål
non-earthfast	icke-jordgrävd
purlin	ås
post	stolpe
rafter	sparre
sill	syll
space	utrymme
stave	stav
stud	regel
stud house	regelhus
tenon	tapp
tie-beam	tvärband
timbering to corner	timra på knut
timbering to post	timra på stolpe
trestle	bock
wall plate	långband
wattle	flätverk
wattle-and-daub	flätverk med lerklining

References

Ahlstrand, J. T. 1969. *Arkitekturtermer.* Studentlitteratur, Lund.

Ambrosiani, B. & Clarke, H. 1995. *Birka studies, vol. 2: Excavations in the Black Earth 1990.* Birka Project, Riksantikvarieämbetet och Statens historiska museer, Stockholm.

Andersson, C. & Hållans-Stenholm, A.-M. 2007. *Nabor i Norrsunda — bytomterna Valsta och Säby vid sjön Fysingen, UV mitt, rapport 2006:25.* Riksantikvarieämbetet, Stockholm.

Berg, A. 1989-1999. *Norske tømmerhus frå mellomalderen, band I-VI*, Landbrugsforlaget, Oslo.

Bäck, M. & Carlsson, M. 1994. *Kvarteret S:ta Gertrud 3 — stadsgårdar och gravar i Sigtuna ca 970 - 1100, RAÄ 195.* Riksantikvarieämbetet, Stockholm.

Christophersen, A. & Nordeide, S. W. 1994. *Kaupangen ved Nidelva: 1000 års byhistorie belyst gjennem de arkeologiske undersøkelsene på Folkebibliotekstomten i Trondheim 1973- 1985. Del 1-2.* Riksantikvaren, Oslo.

Fagerlund *et el.* 2000. D. Fagerlund, H. Göthberg, L. Qviström & K. Åberg. *Förhistoria och medeltid i Vänge, Arkeologiska undersökningar 1998.* Upplandsmuseet, Uppsala.

Fett, T. 1989. Bygninger og bygningsdetaljer. *De arkeologiske utgravninger i Gamlebyen, Oslo, bd 6.* Universitetsforlaget, Oslo.

Gustafsson, M. 2007. Tradition och förnyelse. Göthberg, H. (red.). *Hus och bebyggelse i Uppland. Delar av förhistoriska sammanhang.* Upplandsmuseet, Riksantikvarieämbetet och Societas Archaeologica Upsaliensis.

Göthberg, H. 2000. *Bebyggelse i förändring. Uppland från slutet av yngre bronsålder till tidig medeltid*. Institutionen för arkeologi och antik historia, Uppsala universitet.

Göthberg, H. 2007. Mer än bara hus och gårdar. Göthberg, H. (red.). *Hus och bebyggelse i Uppland. Delar av förhistoriska sammanhang.* Upplandsmuseet, Riksantikvarieämbetet och Societas Archaeologica Upsaliensis.

Hauglid, R. 1976. *Norske stavkirker. Bygningshistorisk utvikling og bakgrunn.* Dreyer, Oslo.

Hauglid, R. 1980. *Laftekunst. Laftehusets opprinnelse og eldste historie*. Dreyer, Oslo.

Henriksson, G. 1996. *Skiftesverk i Sverige*. Byggforskningsrådet, Stockholm.

Herrnbrot, A. 1958. *Der Husterknupp. Eine niederrheinische Burganlage des frühen Mittelalters.*

Herschend, F. 1989. Changing Houses. Early Medieval House Types in Sweden 500 to 1100 AD. *Tor nr 22*. Uppsala.

Onsten-Molander, A. & Wikborg, J. 2006. *Kyrsta, del 2. Förhistoriska boplatslömningar. Undersökningar för E4, RAÄ 327 och RAÄ 330, Ärentuna socken, Uppland.* Societas Archaeologica Upsaliensis, Uppsala.

Qviström, L. 2007. Från långhus till stuga. Göthberg, H. (red.). *Hus och bebyggelse i Uppland. Delar av förhistoriska sammanhang.* Upplandsmuseet, Riksantikvarieämbetet och Societas Archaeologica Upsaliensis.

Rosberg, K. 2009. *Vikingatidens byggande i Mälardalen. Ramverk och knuttimring*. Aun nr 38, Institionen för arkeologi och antik historia, Uppsala universitet.

Seiler, A. 2005. *Vallby norra. En boplats från yngre bronsålder, yngre järnålder och tidig medeltiud i Tämnaråns dalgång.* Riksantikvarieämbetet, Uppsala.

Sjömar, P. 1988. *Byggnadsteknik och timmermanskonst*, Chalmers tekniska högskola, Göteborg.

Tesch, S. 1983. *Ystad II. En omlandsstudie.* Medeltidsstaden 45, Riksantikvarieämbetet.

Zimmermann, W. H. 1998. Pfosten, Ständer und Schwelle und der Übergang vom Pfosten- zum Ständerbau — Eine Studie zu Innovation und Beharrung im Hausbau. Zu Konstruktion und Haltbarkeit prähistorischer bis neuzeitlicher

Holzbauten von den Nord- und Ostseeländern bis zu den Alpen. *Probleme der Küstenforschung im südlichen Nordseegebiet, Bd 25.* Lax, Hildesheim.