

A flair for imperfections

April 15 2013, by Karen Anne Okstad



The axe from Hundvåg is damaged by a succession of failed strokes in both edge and body, suggesting that it was sculpted by an unskilled knapper, probably a child. Credit: Terje Tveit, Archeological Museum, UiS

To most people, a useless flint axe is just that. To archaeologist Sigrid Alræk Dugstad, it is a source of information about Stone Age children.

Whereas arrowheads, [axes](#) and other formal tools have traditionally received a lot of attention in research, the archaeologist Sigrid Alræk Dugstad now concentrates on what is at the bottom of the hierarchy, namely the production debris and the unfinished and discarded products.

In the article "Early child caught knapping: A novice early Mesolithic flintknapper in southwestern Norway," she has turned upside down the hierarchy of objects from the Early [Stone Age](#).

"A succession of failed strokes, terminating in many hinge and step [fractures](#), indicates that axe was made by a novice flintknapper, probably a child," Dugstad says.

She refers to archaeological assemblage from an open air-site found on the island of Hundvåg in south-western Norway which she studied in connection with her master's thesis.

Findings in production debris

During the excavations at Hundvåg in Stavanger in 2001 and 2002, five sites from the early Stone Age were investigated, excavations that were to become important in [archaeological research](#).

Dugstad was field supervisor of the [excavation](#) field, where well preserved sites were examined, in spite of the activities in the area in recent times.

The lithic assemblage on one of the sites was not to be mistaken. This was a knapping site where people had produced [flint tools](#). They had also made use of the low rocky outcrop to dismember animals and prepare

skins and hides.

This work area was situated a short distance from the dwelling sites, but had been an integral part of the settlement and undoubtedly much used.

Dugstad noticed the flint assemblage lying here. Much of the deposited artefacts were wing-shaped, side-edge flakes, characteristic of flake axe-production, and among the debris she found a discarded flake axe.

The production debris and the axe itself are most likely results of knapping actions performed by an inexperienced knapper.

Damaged by errors

The axe is not functional and has never been used. It was discarded together with about 450 flint [artefacts](#) on the site.

Both the body and the edge of the axe had been damaged by a succession of failed strokes. Finally, it had been impossible to correct the repeated errors, and the axe was thrown into the waste heap. Dugstad is of the opinion that the axe is most likely a product of a child or a young individual in a practising phase.

"The axe has probably not been produced by an adult. Errors are too numerous and striking to have been performed by a skilled and experienced flintknapper. This is probably a child's work," says Ms Dugstad.

According to the archaeologist, a skilled knapper will also make mistakes, and does not always reveal maximum proficiency, but he or she will be able to correct inevitable mistakes as they occur without compromising the outcome.

"In this case, one can see that the axe was made by a person with poorly developed theoretical knowledge and motoric skills. Given the numerous and characteristic failed strokes, it is also probable that the beginner had not received any form of direct instructions on how to proceed in manufacturing the tool. Maybe the purpose was to practise the technique in itself rather than produce a finished tool," Dugstad says.

Investigating the Stone Age settlement

In France, especially since the beginning of the 1990s, some very demanding investigations of Stone Age settlements have been carried out.

Research on flaked stone tools and production debris has shown that it is possible to reveal the work and the movements of the individuals.

These case studies show that debris from tool production is ideal as a starting point for distinguishing between different levels of skill among flint knappers and thus also the playing and imitations by children.

In Norway, new excavation methods over the past ten years and influence, especially from French and Danish research, have provided opportunities and increased interest in learning more about individual flintknappers.

"It is obvious that children must have been an important part of everyday life in Stone Age settlements. The contrast between the number of children who have lived, and the lack of ability to perceive and define them in the archaeological material is striking," Dugstad says.

Traditionally, archaeologists who have worked with the pioneer settlement phase have been concerned with immigration routes, the overall settlement pattern and how these are related to the exploitation of

different ecological zones.

Dugstad will also emphasize other things in her studies of the past.

"I would like to search for a more detailed picture of settlement life. What activities took place at the sites and how were they organized? Where and how was knowledge transferred between generations? Traditions in tool technology and transmission of knowledge are central subjects. Recent archaeological investigations, where larger adjoined areas have been uncovered, can give a better understanding of the social organization at the micro-level," she says.

Not necessary miniature tools

In the Early Mesolithic there seems to have been good access to flint in Western Norway. Norwegian bedrock does not contain flint, but flint stones frozen in drift ice were brought here by ocean current and deposited along the coast.

Flint knapping was one of the most important technologies in the Stone Age. Therefore, the researcher believes that it is possible to find traces of apprentices and learning situations especially along the west coast.

The durability of flake stone tools and production debris ensures that important information about technological processes and the social context of the acquisition of knapping skills are preserved.

"The sharp cutting edges of the stone tools were crucial for performing a number of tasks. In the earliest settlement phase in Norway, when groups settled in a new and foreign landscape, it is reasonable to assume that every individual needed basic knowledge and skills in this type of tool production. It is not often that children are associated with flint knapping. Assuming that knowledge and skill are gradually acquired

over time, it seems likely that much of the learning and transfer of knowledge would have taken place during childhood, and that children underwent a form of apprenticeship," Dugstad believes.

The need to practise before achieving good results implies that children are responsible for a far greater share of products than previously observed in the archaeological assemblage.

She points out that children, women and men lived and worked in the settlements. Therefore, the archaeologist believes that the settlements, where different groups and sexes interacted, provide the best opportunity to find tangible evidence of children.

It seems likely that the transfer of knowledge, with regard to both the production and use of stone tools, took place relatively early in life as play, imitation or in the form of verbal or practical instruction.

"I don't think that children's products necessarily are miniature versions. It's more natural that the children have tried to make things in actual size according to the patterns of the adults. We see this also in various new experiments with flint knapping where children and adults have participated," says Ms Dugstad.

Archaeological pioneering work

"Children archaeology challenges the mindset of the researcher, both in terms of collected archaeological material, and when the archaeologist goes out into the field to make hypotheses about where the settlements have been in the past, and who the people were who once lived there."

This statement is made by the pioneer in children archaeology, Professor Grete Lillehammer. Since the early 1970s, she has worked with this topic, and toward the end of the 1980s she wrote the first pioneering

article on research on children in the past, an article that woke up the academic community in Europe.

"Evidently, working with prehistoric people is particularly demanding for the archaeologist. At the same time as the children were linked to the adult world, they were kids who liked to run off to play hide and seek. Traces of children's play are marginal and spread over a large and complex area, and therefore not easy to detect," Lillehammer explains.

She still works actively to support new researchers who are about to start their programme in children archaeology, a work that is important to increase awareness of children in the past and make it natural to look for evidence of [children](#) in the excavations.

Provided by University of Stavanger

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