

DESIGNING A MODEL OF THE UNKNOWN: ARTISTIC IMPACT IN A CHAIN OF SKILLED DECISIONS

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1. Introduction

On a comprehensive level, the purpose of this study is to explore the design process in a societal context. In other words, this is not an investigation of design in general, but of design with an informative and explanatory ambition. This project deals utmost with the problem of involving citizens in a discussion about society and history, something of vital importance for democracy. The application is a model-making process carried out one and a half decades ago for the museum at the World Heritage Site Birka situated on the island of Björkö in Lake Mälaren, in the centre of Sweden. The assumption is that the design and representation of the model has an impact on people's understanding of their history. A salient point is that this case study deals with a model of something that has been non-existent for nearly twelve hundred years, a settlement that disappeared around 970 A.D. This study is focused on the working process as experienced by the individual creative artist assigned to the model-making project.

The problem area involves possibilities and obstacles that accompany the involvement of artistic knowledge-in-practice in a collaborative design process. Thus, the research questions are:

- *In what ways did the artist influence the design process?*
- *How did the artist collaborate with the other professionals involved in the process?*

A chain of skilled decisions are represented in the final Birka model (completed in 1996). However, we will investigate the different steps strictly from the artist's point of view; how sketches and models functioned as tools for negotiation during the design process.

2. Background and coherencies

2.1 Creative artists in museum and heritage context

Today, paintings or sculptures are considered art. However, artists historically have been engaged by society to visualize historical and religious occurrences. In churches, palaces, castles, and in parks, streets and squares, works of art tell stories of the past or give life to the Bible. These works of art facilitated the common understanding of science and history. When natural history museums were established in late 19th century, dioramas became a way to make stuffed animals or different kinds of objects more life-like. Museums often engaged artists to make the sceneries in which the stuffed animals were placed. Dioramas were part of the epistemological tradition that believed in object lessons, which means that all senses should be involved in a learning situation. These theories have been developed, and consider multimodal input as essential for a deeper understanding of the environment [Kress 2010]. In Germany, Denmark and Sweden, the most prominent artists made wall-

paintings in schools with motifs from science, natural history, nature or sports. The content of the paintings were strongly related to the pedagogy and educational ideology. In addition, the artists made wall-charts/-posters that served as illustrations for the teaching. In Sweden, the tradition of engaging artists in pedagogical contexts progressed, and the Swedish National Council for Exhibitions (Riksställningar) was established in 1968. The Exploratorium in San Francisco, an interactive museum where science, art and playfulness were combined, became the role model for many museums in the 1960's. Characteristic for the exhibitions produced by Riksställningar during the period 1970-1990 were full-scale models of parts of historical milieus (for example, industrial spaces). These full-scale models were made by established artists [Eriksson and Mankell 2007]. The present curator of the permanent Birka exhibition was previously the curator at Riksställningar.

2.2 Birka at the time of the model-making project

Aside from some minor studies, there had been three major archaeological projects conducted at Birka in the time leading up to 1995: the entomologist Hjalmar Stolpe's excavations in the 1870's and the 1880's, the studies of Holger Arbman and Greta Arwidsson in the 1930's and 1940's and Björn Ambrosiani's investigations from 1990 to 1995. This third major venture in the Black Earth area provided the basis for the model-making process in this study. The archaeological project (made possible by a donation from a Swedish businessman and archaeologist) was planned to be completed in the autumn of 1994. However, work continued and additional funding was received for another year. The intention was to clarify the nature and organization of the area, in popular parlance "the cradle of Sweden" and the first town-like settlement.

The Swedish National Public Service Television Company (SVT) was deeply involved in the excavation-project from the start. SVT also made annual hour-long documentaries, published a series of popular-science books in five volumes and planned for two international documentary ventures on the Viking Age. In 1995, approximately 300,000 people had visited the excavation area of 350 square meters (roughly 0.5 per cent of the urban area), and six television programmes had attracted around five million viewers (about 800,000 viewers per programme). When the creative artist Lars Agger in January 1995 was assigned to make a model for the projected museum (built during the period 1995-96), Birka-Hovgården had already been a UNESCO World Heritage Site for two years, and the Ambrosiani excavations were being concluded. Three volumes of the popular book series were published. A fourth was completed, but has not yet been released, due to a change of publisher.

A simultaneous model-making project of Birka had begun in the autumn of 1994 (in other words, before Lars Agger received the assignment). The financier and performer of this more extensive project was SVT. The plan was to use that model in the movie work. This model, measuring 42 square meters, with a scale of 1:30, included almost a hundred buildings on 40 lots, a moulded pool and a wave-machine. Five model technicians spent roughly 4,500 hours completing the model before shooting the film in June 1996.

2.3 Prior experiences of the creative artist

Lars Agger received his sketch assignment in January, 1995. The task was to make a preliminary model with a scale of 1:25 based on sketches made by the exhibition architect at the Birka Museum. The assignment was given by The Swedish National Heritage Board (Riksantikvarieämbetet) and formulated by the project manager Annika Richert. Prior to this, Lars Agger had worked with exhibition scenography and models on historical tasks for several museums and touring exhibitions for nearly ten years. The artist's most merited experience prior to the Birka project was the assignment at National museum of antiquities concerning scenography, models and paintings for the exhibition "The Swedish history" 1992-1993. Agger was obviously experienced in this kind of work. Nevertheless, Agger has stated that the Birka assignment is so far his most prestigious job.

3. Theoretical and methodological framework

3.1 Artistry as practical knowledge

This study is based on the theoretical conception of practise and personal involvement as prerequisites for knowledge. The discussion on the nature and content of knowledge has been on-going among scholars since the days of Plato and Aristotle and seems to continue, though more or less intensively at times. In Sweden, *practical knowledge (or know-how, implicit knowledge or knowledge-in-action)* was the subject of intense debate during the 1980s, when the labour market was undergoing a process of extensive computerization. Would it be possible to substitute artificial intelligence for professionals? The epistemological debate was occasionally both noisy and hostile. Despite this, it once more pinpointed the problem of knowledge, bringing Michael Polanyi's ideas of *indwelling tacit knowledge* to the fore: "Our body is the ultimate instrument of all our external knowledge, whether intellectual or practical. In all our waking moments we are *relying* on our awareness of contacts of our body with things outside for *attending* to these things. Our own body is the only thing in the world which we normally never experience as an object, but experience always in terms of the world to which we are attending from our body. It is by making this intelligent use of our body that we feel it to be our body, and not a thing outside." [Polanyi 1966:15].

Scholars, technicians and creative artists scrutinized and elucidated the concept of knowledge from every possible angle. Gradually, the reasoning came to concern more a bit of both the implicit and explicit knowledge than either-or [Molander 1992]. As Molander puts it, "practically based kinds of knowledge have often been referred to as arts", and artistry as such is often associated to tacit knowing. Artistic knowledge is also strongly linked to another concept of importance for this study, namely the phenomenological concept of *horizon* [Gadamer 1997:149]. Gadamer discusses the relationship between art and truth, and considers an artwork as something of a play between concealing and unconcealing. He emphasises that the value is not in spite of, but because of, the fact that art both conceals and reveals. According to Gadamer, understanding and interpretation occur from having a horizon; a person's evaluation of the importance of things occurs within this *horizon of understanding*.

So how can these views on knowledge, artistry and interpretation contribute to the understanding of the design process in the model-making project at the World Heritage Site Birka? Our aim is to demonstrate this by applying and considering the concepts elucidated through a sociological theory from the late 1980's developed by Susan L. Star and applied by her to the establishment of Berkley's Museum of Vertebrate Zoology in the beginning of 20th century in California.

3.2 A concept for heterogeneous collaboration

Susan L. Star introduced the concept *boundary object* in 1989. The term refers to an object that serves as a crossing point (or interface) between different social worlds or practices. "Boundary objects are objects which are both plastic enough to adopt to local needs and the constraints of the several parties employing them, yet robust enough to maintain a common identity across sites. They are weakly structured in common use, and become strongly structured in individual-site use." [Star and Greisemer 1989: 393]. Thus, a boundary object is an entity that has various meanings to people from different professions, for example, but still has a structure common enough to make it recognizable "as means of translation".

The value of a boundary object is that it facilitates communication and mutual learning when people from different spheres – or with different *horizons of understanding*, to use Gadamer's terms – have the ambition to solve a task. The establishment of the Berkley museum involved participants from several social worlds: professional scientists, amateur naturalists, patrons, hired hands and administrators. As shown below, this social heterogeneity resembles the conditions regarding the Birka model-making project. However, no creative artist seems to have been engaged in the vertebrate museum.

Situations related to those mentioned here have arisen several times during graduate courses in applied information design at our university, Mälardalen University. We have experienced that the students' practical solutions to given tasks regarding the redesign of a heritage site, for example, have developed

into boundary objects for stakeholders such as local politicians, sponsors and members of local folklore societies. In those cases, the advantage was to be exposed to several suggestions, not necessarily ingenious ones. The point is that the different spatial, visual and verbal solutions nurture creativity and troubleshooting without any matter of prestige existing.

Star proposes that boundary objects are simultaneously concrete and abstract, specific and general, conventionalized and customized, and she suggests four types of objects: *repository*, *ideal type*, *coincident boundaries* and *standardized forms*. With her explanation, a process of a kind we are investigating in this study might have use for either an *ideal type* (a fairly vague and 'good enough' road map for all involved) or perhaps an object with *coincident boundaries* (same boundaries but different internal content). We will explore this a bit further later in this paper.

3.3 Rationale for method

The approach is a qualitative and pragmatic case study, considered as a pilot study for the prospect of a subsequent exploration into additional aspects of practical knowledge in design and the involvement of creative artists in these processes [Merriam 1988: 23]. Data is collected through visits to the artist's workshop, through personal interviews and interviews via mail and telephone. We have also been provided the opportunity to study official documents and the artist's diaries and visual material. In addition to this, we have made observations at the location (Birka).

An important circumstance for this study is that one of us is a practising creative artist, which of course has influenced the empirical work. Methodologically, this study, with a focus on artistry as practical knowledge, is carried out in dialogue with and with the mutual understanding of the creative artist. This has been a great advantage in the research field work. However, it does assume that the researcher is aware of the risk of "going native" and is capable of balancing this challenge.

Original artist sketches and notes from the artist and the collaborative parties in the process are considered core material in terms of visual material. In analysing the data, a multimodal approach is used, referring to the design process as *the site of the production* [Rose 2007: 257]. This site is chosen because the focus is on the process from the artist's point of view.

Highlighting this angle has made it possible to address the task of the creative artistic practice in a collaborative design process.

This study is carried out as part of a multiple research enterprise, *Contemporaries and Connections – To interpret and communicate cultural heritage in transnational times*. The enterprise explores the interpretation, representation and communication of heritage from different angles and in different genres and configurations. Common to these research projects in heritage design, as well as some connecting ongoing artistic projects, is the application to the World Heritage Site Birka.

Finally, although we are much aware of the fact that there are a number of additional perspectives just as relevant to pinpoint, this has not been done within this case study.

4. An assignment and a complex process

4.1 The introduction

Initially, Lars Agger received instructions explaining what the assignment was about. The request was to build an "authentic model" based on data from the latest excavations. Part of the assignment included the following conditions: the model had to be produced with a scale of 1:15 and measure 3 x 2.5 metres to fit in the planned exhibition area. Thus, it would be able to show tools, wheelbarrows, clothing and people in action in an early spring day with ice still covering the water. In this manner, even the season was part of the preconditions in the assignment.

4.2 In collaboration with several social worlds

4.2.1 Public administration

A project manager from The Swedish National Heritage Board headed the model project as a part of the whole museum-project, and involved the expertise needed. On an organizational level, there were also connections to The Museum of Swedish National Antiquities.

4.2.2 Archaeology

The project manager put Lars Agger in contact with the archaeologist previously in charge at the digging site. His role in the Birka model-project was as an advisor regarding tasks concerning archaeological facts handled in the design process and interpreting new evidence from the latest excavations.

4.2.3 Architecture

At the time of Agger's assignment, the architect bureau was already planning the details prior to the building of the Birka museum. The museum was to be built in 1996, so there was already an architect-model of the coming outline of the building.

4.2.4 Exhibition architecture

Inside the museum, an exhibition architect planned the exhibition area. In the permanent exhibition area of the future museum, the Birka model was planned to be a main attraction. He decided the size of the model when making the outline for the whole exhibition. The scales were fixed pursuant to his instructions.

4.2.5 Artistry

Several artists were involved in different projects inside the permanent exhibition area of the museum. Involved in the Birka-model project, in addition to Agger, were two other artists. One was to populate the model with dolls in the decided scenes, and the other was assigned to make some small ship-models. These artists got involved in the process later, when the outline of the model was already agreed upon.

4.3 The collaborative design process

It is possible to identify and (adequately) distinguish seven (7) phases in the design process, beginning following the initial agreement on the assignment and ending up with the starting point for the building of the actual model. Each phase had room for negotiations and discussions with the different stakeholders, each of them with his or her own horizon of understanding and his or her own view of the project.

4.3.1 A start without blueprint

In the beginning of the design process, the artist asked for a blueprint of the site. No such thing existed. Instead, he got a simple sketch made by the archaeologist. This sketch provided the designer with a small amount of data. On the sketch, he could see the contours of three houses and a fourth was vaguely marked out. He could also observe that the houses were positioned systematically in relation to each other and that they had fire places approximately in the middle. The short side of the houses pointed towards the shore, and they were all organised roughly in the same direction. The long sides of the houses were pointing north and south.

The plain sketch sent from the archaeologist served as a starting point for the design process.

4.3.2 A preliminary impression

In the next step, the artist made a series of map-like sketches. He also wrote down his own reflections and the requests from the team on the same sheets. These sketches were then sent back and forth to The Swedish National Heritage Board several times. Through the use of the sketches, the content and relationships of the houses and the site were systematically explored. Slowly, the artist got enough information to proceed with his work. He got a preliminary impression of how the houses might have been situated in the landscape and organised in relation to the shore (Figure 1a).

The artist still had several questions to ask the Board. The artist felt a need to gather all the knowledge and opinions at one and the same place.

4.3.3 Building knowledge in action

Lars Agger decided to invite the whole team – the project manager, the archaeologist, and the exhibition architect, plus several representatives from The Swedish National Heritage Board – to his workshop, a three hour journey from Stockholm. In preparation for their visit, he had a big sheet of paper mounted on the floor. The sheet was prepared with the information Agger had so far.

On the floor, crawling on a big piece of paper, a new phase in the design process started. Now they were all for the first time exposed to the scale and the actual size of the coming model (3 x 2, 5 metres and scale 1:15). Agger had all the visitors make their notes on the very same big sheet of paper. He received important information from each of them regarding their opinions of the shape of the houses and also what each house might have contained. New notations were also made involving material choices and building techniques (Figure 1b).

4.3.4 Pedagogic ideas

Based on the floor session in his workshop, Agger made an altogether new set of drawings, this time coloured with aquarelle to further sort out issues as material choices. These sketches were also sent back and forth for extra correction by the team. Notations such as ash pile and garbage were written directly on the pages. In these new set of sketches, some of the pedagogical ideas were also visualized. For example, one house was marked with scores in one of the corners. This corner was to be built in glass (transparent) to provide the spectators with the possibility to experience what was inside (i.e., a scene of normal daily indoor life at the Birka settlement) (Figure 2).

4.3.5 Four angled sketches

At that stage, Agger realized that he had to make a detailed disposition of every single house on the site, so that all involved in the process could have their particular understanding of every detail communicated. Agger analysed the notations and sketches, and put them together in big posters with sequences of drawings, one for each house. Now the houses were exposed from four angles. Beside the drawings stood a map showing the site for the actual building. In these section-drawings, information as to what was above ground became visible for the first time. Quite soon, these posters became the objects everyone was relating to. It seemed like the four angled views clarified matters for all involved, as if the section-projections were more familiar to most of the members in the team.

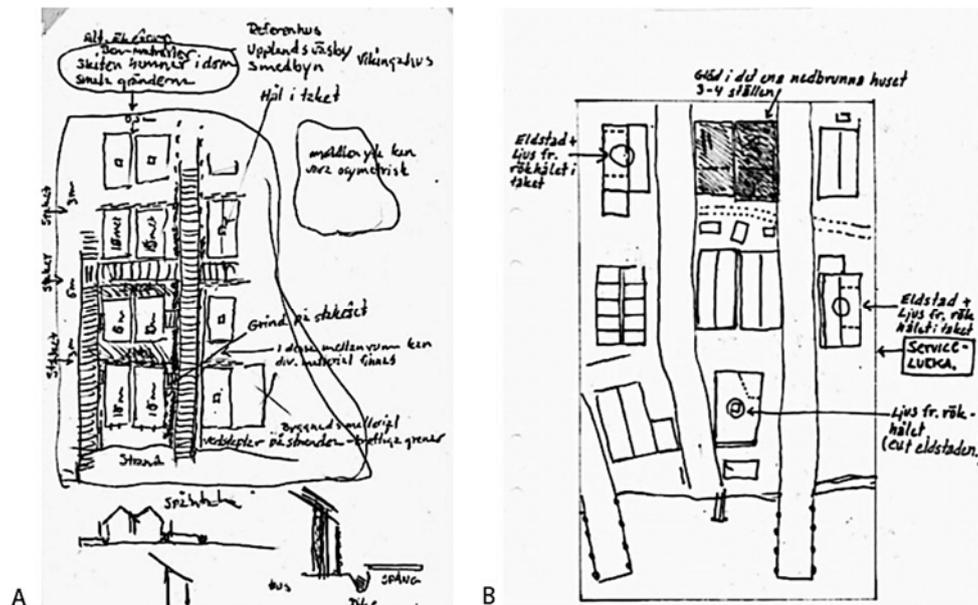


Figure 1. (a. and b.) Shows two of a series of sketches made by Lars Agger to sort out the possible positions of the houses and exploring how they correlate to each other and to the water. in Figure 1 b., a preliminary disposition of the quarters appears

Some of these posters were sent back and forth. Details were adjusted, and the discussion and choices of material and the height of the houses were preliminary set. To solve the height problem, the designer was recommended to consider earlier reconstructions from the same period, especially the full size reconstructions of the Viking houses at Skäftekärr, in the northern part of Öland, a large Swedish island. The material issues were easier to decide since there were archaeological findings of two types of wall constructions: one of planks set vertically or horizontally in a framework of standing posts, and the other was wattle-and-daub (Figure 3).

4.3.6 Imagined needs led to extension

At this point in the working process, the designer started to imagine the situation of living in Birka in the late iron age. Specifically, where did they do their bodily needs, he asked himself? This problem was not articulated in the assignment. Therefore, he contacted the expert-team, and asked if he could do some sketches to sort out this issue. The designer's impression is that the archaeologists were surprised by the extent of explorations the artist was making before starting with the actual model. This insight of what amount of exploration was needed to fulfill the initial request, an *authentic* model of former Birka Town, led to an extension of the initial agreement.

New sets of sketches were sent back and forth to explore how these issues could have been organised. One of the specific questions in this matter was if these places were in separate buildings or if they were directly connected with the houses (Figure 4).

4.3.7 A three dimensional step

After this period, roughly a month, of sketching and negotiations, Agger decided to make a sketch model. His experience was that some issues could not be considered close enough in a two dimensional media. Therefore, he made a model in a smaller scale, a last step to facilitate the stakeholders' exploration and agreements. This turned out to be the definitive step in formulating a contract between the customer and the artist regarding the outline of the coming final model.

Notable at this stage of the design process is that, in this model, two of the planned houses are burnt down to the ground and represented as black fragments (Figure 5, left picture).



Figure 2. Shows a detail of a set of new drawings, this time coloured with aquarelle to further sort out issues such as material choices. In this drawing, some pedagogical ideas were also visualized. Notice that the house (seen from above) on the sketch is marked in one of the corners. Notations such as ash pile and garbage are written on the sketch

4.4 A final and more optimistic solution

In analysing the design process and the sketches, it is obvious that the burned site appeared at an early stage; the site is marked out with filled black squares (Figure 1b). However, the team did not pay attention to this information until they were exposed to it in the three-dimensional sketch. In the final model, the burnt down houses are represented as a building construction site with people in action rebuilding a house. This was a result of the discussions, with the three dimensional sketch as a tool for negotiations. The team decided a more optimistic way of displaying a presumed common problem; namely, that the houses burned occasionally. The assumption the artist made, that some issues could not be cleared up employing two dimensional media as an object for definition, seems to be correct. An additional aspect that became obvious in the sketch model was the elevation of the ground (in other words, how the landscape sloped down toward the water). The relationship between the houses has a system of elevation that correlates to the ground.

In the final model, all this appears very clearly. To the artist, although these circumstances were obvious at an early stage, the sketch model made them visible and thereby easier to discuss. In this case, the artist detected this circumstance and decided to take an extra step to make clear what the final model was supposed to communicate (Figure 5).

4.5 What about artistic independence?

When reaching the final step, all prior steps had supported the artist's understanding of what was agreed upon and what was not. More subjective matters that originate in this last step might be understood as artistic integrity or independence. In assigning a creative artist, an organisation is making a statement that the expected outcome is an interpretation of some sort. In choosing this particular artist, The Swedish National Heritage Board got a detailed, genuine material-oriented result with no right angles.

All the material used in the final model was collected in nature by the artist himself. The choice of Lars Agger also ensured hiring an experienced artist in the field of working with exhibitions at museums. By undertaking this long exchange sketch period, the artist in this case ensured his artistic freedom. That might sound a contradiction, but it made it possible to sort out what matters the team could decide about. When Agger adds up his experience of working with this method, the awareness of the possibility that what he produces in this sort of assignment might be used as reference objects in

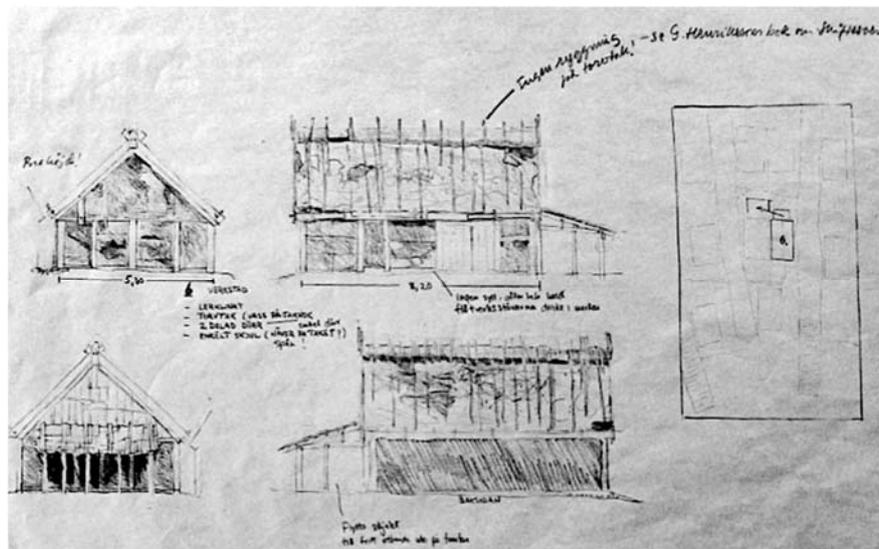


Figure 3. Shows poster number six out of ten posters, with drawings of each house. Lars Agger defined every house with detailed sketches from four angles. Every house was marked with a figure (6.) on the disposition map at the left. (The picture is slightly trimmed to fit media.)

the future becomes clear. As the very last step, after adjusting all the details according to the prior steps, the artist made it clear that from that point it was not possible to change anything. He considered

the remaining work the exclusive subject of artistic decisions. One of these matters that the artist pronounced as exclusively his involved the ability to interpret “time”. Agger's method is to slightly stain the material used in models if not found that way in nature. He wants to show the impact of time on the material; wood, for example, is tinted from wind and water and collected in the nature.

Notable is that Lars Agger several times has declared that he seldom studies literature or other printed sources when gathering facts about his object. In his perspective, words do not describe those essentials he is looking for. The artist prefers pictures or visits to the actual terrain.

5. Discussion and conclusions

This paper explores the design process preceding the actual building of a model of a settlement from the Viking Age on an island in the Swedish lake Lake Mälaren. The study is accomplished with focus on the creative artist Lars Agger, who was assigned for the enterprise that took place in the middle of 1990's. The study draws on the theories and ideas of the philosopher Hans-Georg Gadamer and also on the analytical concept *boundary object* developed by the sociologist Susan Star. As shown above, the design process in this case turned out to be an explicit collaborative process, where both two-dimensional and three-dimensional sketches were exchanged between the involved parties in several versions. In that way, it seems adequate to regard this as more of a *boundary project* than a boundary object. As such, though it appears to have served as a substantial facilitator in the process, making it possible for the professionals to communicate across their respectively *horizons of understanding*. This becomes most obvious in the designer's account of the situation when he had invited his partners to his workshop in order to literally sketch on the same big sheet of paper. It was an initiative from the artist, as he realized that there were different ideas of what the never-seen-before settlement might have looked like. Lars Agger assumed that the Swedish National Heritage Board assigned him, a creative artist, because they wanted some kind of interpretation of the iron age settlement. Another possibility is that it might have been regarded as convenient to shift a part of the responsibility for the design problems. Nevertheless, Agger's suggestion to stage the model with some buildings burnt down and some still glowing buildings was declined. Instead, the decision was made to display houses under construction, a more optimistic view of the settlement.

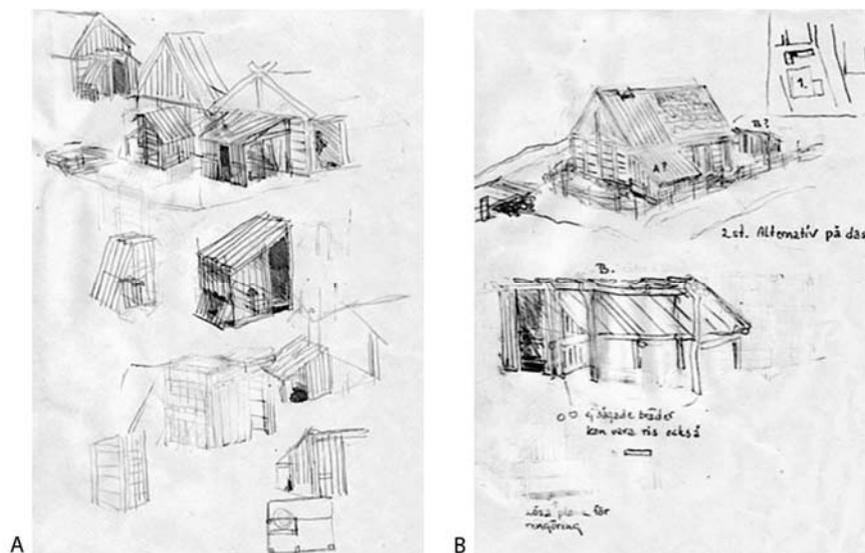


Figure 4. These sketches (a and b) explore where the Vikings did they did their bodily needs. The artists believed that this had to be organised in some way. (These pictures are slightly trimmed to fit media.)

This leads to Gadamer's idea of artwork as a play between concealing and revealing. In this case, the decision to display a building under construction instead of a burnt down building seems to express a pedagogical ambition to deliver answers, rather than to stimulate imagination.

So, does this show that the creative artist did not have any substantial impact on the design process? It looks as if the answer has to be both yes and no: Yes, because obviously the stakeholders at The Swedish National Heritage Board were not willing to leave the crucial decisions regarding the interpretation to the designer. In that, his influence on the process was limited. On the other hand, it seems perfectly clear that Agger had decisive ascendancy on turning the collaborative design process into a boundary project, where every involved person had to come out with his or her own idea of what was to be displayed.

Finally, this confronting and involving the stakeholders in the concrete process seems to be the most substantial contribution the creative artist made in this case. Thus, this might also serve as a paradigmatic example of profitable collaboration in heterogeneous working teams. Design projects in general often deal with the involvement of participants with different knowledge backgrounds. It is reasonable to assume that the working method which (in this case) the artist is providing would be an accurate approach for collaborating design teams in various contexts.

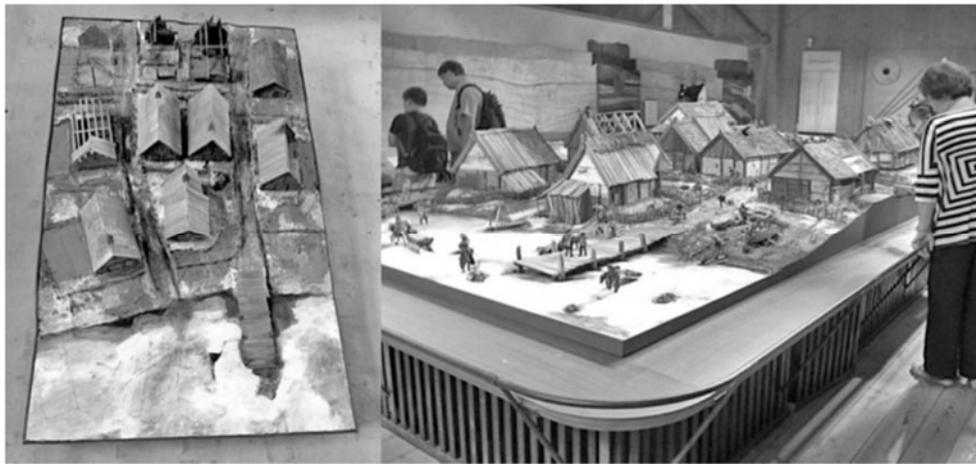


Figure 5. Shows the sketch model , to the left, made before starting the production of the final model and to right the final model of Birka at the permanent exhibition at the museum is exposed. The elevation of the ground is displayed on the sides of the final model

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