THE RECONSTRUCTION OF A LATE IRON AGE HOUSE: AN ARCHAEOLOGICAL EXPERIMENT IN RÕUGE 2010–2012

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INTRODUCTION

An archaeological experiment was carried out in two parts during the summers of 2010 and 2011 near an ancient hill fort and settlement site in Rõuge, Võru County. In the course of this experiment a reconstruction of an Iron Age log house with a two-layer split plank roof, clay floor and a *keris*-stove without a chimney was built (Fig. 1). To test the house students carried out an experiment of living in the house during one week in wintertime (30.01.2012–05.02.2012).

Fig. 1. The reconstruction of an Iron Age dwelling built in 2010–2011.
Jn 1. 2010–2011 ehitatud rauaaegse eluhoone rekonstruktsioon.
Photo / Foto: Viire Pajuste

The objectives of the experiment were related to both science and science popularization. The construction experiment aimed at finding answers to several construction-technical questions. The experiment to live in the house was carried out in order to test the quality of the building and get a better picture of the living conditions in the Iron Age. The second major goal was to promote archaeological knowledge to people and increase general interest in our heritage.

Archaeological experiments in Estonia to study technological processes and materials have been conducted in making ceramics (Kriiska *et al*. 1991; Kriiska 2004, 218 ff), iron smelting (Kriiska *et al*. 1991; Peets 2003, 131 ff) and building of *trebuchet* (Saimre 2006). Experiments with burials have been carried out for studying natural processes of the body and to gain cognitive experiences (Jonuks & Konsa 2007). Experiments with bone working (Luik 2005, 40 ff), glass smelting (Kriiska *et al*. 1991) and cultivating rye by slash-and-burn (Jääts *et al*. 2011) have also been conducted.

The reconstruction of an Iron Age log house is one of the most large-scale experimental archaeology projects in Estonia and it may be considered a success. Besides answering the questions set at the beginning of the experiment, the project created many additional questions and problems. Some of them were solved during the experiment, but some hypothetical issues still need further research and verification.

The experiment was set up to tackle the following issues: (1) How many hours does it take to build such a house? (2) How many hours does it take to acquire specific working methods? (3) How many people are needed to finish the reconstruction in ascertain time? (4) How fast can work methods be acquired? (5) How does a tool's shape and mass influence the work results?

Data from previous archaeological excavations (Schmiedehelm 1954) and researches by Evald Tõnisson (1980; 1981; 1985; 2008) and Ain Lavi (1997; 2003; 2005), as well as a miniature reconstruction of an ancient hill fort of Rõuge were taken into account for the reconstruction. Excavations had revealed a 6 × 5 m clay-floor building located on the western part of the hill fort. When evaluating the dimensions of the reconstruction, the location and measures of the heap of stones in the north-eastern corner of the house remains that were considered as a possible stove place were also taken into account. The reconstruction of the dwelling is east–west directed and the door locates in the south part of the east wall.

One change in the architectural design was caused by the landscape of the place. The building was located on top of a slope and in order to keep the floor of the building horizontal, it was necessary to raise the ground floor of the house and place stones under the walls. The same solution was used in ancient times, but when there was no direct need deriving from the terrain, the houses were normally built straight on the ground (Lavi 1997, 103; 2003, 152).

The aim was to use only authentic tools and work methods in order to find answers and solutions to possible questions and problems emerging during the experiment. The building methods and tools were established on the basis of literature studied for the bachelor thesis (see Pajuste 2009 and the literature cited) and ethnographic parallels (Tihase 2007; Habicht 2008). The research was summed up in a Master thesis (Pajuste 2012) defended at the University of Tartu in 2012.

THE BUILDING EXPERIMENT

Before the beginning of the experiment it was uncertain which techniques and working methods to apply. In order to solve the initial problems Joosep Metslang, a specialist of rural architecture in Estonian Open Air Museum was consulted and his advice was of remarkable help. He provided the team with first instructions on site in the summer of 2010. However, most of the solutions for building the roof derived during the work process, suggested mainly by the participants.

The entire experiment was documented with different methods. The time spent on various operations and work descriptions were documented in a written report. Initially participants were asked to fill in daily questionnaires, but it was abandoned after the first day. The process was photographed continuously. An automated camera was in use during the first part of the experiment – it fixed the situation every 30 seconds. Tanel Saimre created the time-lapse[1] of the first week from this photographic material. All photographic materials were made available on the project webpage http://muinasmaja.edicypages.com. Emotions and experiences obtained during the experiment were written down in a diary and in a public blog.

Working time, methods and skills

One of the major blocks of questions was related to labour and time. Unfortunately it was not possible to find out the time that was required to construct a log house in the Iron Age, largely due to the human factors, e.g. tool handling, motivation, experience etc., which influenced different work operations. The total number of hours spent on the construction of the house (about 4000 h), was comparable to the originally calculated hours (approximately 4000–4500 h), but the whole construction process took much longer than expected. The building was not completed by 2010 as initially planned. It was conserved and the reconstruction was finally completed in the summer of 2011.

In the course of the experiment some additional challenges arising from the construction needed to be dealt with. For example, the splitting of logs turned out to be a more difficult and complex task than initially assumed. In the end, the trial and error method and the work process itself gave perfectly acceptable results. The splitting of one log (about 0.3 to 0.4 m in diameter) into wedge-split boards was a day's work for two men. After this the wedge-split boards were straightened.

The overall increase of time spent on the construction and the elongation of the work process were directly related to the availability and preparation of the participants. All workers were volunteers from different subject fields. About half of them were able to contribute only 1–3 days which were often spent on becoming acquainted with the site and learning the working skills. For these reasons the performance was significantly lower. There were only few who were able to stay for a longer period and thus make a more considerable contribution.

The acquisition of techniques and skills, however, went more smoothly and quicker than expected. The craft of cutting angles and long grooves was achieved by the third day. It was very helpful to share the experience with the new participants (e.g. making wedge-split boards). In general, no previous work experience is needed to build a log house. Practices and principles of construction normally become clear in the course of the first construction experience and respective mistakes can be avoided in building

[1] http://www.youtube.com/watch?v=-8gDsYfk2Is&feature=channel&list=UL (in English); http://www.youtube.com/watch?v=iXUHc05k12o&feature=player_embedded# (in Estonian) (15.06.2012.).

Fig. 2. A tool for marking long groove, made from a willow branch.
Jn 2. Pajuvitsast valmistatud tööriist varade märkimiseks.
Photo / Foto: Viire Pajuste

Fig. 3. A hewing tool for cutting branches and twisted wood fibres.
Jn 3. Raiumisraud okste ja viltujooksvate puidukiudude läbiraiumiseks palkide lõhestamisel.
Photo / Foto: Anna Kolossova

Fig. 4. Making wedge-split boards.
Jn 4. Kisklaudade tegemine.
Photo / Foto: Viire Pajuste

the next house. It is well suited to repeat the popular saying, which we heard repeatedly from people who came to see the construction site: 'Build the first house for a neighbour, the second one for a friend and the third one for yourself'.

The issues of calculating the working time and labour finally resulted in the conclusion that it would be possible to save at least 1,000 working hours, if a certain number of skilled people (10–15) would constantly (at least one week) participate at the construction and use the working hours rationally. That would ensure a stable composition of their team and increase productivity. Whether, to what extent and how the working time could be even more decreased are subject to complementary research work.

Selection of tools

The selection of tools was first and foremost based on archaeological material, which is unfortunately very scanty in Estonia. It is definite that an axe (Peets 2003, 199; Tvauri 2012, 123), a chisel (Aun 1992, 55; Tvauri 2012, 128), a knife (Peets 2003, 210) and a timber shave (Mäesalu 1978, 42) were in use in the Late Iron Age, but we have no archaeological information about the use of the long groove tool (Est. *vararaud*) at the time. At the start of the experiment it became clear that it is quite difficult to proceed without the long groove tool and in the absence of any better alternatives a 'long groove wand' (Fig. 2) was made of the available resources (using a willow branch, a string and a pencil) which performed its function perfectly.

While making the necessary roofing material (wedge-split boards) another problem arose: how to split logs, especially when they are twisted and knotty. To solve it, a hewing tool similar to a twosided wide edged chisel was designed and forged (Fig. 3). With such a tool it was possible to cut unnecessary branches and twisted wood fibres (Fig. 4).

In the course of construction answers were sought to questions related to the impact of differences in the type, shape and/or weight of tools on work performance. In this regard fairly predictable results were achieved. A handy tool is the most suitable tool! The shape and weight of a particular tool (e.g. an axe) played a greater role on the performance of those with more experience and skills. Less experienced and skilled people often worked using the tool that was handed to them first. However, soon they too developed a preference for a particular tool. There were also instances when people preferred a so-called wrong tool from among two different functional types of the same tool to perform a certain work (e.g. a joinery timber shave instead of a forest worker timber shave was selected for roughing logs).

Building the roof

The most serious challenge in relation to the structure of the house was the roof because of complete lack of archaeological material. In order to solve the issue we consulted ethnographic material and the oldest known roof types. We also relied on archaeological material found from Old Ladoga that has been dated to the 10th century and

Fig. 5. The rafters are placed on the last but one (the ninth) log.
Jn 5. Sarikad toetuvad eelviimasele (üheksandale) palgikorrale.
Photo / Foto: Viire Pajuste

Fig. 6. The support construction of the roof was prepared separately from the house.
Jn 6. Katuse kandekonstruktsioon valmistati ette hoonest eraldi.
Photo / Foto: Viire Pajuste

Fig. 7. Assembling the support construction of the roof.
Jn 7. Katuse kandekonstruktsiooni kokkupanemine.
Photo / Foto: Viire Pajuste

contained a rafter with a hook and logs with processing marks typical for rafters and balks (Ravdonikas 1949, 18–19). Furthermore, to calculate the declination of the roof of the Rõuge reconstructed house (26º), the Chronicle of Henry of Livonia (HCL XXIII, 9) was used, in which the author has described the battle of Kareda where the fight was continued on the roofs and piles of logs.

According to conceptual architectural design the structure supporting the roof was supposed to be made of rafters and built on supporting boarding. In the course of construction it was decided to add purlins to strengthen the structure. The reason for this was that the wedge-split boards with sufficient length used as roofing material were twice thicker than originally calculated and were respectively much heavier.

In the course of the experiment a change was made in connecting the rafters to the walls. The architectural conceptual design originally designated that rafters should be placed on the upper wall log. However, during the construction a solution without any previously known architectural equivalent was established and ultimately, greater stability was ensured for the roof structure: the rafters of the reconstructed building were placed on the last but one (the ninth) wall log (Fig. 5). Such solution also eliminated the problem of thermal resistance. Since relatively massive material was used for building the roof, the rafters needed to be massive as well and that caused a significant gap between the wall and the roof. Consequent heat loss would be great, regardless of how thoroughly this part of the building would be insulated. The support construction of the roof was prepared separate from the house at first (Fig. 6) and then assembled from the details (Fig. 7).

After the assembly of the roof another small mistake was discovered. Birch bark used as waterproof insulation should have been placed so that the fibre direction would run along the roof gable, e.g. parallel to the ridge. Currently the birch bark in locations which are not covered by surface boards has curled up. Since the overlap of birch bark on connections is relatively large the roof will not let the rain through and there is no need to reload it. However, this fact is worth to be taken into account in the future.

EXPERIMENT OF LIVING IN THE RECONSTRUCTED HOUSE

The next step of the experiment was to test it by living in it during wintertime. The aim of this part was to find out the quality and living conditions of the dwelling.

In order to achieve the best possible result it was attempted to conduct the experiment in the most authentic way, which included clothing as well as many other details. For example, food was prepared on a stove in specially made clay pots. People slept on hay under sheepskin.

One of the qualifications of the house is clearly its insulation and ability to keep heat. During the experiment the temperature in all corners and the changes between two heating sessions were monitored. Certainly the outside temperature should be considered for final results and probably the direction and strength of the wind affect the outcome as well.

Temperature measurements showed that the result was much better than expected and the building was thermally well insulated. It was also feared that due to the size of the *keris*-stove and the general size of the building it might not be warm enough in cold weather conditions. In reality, the results were surprisingly good. Heat loss was noticeable, but not as great as feared. The temperature difference at different heights was also clearly discernible. Before going to bed the room temperature 1.5 m above the floor level was often around 30° C and by morning it had dropped to about 10° C.

Fig. 8. Smoke level in the house.
Jn 8. Suitsupiir hoone sees.
Photo / Foto: Viire Pajuste

However, it was more stable in the bunk and ranged between 7º–12º C.[2] Considering the circumstances that the building has no inserted ceiling, the floor is not separated from the ground and the stove is relatively small, we can be very satisfied with the result.

The greatest challenge was the smoke from heating the chimneyless *keris*-stove. Before the construction of the building it was assumed that the smoke level may reach the mortise and the height of the upper edge of the door. However, the smoke level actually evolved initially at a much lower height possibly because of the relative air humidity in the room (Pajuste 2012, 64–66). Also, it was not as clearly visible as expected (Fig. 8). When the house became warm as a result of continuous heating and air moisture content decreased, the smoke level shifted higher. At the same time the experiment created a question: what causes the formation of the smoke level and how to influence its height and concreteness? One of the hypotheses of this thesis – that the existence of a vestibule can affect the concreteness of the smoke level – still needs further examination.

Living in the experimental house gave the participants a very important experience. It was confirmed that there are things that cannot be understood or imagined without the relevant experience. Those who participated in the experiment as well as those who were acquainted with the experiment site agreed that although they have a general image of living in a smoky room it would have been difficult for them to imagine the real situation without this experience. Also, during the week that the students lived in the reconstructed building, the participants of the experiment started to think more about actual ancient living conditions. Unfortunately the experiment was too short for more comprehensive results and exposure to modern life was also too tight. Thus, no fundamental hypotheses will be presented on this basis.

THE RÕUGE EXPERIMENT AS POPULARIZATION OF ARCHAEOLOGY

The additional goal of the experiment in Rõuge was to popularize archaeology and create greater interest in our past heritage. Here, too, the experiment can be considered a success. Already during the construction experiment the number of interested parties increased. There were numerous enthusiasts and many of them offered interesting solutions to different issues. Many kept themselves constantly informed about the project and followed the web site that gave continuously updated information about the experiment. There were also those who repeatedly visited the site to gain better and more authentic overview of the progress.

Experimenting living in the house and its coverage in media brought significantly greater interest in the project than the construction phase. It could be observed on the basis of the increased number of Internet comments as well as the statistics of the web site. During the active period of experimental construction the number of visits per month was *ca.* 2000–3000, but it increased by 1000 to nearly 4000 just on the first day of experimenting living in the house and remained at a very high level until the end of the experiment. Thus, it can be concluded that the reconstructed building plays an important role in introducing the ancient living conditions to a wider audience.

The experiments have also been used for educational purposes. The reconstructed building and lodgings in winter were visited by some school tours. In addition, some

[2] During the experiment the outside temperature was –12º C to –30º C.

teachers have already put their experience to use in teaching their subject. Also, a presentation about experimental archaeology was prepared on the basis of the experiment and introduced in several schools after the experiment itself had finished. Students have shown great interest in archaeology and the experiment and most presentations have been followed by subsequent discussions.

In order to keep the building from breaking apart and maintain its sustainability, it could and should be exploited to a maximum extent in the following summers. There are many ways for doing so, for example different workshops and thematic days are planned and the house itself is ideal for interdisciplinary studies. On the basis of the project experience it can be concluded that there is a need to conduct similar activities. The project deserves to be expanded and the development of an Iron Age complex would certainly provide new and interesting results.

CONCLUSIONS

As a result of the experiment an Iron Age living environment was created – it enables us to experience and better understand Iron Age living conditions. During the reconstruction of the house it was not possible to compare the time spent on building the house with time spent on construction in the Iron Age, because the working skills, know-how and motivation of participants in the experiment were considerably different. However, the work methods were learned fast, in maximum 3 days. It means that a dwelling can be constructed without any previous skills.

The tools chosen on the basis of the archaeological material were unfortunately not sufficient. The tool for marking the long groove was made of available resources, also the hewing tool for cutting the unnecessary branches and skewed wood fibres were made during the experiment. The roof structure was changed compared to the initial project. Purlins were added to guarantee the stability of the roof, the house itself and the support structure. The rafters are not resting on the uppermost log, but on the penultimate log.

The experiment demonstrated that the reconstructed house was warmer than expected. Even with very low outside temperature (–30° C) the temperature inside between two heatings did not fall below 10° C. The experiment put forward some questions about the smoke level in the building. Analysing the results of the experiment it was concluded that the formation and height of smoke are connected with air humidity, the variance of temperatures inside and outside, and the presence or absence of an entrance-room.

According to the well-known civil engineer and consultant Tiit Masso, the building constructed in the course of the experiment is of good quality, the applied solutions are good and no mistakes have been made in the construction.

In addition to scientific interest, the experiment played a major role in popularizing archaeology. According to media reviews and statistics of the homepage the quantity of observers grew significantly during the two-phase experiment, whereas the lodging experiment was the most attractive.

REFERENCES

Aun, M. 1992 = Аун, М. 1992. Археологические памятники второй половины 1-го тысячелетия в Юго-Восточной Эстонии. Таллинн.
Habicht, T. 2008. Eesti saun. Tallinn.
HCL = Henriku Liivimaa kroonika 2005. Tõlkinud Richard Kleis. Toimetanud ja kommenteerinud Enn Tarvel. Tallinn.
Jonuks, T. & Konsa, M. 2007. The revival of prehistoric burial practices: three archaeological experiments. – Folklore, 37, 91–110. http://haldjas.folklore.ee/folklore/vol37/burial.pdf (6.05.2012.)
Jääts, L., Konsa, M., Kihno, K. & Tomson, P. 2011. Fire cultivation in Estonian cultural landscapes. – The Space of Culture – the Place of Nature in Estonia and Beyond. Ed. by T. Peil, V. Lang, K. Kull. *Approaches to Culture Theory, I.* Tartu, 165–180.
Kriiska, A. 2004. Aegade alguses. Tallinn.
Kriiska, A., Mägi, T. & Peets, J. 1991. Neues in der Experimentalarchäologie. – TATÜ, 40: 4, 400–412.
Lavi, A. 1997. Asulakohad 13.–17. sajandi talurahva-ehitiste ajaloo allikana. – EAA, 1, 84–144.
Lavi, A. 2003. Muinasaja lõpu külaehitised. – Eesti aastal 1200. Ed. by M. Mägi. Tallinn, 149–162.
Lavi, A. 2005. An addendum to the study of smoke cottages. – EJA, 9: 2, 132–155.
Luik, H. 2005. Luu- ja sarvesemed Eesti arheoloogilises leiumaterjalis viikingiajast keskajani. *Dissertationes Archaeologiae Universitatis Tartuensis*, 1. Tartu.
Mäesalu, A. 1978. Soontagana maalinn. Diplomitöö. Tartu. (*Manuscript in TÜAK.*)
Pajuste, V. 2009. Eluhooned Loode-Venemaa linnades ja asulates 8.–11. sajandil. Bakalaureusetöö. Tartu. (*Manuscript in TÜAK.*)
Pajuste, V. 2012. Noorema rauaaja eluhoone rekonstrueerimine. Arheoloogiline eksperiment Rõuges 2010–2012. Magistritöö. Tartu. (*Manuscript in TÜAK.*)
Peets, J. 2003. The Power of Iron: Iron Production and Blacksmithy in Estonia and Neighbouring Areas in Prehistoric Period and the Middle Ages. *Muinasaja teadus, 12.* Tallinn.
Ravdonikas, V. I. 1949 = Равдоникас В. И. 1949. Старая Ладога. (Из итогов археологических исследований 1938–1947 гг.). – Советкая археология, XI, 5–54.
Saimre, T. 2006. Trebuchet – a gravity-operated siege engine. A study in experimental archaeology. – EJA, 10: 1, 61–80.
Saimre, T. 2010. Building the Viking Age House in Rõuge. Week 1, July 5th – 10th 2010. http://www.youtube.com/watch?v=-8gDsYfk2Is&feature=channel&list=UL (15.06.2012.)
Rõuge muinasmaja ehitus. 1. nädal, 5.–10. juuli 2010. http://www.youtube.com/watch?v=iXUHc05k12o&feature=player_embedded# (15.06.2012.)
Schmiedehelm, M. 1954. Aruanne kaevamistest Võru raj. Rõuge linnusel 15.06.–27.07.1954. Tallinn. (*Manuscript in AI.*)
Tihase, K. 2007. Eesti talurahva arhitektuur. Tallinn.
Tvauri A. 2012. The Migration Period, Pre-Viking Age, and Viking Age in Estonia. *Estonian Archaeology, 4.* Tartu.
Tõnisson, E. 1980 = Тыниссон, Э. 1980. Некоторые итоги изучения древнеэстонского жилища. (По материалам городищ 11–13 вв.) – TATÜ, 29: 1, 67–77.
Tõnisson, E. 1981. Esiaja ahjud Eestis. – TATÜ, 30: 1, 43–56.
Tõnisson, E. 1985 = Тыниссон, Э. 1985. К вопросу о возникновении основных типов крестьянского жилища в Прибалтике. – Проблемы этногенеза и этнической истории балтов, отв. ред. Р. Волкайте-Куликаускене. Вильнюс, 227–240.
Tõnisson, E. 2008. Eesti muinaslinnad. Ed. by A. Mäesalu, H. Valk. *Muinasaja teadus, 20.* Tartu-Tallinn.

NOOREMA RAUAAJA ELUHOONE REKONSTRUEERIMINE: ARHEOLOOGILINE EKSPERIMENT RÕUGES 2010–2012

Viire Pajuste

Võrumaal, Rõuge linnamäe vahetus naabruses toimus kahe suve jooksul (2010–2011) arheoloogiline eksperiment, mille käigus ehitati ristnurgaga, kahekihilise kisklaudadest katuse, savipõranda ja korstnata kerisahjuga rauaaegse rõhtpalkhoone rekonstruktsioon (jn 1). Selle testimiseks korraldati ka nädalane elamise eksperiment 2012. a talvel.

Rekonstruktsioonhoone eeskujuks valiti Rõuge linnamäe, neemiku tipu poolses otsas paiknenud savipõrandaga 6 × 5 m hoone põhi. Eesmärgiks oli ehitamiseks kasutada vaid autentseid tööriistu ja -võtteid, saada vastuseid võimalikele eksperimendi käigus esilekerkivatele küsimustele ning leida lahendusi tekkivatele probleemidele.

Ehitamise eksperimendi käigus mõõdeti nii erinevatele tööoperatsioonidele kui ka terve hoone ehitamiseks kulunud aega. Paraku ei saavutatud ehitusaja osas rauaajaga võrreldavat tulemust mitmete inimfaktorite tõttu. Tähtsaimad neist olid eeldused ja oskused, mida sellise töö tegemiseks vajatakse, ning motivatsioon, mis eksperimendis osalejatel oli oluliselt erinev rauaaja inimeste omast.

Töövõtted ja palkhoone ehitamiseks vajalikud oskused omandati kiiresti. Selleks kulus maksimaalselt kolm päeva. Eksperimendi põhjal saab väita, et palkmaja ehitamisega on võimalik hakkama saada ka eelnevaid oskusi omamata. Palkide lõhestamine osutus aga raskemaks ja keerulisemaks ülesandeks, kui alguses arvatud. Näiteks, u 0,3–0,4 m läbimõõduga palgi kisklaudadeks lõhestamine on kahe mehe päevatöö ning sellele järgnes veel ka plankude sirgeks tahumine.

Tööriistade valiku osas saab arheoloogiliste leidude põhjal kindlalt väita kirve, noa, peitli ja liimeistri kasutamist. Vararaua kasutamise kohta noorema rauaaja Eesti alal arheoloogiline info puudub. Kohe eksperimendi alguses selgus, et vararauata hakkama ei saa ning parema puudumisel tehti käepärastest vahenditest (pajuoks, nöör ja pliiats) „varavits“ (jn 2). Katuse kattematerjali (kisklaudade) tegemisel kasutati peamiselt kirvest ja kiilusid, kuid töö käigus tekkis vajadus täiendava tööriista järele. Palkide lõhestamisel ettejäänud okste ja viltujooksvate puidukiudude läbiraiumiseks lasti sepistada kahepoolse teritusega laiateralist peitlit meenutav raiumisraud (jn 3, 4).

Ehitamise käigus otsiti vastust ka küsimusele tööriista tüübi, selle kuju ja/või massi erinevuste mõjust töötulemusele. Suuremat rolli mängis konkreetse tööriista (antud juhul kirve) kuju ja mass neil, kellel oli rohkem oskusi ja kogemusi. Töövõtted, oskused ja vilumused omandati oodatust oluliselt sujuvamalt ja kiiremini. Selleks kulus maksimaalselt kolm päeva. Üldjoontes võib väita, et palkhoone suudetakse valmis ehitada ka eelnevat töökogemust omamata.

Hoone konstruktsiooni osas oli kõige suuremaks probleemiks katus, sest selle kohta puudub arheoloogiline aines täielikult. Seetõttu pöörduti antud küsimuses etnograafilise materjali poole ning lähtuti vanimatest teadaolevatest katusetüüpidest. Arhitektuurse eelprojekti järgi pidi katuse kandekonstruktsioon koosnema sarikatest ja nendele toetuvast roovitisest. Ehituse käigus otsustati konstruktsiooni pärlinite lisamisega tugevamaks muuta.

Eksperimendi käigus viidi sisse ka muutus sarikate sidumisel seintega. Kui arhitektuurne eelprojekt nägi ette, et sarikad toetuvad ülemisele seinapalgile, siis ehitamise ajal jõuti selles osas lahenduseni, millele puudub teadaolev arhitektuurne vaste ja mis tagas lõppkokkuvõttes katusekonstruktsiooni suurema stabiilsuse. Hoone sarikad toetuvad eelviimasele (üheksandale) seinapalgile (jn 5). Katuse tugikonstruktsioon (otsaviilud, pärlinid, sarikad) valmistati hoonest eraldi (jn 6) ning pandi hiljem kokku valmisdetailidest (jn 7).

Eksperimendi järgmiseks etapiks oli planeeritud rekonstruktsioonhoone testimine elamise eksperimendi vältel talveperioodil. Selle käigus sooviti saada parem pilt rauaaegsetest elamistingimustest. Saavutamaks parimat võimalikku tulemust, üritati eksperiment läbi viia võimalikult autentsel viisil, mis seisnes nii rõivastuses kui ka paljudes teistes üksikasjades. Näiteks toitu valmistati leel, spetsiaalselt valmistatud savipotis ja magati heintel, lambanahkade vahel.

Temperatuurimõõtmiste käigus selgus, et resultaat oli oodatust oluliselt parem ja hoone soojapidavam kui ehitamise käigus arvati. Soojakadu oli küll märgatav, kuid mitte nii suur, kui kardetud. Tuntav oli temperatuuride vahe erinevatel kõrgustel. Enne magamaminekut ulatus toatemperatuur u 1,5 m kõrgusel põrandapinnast sageli peaaegu 30º C ja hommikuks oli see langenud u 10º C, kuid magamisasemel oli see stabiilsem ja jäi ööpäeva lõikes vahemikku 7º–12º C.

Suuremaks probleemiks oli korstnata kerisahju kütmisel tekkiv suits. Kui enne hoone ehitamist oletati, et suitsupiir on seotud õhutusavade ja ukse ülemise serva kõrgusega põrandapinnast, siis tegelikkuses moodustus suitsupiir esialgu oluliselt madalamal (jn 8). Selles kontekstis kerkis üles küsimus, mida ilma eksperimenti läbi viimata poleks esitatud: mis põhjustab suitsupiiri tekkimise ning kuidas selle kõrgust ja konkreetsust mõjutada saab? Üks töö käigus püstitatud hüpoteesidest – suitsupiiri mõjutab eeskoja olemasolu – vajab edaspidist kontrolli.

Väga oluline oli elamise eksperimendist saadud kogemus. Eksperimendi abil ja reaalses keskkonnas tajuti ja hinnati muinasaja elamistingimusi oluliselt paremini. Paraku jäi eksperiment põhjalikumate tulemuste saamiseks liiga lühikeseks. Samuti olid kokkupuuted tänapäevaeluga liiga tihedad. Rõuge eksperimenti rakendati arheoloogia populariseerimisel ning suurema huvi tekitamiseks minevikupärandi vastu. Juba ehitamise ajal laienes huviliste ring, paljud neist hakkasid ka ise ehitusvõtetele kaasa mõtlema ja pakkusid mitmel juhul välja huvitavaid lahendusi. Paljud hoidsid ennast toimuvaga pidevalt kursis eksperimendi veebilehe kaudu. Oli ka neid, kes käisid kohal korduvalt.

Elamise eksperiment ja selle aktiivne kajastamine meedias tõi aga kaasa oluliselt suurema huvi, kui ehitamise jooksul. See oli jälgitav nii kordades kasvanud netikommentaaride põhjal kui ka kodulehe statistikas. Kui ehitamise eksperimendi aktiivsel perioodil oli külastuste arv 2000–3000 kuus, siis elamise eksperimendi esimesel päeval tõusis see peaaegu 4000 külastuseni. Seega mängib rekonstrueeritud hoone olulist rolli ka muinasaja elamistingimuste tutvustamisel laiemale publikule.

Eksperimenti on juba kasutatud ka hariduslikel eesmärkidel. Rekonstruktsioonhoonet ja talvist elamise eksperimenti on külastanud mõned kooliekskursioonid ning mitmed õpetajad on seda rakendanud õppetöös. Eksperimendi põhjal on valminud ka ettekanne eksperimentaalarheoloogiast, millega on paljudes koolides esinemas käidud.