

BJÖRSJÖÅS

- A FARM IN THE HINTERLAND OF GOTHENBURG

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Aims and background

The Björsjöås farmstead lies in a hilly district, about 25 km from the west coast of Sweden, just northeast of Gothenburg. There are remains of an older farm which originate from early Middle Ages. The farm was moved to its present place in the 1890's. Some radiocarbon datings show that parts of the fields were used during the early Iron Age. Björsjöås is an isolated farm and it lies on a hill, the site being covered by a thin layer of sandy soil and surrounded by forest and moors of heather. There are many visible remains of early human activity found there. The farm's own land and parts of the surrounding common land, have together with some other farms in the vicinity, been classified as being culturally and historically of national importance. A multidisciplinary research team has now been working on a project on the farm remains for nearly five years. The research project was set up around, as part of a protection scheme.

Large tracts of Sweden are covered with forest. It is not possible today to earn a living by farming in these wooded areas because of the restrictions on cultivation. Of the ten farms that were in existence in Vättlefjäll - the hilly district where Björsjöås is situated - there are only a couple that still derive an income from farming and then only in combination with other means of income. Previously areas of this type have supported many people and the remains of their activities can be very clear, as in the case of Björsjöås.

When you arrive at the farm, you can make a tour. The Archaeological Museum in Gothenburg has constructed a path that goes past the remains that are worth seeing. It can be followed past a peat bog, approaching the foundations of a distillery, where the peat was used as fuel. From the distillery the path continues along the old track, passing border stones, stone quarries, small fields and then follows the cattle track to the remains of the farm. After taking a closer look at the ten building foundations, kitchen gardens, waterholes etc, it continues on again past a charcoal pit, a potato storage cellar and a fruit garden. Finally the path continues past fields

of different sizes edged by cairns of cleared stones from the fields.

The reason behind the project lies in the situation regarding the protection of ancient monuments in Sweden in general and in Gothenburg in particular. One important condition concerning the protection of an area is to make it interesting for people of today. This can be done by spreading information about the areas that have been recorded as historically valuable. To make the information interesting, it is necessary to acquire knowledge about the sites.

The following aims have been specified for the project:

1. to increase knowledge about the farm with the opportunity of interpreting the many traces of human activity there. This information should be spread in order to arouse an interest and thereby raise the level of understanding of the demands on protection of ancient monuments.
2. to develop methods of research for these sorts of remains. Archaeological excavation of very limited areas was tried as well as different excavation-techniques and also the involvement of scientists for environmental analyses.
3. to try out use of archaeology on remains which originate from a period where there are written records for comparison.

The project has been a multi-discipline cooperation, consisting of:

Some archaeologists

who have carried out excavations and looked for traces left in the environment in order to tell us more about man.

A historian

who has studied written records to find out about people and their circumstances in the past.

A human geographer

who has studied the landscape and the way it has

been affected by man and tried to establish how it has changed.

A botanist

who has studied seeds and other plant remains which can tell us about eating habits, cultivation and the natural appearance of the landscape in the past.

An entomologist

who has studied insect remains which can show us which harmful insects and other bugs man used to have around him.

Two geologists

who have analysed pollen in order to tell us more about changes in the vegetation throughout the centuries and about man's effect on the landscape. One of them has also studied the wear on the rock in the farmyard.

A chemist

who has looked for traces of man shown by an increase in the phosphate content of the soil.

A lichenologist

who has measured the lichen on stone constructions, in order to determine the age of the constructions.

Four questions have guided the research. The subject of economy is one of them and the most important one. That question is fundamental to all human settlements. The natural conditions - the environmental resources of an area and how they have been used, have been studied. There might be an opportunity to produce a surplus, which is basic condition required for exchanging goods with others. An outlet is required for the necessary trading and a town for example, increases the success of such activity. In and around a town different products are needed, which will give repercussions far beyond the town itself. But how far and in which way? An analysis was made to find out which traces of different economic activities it might be possible to find. The excavation and the analyses were based on these preparations and were used to try to identify the function of the remains.

A number of activities were studied. They were grouped after their basic requirements: The soil, the forest and contacts with the outside world.

The soil	Cultivation	cereal production Alcohol distillation beer brewing fruit growing flax growing
	Livestock	meat production market trading (skimmed milk, butter etc) wool preparation breaking in of oxen
The forest		Hunting Fishing Handicrafts (whisks, baskets, rakes, brooms etc)

Marked trading (crafts, untreated products from the forest like berries, chopped fir twigs, cowberry twigs, fir, clubmoss, Lilly of the Valley etc)
Wrought ironwork
Charcoal production

Contacts with the outside world

Fostering of children
Market trading as above
Travelling to places of temporary work (herring fishing on the coast, Gothenburg etc)

Each economic activity has been analysed regarding which traces it might leave. The results of the analyses left little hope in the finding of traditional archaeological finds. This generally applies to the times when stone was used only in a limited way perishable and reusable materials being used instead. Another possible find was different kinds of waste. Because of the limitation of the archaeological material, other ways had to be tried. In places where manure no longer can be seen, there could still be indicative traces left from it. Microscopic finds such as seeds, insects and pollen could be found and identified to support conclusions. So the contributions of the environmental analyses were necessary to find traces of different types, where the archaeological evidence were lacking.

The fieldwork from the view of an archaeologist

The fieldwork consisted of an extensive survey of the surrounding land, a study of the building techniques of stone walls and foundations and how the property had been divided as well as trying to identify the fields and building remains in terms of function. The survey of the outfields was done with respect to how this land could have contributed to the economy of the farm. The aim of the survey was to find indications of whether the area was used for pasture or cultivation and also to find the presence of other resources that may have been used, together with a qualitative analysis. The wear on the rock in the

farmyard was graded and mapped. It has given a unique opportunity to study the pattern of movements across the yard, and has contributed to the understanding of the different building functions. The human geographer has examined stonewalls and cairns closed to fields.

A pollen analysis was made in order to study the occurrence of different plants that were cultivated, and plants affected by cultivation and the variation between their occurrence. The chemical analysis and the botanical macro-fossil analysis were both carried

out in order to try to identify what could have been grown in the fields.

The building remains were identified in terms of function, considering hypothetical use, based on the above discussion about which traces are left by human activity. Apart from the already mentioned analyses, an insect analysis was made for this purpose.

The study of the resources showed somewhat varied qualifications for all of the discussed economic activities and that the main reason for placing the farm here was the presence of a fertile arable slope. In this context the question of water supply has been considered.

The attempt to identify the function of fifteen building foundations was based on: finds, details of constructions, results of chemical analyses, botanical macro-fossils and insects, study of the wear on the farmyard rock and the positioning of the buildings.

Methods and results from the investigations made by the scientists

The botanist and the etomologist

Testing of methods;

Several tests have been done. To examine the spreading of seeds and insects the scientists made a comparison between the vegetation of today and the contents of soilproofs from three different types of vegetation: a meadow, a field and a forest. The results of this comparison were satisfying.

The contents of a gutter was analysed and it gave a good picture of the surrounding garden.

If we find everything in a proof was tested through mixing known seeds and insects in a proof, which then was analysed in the ordinary way. The result showed that all species except two insects were found. Totally were 83% of the insects and 69% of the seeds found. Small seeds were underrepresented.

Of course there will be more seeds the more earth is examined. More seeds which are depending on a certain habitat increase the probability that the habitat was actual once.

The economy of the farm;

To get the function of the buildings is a good way to find the economy of the farm. Conclusions can be drawn from species which don't live on the place today. The reasons for finds of that kind can be changes after that the seeds and insects lived there and they can also have been brought to the place by people.

Analysis of the proofs taken by the human geographer;

Ten proofs have been analysed from different stone-constructions, chosen by the human geographer. In one of them there were no seeds or insects. Most of the proofs showed a nature like that of today but some of them showed something else namely fields and meadows.

Fields in the forest;

Fields in the forest could have been an important complement for the economy of the farm. We tried to find them through seeds, charcoal combined with determination of the wood and through pollen-analysis.

The determination of seeds didn't give any results. Charcoal from slash and burning were found in some places. The pollenanalysis showed that the expected fields had a higher frequency of cereal-pollen on the depth of 10 cm than at the depth of 5 cm under the surface. Proof for comparison in the forest showed the opposite allocation.

The geologists

Pollenanalysis;

An ordinary pollenanalysis was also done to show when the settlement occurred, the economy and an eventual break in the continuity. There are cereal-pollens but very few about 4000 years ago. Traces of human activities are clear 700-800 years ago.

We have also made attempts to make the results from the pollenanalysis more clear to get an answer to the question of economy. These attempts were not successful. They will be described in a forthcoming publication.

Wear on the rock;

Wear on the rock has been recorded in the farmyard. This was studied and mapped in three grades.

The chemist

A phosfatanalysis has also been done. The proofs were not taken in a regular system but very subjective. They were placed in the fields, in the cattletracks and in the building foundations. The results varied. We also tried to find out if a longtime-use of a field means a higher percentage of phosphate. This was hard to settle.

The lichenologist

Lichen-dating has been used on stonewalls and building remains. The datings are related to the lichen *Rizocarpon Geographicum* for which a growing-diagram concerning Westsweden has been worked out earlier. These lichens are not very usual

at Björsjöås. Some other lichens have been chosen as complement and a diagram has been worked out for them.

Dating of the remains through lichen was successful. The earliest dating indicates the beginning of the 13th century and that dating corresponds with radio-carbon dating of charcoal under the same stonewall.

Results

The ten foundations gathered around the farmyard were divided into different building phases based on position of the building, building technique and the supply of building material as well as the functional connection between the buildings.

Identification by means of hypothetical functions was relatively successful. To get a positive identification more than one indication is needed. Certain functions like the smithy and the distillery were considerably more obvious than some others. The most recent buildings that were used up to the 1890's were easier to identify and here the finds were of some importance.

Out of the fifteen buildings, the hypothetical function can be considered to be proven in six of them, while some support was found in five cases. Only in four of the buildings none or very few indications were present to support the hypothetical function. Construction details proved to be the best indications for identifying the function of the buildings.

The environmental analyses made a useful contribution, although the results were, in the case, limited by bad states of preservation and the thin deposits. The toilet, a barn and a couple of cattlesheds were identified by these types of analyses.

The source value is considerably higher for construction details than for finds. Attractive finds of a moveable size run the risk of being taken out of their functional context, while large and unpleasant items as well as those not directly visible are more likely to remain.

This makes the source value of the macro-fossil analysis greater than that of artifacts. Even though both seeds and insects could be moved, this would be very haphazard. The samples used for chemical analysis could have been leached by rain, but disregarding that, the source value must be considered as great.

As the farm was used up to the end of the 19th Century, there are some written documents to use for comparison. There are however, not very com-

prehensive because of the isolated nature of the area. There are for example no maps of land allotment as there was only the one farm. There are occasional maps, population counts, estate inventories etc. Some people with connections to the farm have contributed with some verbal information.

While trying to analyse the written material some shortcomings were found. Obvious things were recorded. Uninteresting events were not worth writing about. One can not write about things that one is not aware of. It might be hazardous to mention certain things or the sparse information might simply depend on the lack of the ability to write.

A comparison between the excavation results and the written and verbal information was made. It seems to be agriculture that gives the best opportunities to trace the economy of a single settlement. It is also here that the written records contain the most information. A lot of the written material is of general nature, but there is some information which refers directly to Björsjöås.

After these conclusions were done the historian has studied what is written about the farm and he has come to the same conclusions. The historian has agreed with the archaeologist about the importance of the ancillaries. Three side-lines have been considered more important than the others. These are oxen, homespun and liquor.

Identifying the functions of buildings has been one limited way of getting at the economy. This together with the results of the environmental analyses could prove the existence of an economy based on the soil.

Activities based on the forest were not very successfully traced by archaeological excavation. This may depend on the activities largely having been carried out over a large area, mainly outside the property, where only few traces have been noticed. Written and verbal information was also diffuse and of general nature. Many of the products were of a kind which are not traceable through analysis.

Contacts with the outside world were shown clearly in the find material. Written records showed no trace of this kind of information. Nothing was written about which products were brought from the town, but there were many written statements about what was taken into the town. The latter though, has not been possible to verify during the investigation. Other contacts with the outside world could not be traced.

Considering cultivation, the excavated material and the written information were in accordance, while

the economy based on the forest was more difficult, as both types of information were missing. Regarding the question of contact with the outside world, the two sources complement each other. Despite the information from the written records, there were many remains and features about which there were no information at all.

Conclusions from an archaeological view

Regarding the question of economy, a lot of new information has been obtained about the farm, which was one of the aims of the project. The other two aims ie excavation methods development and written/oral record comparison, were of methodical kind and independent of the actual questions.

The investigations have produced both new information and at the same time showed the difficulties and methodological limitations encountered with excavation remains of this kind. The minimal or non-existing layers gave for example no opportunity for stratigraphical analysis. All the finds and all material for analysis were mixed in the thin deposit layer where the perservation conditions were very bad. To conduct a chronological discussion based on this would be bound to fail. Björsjöås has a clear advantage as a subject of research by the high source value of the building remains.

It could be said generally that the picture has become more complex than it was before. A seemingly simple farm settlement with cattle tracks and field surrounded by stone walls has become far more complicated. What started as three buildings around a farmyard, with a fairly clear function, has become ten buildings with less defined functions and connections and today even more.

Many observations during the excavation gave us greater understanding of the people who have lived and worked here. This put us in a better position to say something about them and to make it interesting. Every detail contributed to the understanding of everyday life of these people.

Has the project helped in the protection of Björsjöås? The protection of an area initiated by public interest is a very good complement to the law. The investigations have given a base to be able to reconstruct life in the area. The gained information shows that the area previously chosen for protection does not cover the area that the farm would have needed for its existence. But where to put a border is always a problem when working with protection of ancient monuments.

It has been established that identifying building

functions is very difficult but it is very good basis for tracing economic activities. To solve the question of economy at the actual excavation level it was a matter of identifying the function of finds and remains. This is a general archaeological problem. The function will then have to be placed into its context which can differ with time, place and object.

The direction of the project and the extent of the fieldwork has been discussed and questioned. Environmental research methods of different kinds have been tried. They have proved to be useful and necessary for the interpretation of the diverse traces of man. But it is as difficult to draw conclusions from environmental results as it is from the potsherds and stone walls. The uncertainty is just as great and we can never find out how things really were. We can only get more or less support for our hypotheses. It is not possible to say which methods generally gives the best or the most useful results and negative results can also be useful. Unclear features like Björsjöås and in settlements generally, require several identical results and the more traces that can be analysed the better, increasing our chances to find credible answers. One important condition of success in a multi-discipline cooperation is to my belief, that everyone feels part of the work. To meet and discuss the results and what has been done is important, rather than sending a bag of soil by post to be analysed.

Documents rarely concern themselves with the hard work of everyday life. Archaeologists though are often faced with the remains of this kind, while trying to interpret the activities of the people, the remains having been deposited through years of use. Written information is connected to a certain event at a certain time which often is very short. Archaeologist can also be faced with finds from similar shortlived events, like burials or isolated sacrificed material. But concerning settlements, it is a matter of longer periods of time, disregarding from which period they are. This applied to Björsjöås means that the remains around the farmyard can be seen as the sum of at least 800 years of human activity and for the area > 2000 years. During the same period, short periods have been recorded on maps, estate inventories, court records etc.

For remains of this kind, with few finds and bad preservation conditions, all traces of human activity are of value. It is important that all ways are tried to find traces. Despite this it has not been very successful in tracing the different economies, that were believed to have existed in connection with the farm. The reason for this might be the methods used, but it could also depend on the bad preservation condition. Our opportunities to trace people's activities

are also limited by our unawareness. This is partly dependant on a lack of knowledge about which traces are left by different activities. Perhaps we just have to accept that a lot of what people have done is not traceable, not even in a place which was occupied less than 100 years ago. Although, one thing is sure, if we do not know what we are looking for, the chances of finding the traces are even worse.

The individual researcher does not always have a clear answer to the question of how they lived on the farm. Together, though, through differing specialties we have succeeded in creating a picture of what life could have been like for those that lived and worked there.

I will end this presentation with some reflections on working in a multi-discipline manner. Discussions within the project group have been many and we have all learned a lot. The discussions covered the difficulties of using different "languages", where the same words, for example, can have completely different meanings in the different disciplines. People in the arts use a much wider vocabulary than the natural scientists, while they think diagrams are useful. Historians consider footnotes to be absolutely essential, etc. Other considerations are the "personal chemistry" between members of the group, different types of employment of the members and the availability of money. It is important that each person is prepared to give and take, and that they respect each others specific knowledge.

But we have now succeeded in coming to an end of the project. On the 6th of October the results will be

shown in an exhibition and at the same time a popular book comes from the printing office. Before the end of the year there will also be a scientific publication added to the two earlier a Ph D thesis in archaeology and a MA thesis in history.

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Publications within the project

In these you can find references to the literature and a lot of illustrations.

Andersson Palm, Lennart, 1989, *Oxar, vadmål & brännvin. Studier kring näringar och bebyggelse i Bergums socken ca 1500-1860*. Meddelande från Institutet för lokalthistorisk forskning nr 1.

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Sandberg, Berit, 1987, *Björsjöås en gård i Göteborgs inland*. Studier i Nordisk arkeologi nr 16. Göteborg.

Tvärvetenskapliga studier kring gården Björsjöås. Studier i Nordisk arkeologi nr 17. Göteborg.