

# A View Beyond Bornholm - New Perspectives on Danish Rock Carvings

## *Abstract*

*The article sets out to analyse Danish rock carvings in their archaeological context and landscape setting. Rock carvings in different contexts would have contained different meaning to the contemporary society. Analyses show that Danish rock carvings on free standing boulders are set in a 'closed' landscape setting with low visibility to the surroundings and therefore seem to require a local knowledge of the area in order to be recognized. Rock carvings in burial contexts or on bedrock are placed in an open landscape setting where burials and rituals have taken place presumably to secure the world order and the power of the local elite.*

## **Introduction**

In Denmark, Bornholm is famous for its rock carvings because here, as we know it from most parts of Scandinavia, we have actual bedrock on which the rock carvings are situated. The remaining area of Denmark outside Bornholm does not possess this geological feature and therefore the carvings are constricted to other media such as bigger or smaller boulders and stones.

Not surprisingly most attention has been given to the rock carvings on Bornholm, but this article wishes to focus on the other areas of Denmark in order to be able to compare the two very different geographical and geological areas of Denmark and possibly to see how this is expressed in the rock carvings.

Rock carvings give a valuable and unique glimpse into the prehistoric iconographic world. No doubt, have the rock carvings played an important communicative role in their contemporary societies and the motifs still express stories that we today try to understand. One way of trying to interpret the meaning of rock carvings is to look at the contexts in which they appear both in the immediate archaeological context and their landscape setting.

In my work with the Danish rock carvings I have examined in what context they appear. The rock carvings can be seen in many archaeological contexts; for example boulders can appear in burials (burial mounds), in megalithic tombs or be seen as free standing boulders. Furthermore I have examined the landscape setting in order to answer the following questions: Do the different archaeological contexts appear in certain landscape settings and do the motifs have any relation to the positioning in the landscape?

## **Archaeological Context**

Within the two study areas there is a noticeable difference in what contexts the rock carvings appear. From the main Danish area outside Bornholm rock carvings appear in many different contexts due to the lack of bedrock (fig. 1). Rock carvings on boulders and stones often appear on already built Neolithic megalithic tombs and in burial mounds from the Bronze Age. Free standing boulders with rock carvings found in situ are also known but are unfortunately not as common as they would





Photo 2. Rock art at Madsebakke. Photo: Kaul / Milstreu.

Near the rock surface several cooking pits with articulated animal bones were found. The pits are assumed to be dated to the younger part of the Bronze Age based on the type of ceramics found in them and this would correspond with the dating of the rock carvings. Furthermore, signs of a wooden fence or palisade were found running along the side of the rock and on the rock surface itself between the natural cracks and edges there was traces of a stone paving with a possible connected structure. Beneath these features were further traces of postholes from a Neolithic structure. Lastly activity from the Iron Age has also been found on the site.

There is therefore no doubt that Madsebakke has been an important place before, during and after the use of the rock carvings. At the time of the rock carvings people have gathered around the rock surface and have dug pits for cooking meals for feasts or ritual purposes. The fence has probably marked a restricted area around the site which was reserved for certain individuals or could have served as protection of the area. The small pavement on the cliff may have functioned as a platform on which a central person could have stood and spoken to the public or performed rites.

## Landscape Analyses

After looking at the immediate context of the excavated rock carvings a broader landscape analysis will show if there are any patterns in the Danish material related to context and placement in the landscape.

For each rock carving site recorded as being in situ, a landscape characterization was carried out during the registration. The characterization was based on the elevation in the local landscape. It was noted if the site was placed low, medium, high or on a hilltop in the local landscape. The topographic setting was entirely a subjective decision based on the sites placement on a digital topographic map with 5m contour interval. These topographic analyses revealed that the burial mounds had a high topographic setting in the landscape whereas the free standing boulders were set low in their local surrounding landscape. This is not unimportant when trying to understand the role of the rock carvings and how they were perceived by their contemporary society.

## Viewshed Analyses

Several viewshed analyses were carried out on the rock carving sites that were registered as being in situ. Viewshed analyses are computer based visibility analyses which can provide theoretical probabilities for the line of sight from one point to another. In this case it was used to make suggestions about the rock carvings placement in the communication landscape regarding visibility to other rock carvings sites and/ or other important features in the surroundings. For this purpose both cumulative and single viewsheds were carried out (for more information on the methodology and criteria for the viewshed analyses see Felding 2009: 32-36).

## Cumulative viewsheds

Cumulative viewsheds calculates the theoretical visibility between several points. The area of visibility for each point is joined together so the map shows where the lines of sights intersect thus highlighting areas from (and to) which there is visibility to several other points. Equally areas where there is no visibility to and from other points will stand out.

The cumulative viewsheds were used to see which rock carving contexts had the theoretical highest and lowest visibility in the area i.e. which sites were the most and dominant in the landscape and which would require a more local knowledge to know of their existence. The cumulative analyses were carried out on rock carvings appearing in the following contexts (regardless of motif): *megalithic tombs, burial mounds, free standing boulders and bedrock.*

## Megalithic tombs

In Denmark apart from Bornholm, megalithic tombs are one of the most common rock carving locations but are here seen mostly with an eastern distribution with a lower (known) number in Jutland. In comparison only a few examples are known from Bornholm.

The landscape analyses showed that the megalithic tombs generally seem to be placed on clayey soil (although sites on sandy soils also are known) and with a connection to water (especially the sea). The cumulative viewsheds showed that the visibility from the megalithic tombs was good and often, a view for more than 10 km could be seen. The tombs dominate the landscape they are in and a coastal location often seems to have been chosen for localities with rock carvings. It was clear that tombs near sea and water more often had visibility to other rock carving sites in the area.

## Burial mounds

Burial mounds with rock carvings are very common in Jutland and this is noteworthy as Jutland did not have many registered megalithic tombs with rock carvings. However burial mounds are generally known all over Denmark although the number is lower in Bornholm and there seem to be a northern concentration in Zealand. Usually the carvings in the mound appear on smaller stones in the rim stone or on the slabs of the stone coffin. The burials are mostly dated to the Bronze Age.

The cumulative viewsheds for the burial mounds confirm the picture from the topographic analyses that the mounds are placed high in the landscape with a good visibility over the surrounding landscape. The burial mounds, as the megaliths, dominates the

landscape and can also be seen as marking the land. In Jutland a linear stretch can be seen where burial mounds seem to be marking communication links and ways of travelling through the land (Johansen, Laursen & Holst 2003).

### Free standing boulders

Outside Bornholm the free standing boulders have more an easterly distribution but are known over all of the country. This distribution is not regarded as highly representative because only stones in forest and uncultivated areas have been registered as in situ. There could have been many more free standing boulders with rock carvings in the Bronze Age.

The freestanding boulders have a clear connection to coastal areas and the topographic analyses showed that they often were placed low in the landscape (near the water). There are however also examples of boulders with an inland position, especially in Jutland. These inland locations could be seen as markers in a communicative landscape.

The cumulative viewsheds showed an interesting result, namely that boulders often had a limited viewing field and the rock carvings somehow seem to be placed in secluded parts of the landscape. Of course a visibility over the water was common but rarely did the analyses show intervisibility between the rock carving sites.

Figure 5. Viewshed analysis showing the visibility from the megalithic tomb Dilhøj. Visible areas marked with green. Fortidsmindedata©Kulturarvstyrelsen.



### Bedrock

Bedrock is in Denmark only known in Bornholm and here mostly on the northern part of the island. Generally small clusters of outcrops with rock carvings are seen and therefore there is not unusually intervisibility between smaller rock carving sites. However hills in the landscape also separates the small locales from each other, so within one rock carving site like Hammersholm there is not always direct visibility to the next outcrop with carvings (see photo 3). Most bedrock carvings have a focus towards the sea and on the north coast almost all have a view to the bay between Tejn og Gudhjem. On this coastline you there is visibility to most of the rock carving sites.

### Local landscape analyses

Closer local landscape analyses have been undertaken on three selected regions where rock art sites could be seen in relation to other contemporary archaeological features. Single viewsheds were used on the individual rock art sites to see if the theoretical visibility could help with the interpretation of the rock art and possible provide patterns for the placement in the landscape. The regions selected for closer analyses were Thy in North West Jutland, the area around Isefjorden in north Zealand and north Bornholm. All areas have undertaken several archaeological excavations which have shed light on the Bronze Age society in the respective areas.

Figure 6. Viewshed analysis showing the visibility from the free standing boulder Hyllingebjerg. Visible areas marked with green. Fortidsmindedata©Kulturarvstyrelsen.



Photo 3. Bedrock outcrop with rock carvings from Hammersholm, Northern Bornholm. Photo: Kaul / Milstreu.

### Thy

All the registered rock carvings consist of cup marks. They are mostly found in burial mounds but are also seen on megalithic tombs and on free standing boulders. A tradition where rock carvings (cup marks) are closely related to burial mounds and burial rites seem apparent in Thy. The single viewsheds, show that burial mounds are situated in a monumental position in the landscape and one would expect that the people in the communities burying the dead would know about the rock carvings in the mounds.

The free standing boulder with rock carvings (cup marks) recorded in Thy show a completely different pattern. The single viewshed showed that the boulder was placed in low secluded landscape setting with limited visibility, which immediately indicates a very different use of the symbols in comparison with the carvings in the burial mounds. One could imagine that the burials and the carvings there would involve the whole society as a collective whereas the boulders in the secluded 'hidden' areas were a place for more individual use or worship for smaller groups or individuals.

### North Zealand

In north Zealand in the area around Isefjorden many spectacular finds from the Bronze Age has been unearthed. It is also here we find

the highest concentration of figurative rock carving motifs in Denmark outside Bornholm.

Single viewsheds were carried out on all the rock art sites in the area and they confirmed the results from the cumulative viewsheds where burial mounds and megaliths were seen to be placed higher in the landscape with good visibility to surrounding areas and other rock art sites apart from the free standing boulders (fig.5). Interestingly the free standing boulders seem to have been out of sight in a lower more secluded landscape context. The free standing boulders were situated on lower ground with limited or controlled visibility towards the water (fig. 6).

An interesting structure from north Zealand is the cultic house Sandagergård which contained several burials and rock carving stones with hand motifs (Kaul 1987). The viewshed from this site showed that the line of sight was controlled in an easterly direction and slightly cut off towards the west. Several other rock carving sites (megalithic tombs and burial mounds) and recorded Bronze Age settlement were visible from here.

The rock carving sites in northern Zealand have a markedly coastal focus, where the line of sights often is directed towards water and the coasts on the other side of the water. It could therefore be that the rock carvings have functioned as navigations point. It is certain

that the rock carvings somehow have been an integrated part of the society with an implemented communicative focus.

### North Bornholm

On north Bornholm Madsebakke, Hammer-sholm, Blåholt og Brogård were chosen for the landscape analyses and all the locales contains several rock art sites both with figurative and cupmark motifs.

The analysed material all seem to be placed in an open landscape contexts on the borderline between a medium and high placement in the landscape. Usually there is a good visibility from the rock art sites but the intervisibility between them is not always given because natural curves of the landscape can isolate the individual rock art sites. There was no clear patterns of visibility between rock carving sites with figurative motifs and rock carving sites with cupmarks. Generally the same landscape features or settings were seen for the figurative and cupmark locations. The ship symbol is common in north Bornholm and the connection to the sea and sea transport is obvious. Although spiritual ship transport in connection with cosmology and religion also play an important part of the iconography (Kaul, Stoltze & Milstreu 2005).

### Rock Carvings Contextualized

The results from the Danish landscape analyses for the rock carvings can be compared with Richard Bradleys work in Britain where he points out the different rock carving placement in open and closed landscapes (Bradley 1997: 80ff). He argues that the rock carvings in closed landscapes require a local knowledge of the rock carving placement and thereby also their meaning. Rock carvings in open landscapes with broad visibility however are directed towards people from other regions and are easily seen in the landscape and thereby sends signals which are not necessarily locally anchored but joined into a commonly shared belief system.

I propose that this interpretation could help explain the different locations of the Danish rock carvings. Maybe the rock carvings on free standing boulders ( which were situated

lower and more secluded in the landscape) were more closely linked to local individuals than the rock carvings on megalithic tombs and burial mounds that were visible from afar.

It is important to note that the rock carvings in burial mounds is that even if the mound is visible from afar the rock carvings themselves are still hidden and in a closed context inside the mound belonging to sphere of the dead. Therefore the mounds seem to represent a dual symbolism where it is common knowledge that mounds contain rock carvings but they are not be seen out in the open.

The close link between rock carvings and burial mounds/ cairns is also known in the rest of Scandinavia (Randsborg 1993; Widholm 1999 og Goldhahn 1999). Rock carvings in graves seem to have included the society as a collective taking part in the burial rites. The burial mounds therefore create places in the landscape where the connection between life and death and the renewal of the ancestral history take place (Hygen og Bengtsson 1999: pp56 – 61).

Rock carvings in a visible and open landscape context are in the Danish material seen on the megalithic tombs and on the bedrock outcrops on Bornholm. We see a shared symbolism where the rock carvings communicate with the surrounding communities as well as other higher forces. The key point is that they are visible and have involved the society as a collective when gathering around the sites to produce new rock carvings or perform rituals. The traces of activity around the rock carving sites indicate that they have been used as meeting places and most likely with a ritual character. Unfortunately not many excavations have been carried out in the near vicinity of the megalithic tombs with rock art but one could assume that these places also were used as ritual meeting grounds. Therefore I propose that the cultic structures and megalithic tombs with rock carvings in parts of Denmark without natural bedrock have served the same purpose as the rock carvings on bedrock in Bornholm.

Overall the Danish rock carving tradition seem only separated by the natural geological fact that bedrock only occurs in Bornholm. The motifs correspond and belong to the southern Scandinavian rock carving tradition. The context in which the rock carvings occur may

vary but generally seem to have served the same purpose and have contained the same symbolical meaning. However it is important to realize that despite the interregional use of symbols they are also imbued with individual and local meaning and one should be careful not to generalize over big distances; also within the Scandinavian area.

### Conclusion

The Danish rock carving material outside Bornholm has previously been neglected and that is a shame because it has shown it is not without potential. Analyses show that the rock carvings on megalithic tombs and burial mounds are placed markedly in the landscape and this could represent power orchestrated by the local elite. These rock carvings sites are therefore regarded as places where the continuum of the power balance in the society is maintained by communal social events where all members of the local society are involved. On the other hand the free standing boulders show a different symbolism by their placement in the landscape. It therefore assumed that they represent special ground for smaller groups or individuals where big gatherings have not found place.

Further research should emphasise contextualising rock art by looking at the immediate context of the rock carving as well as the broader landscape setting. More excavations near the rock carving sites would shed light on the activities taking place there. The focus should move from solely looking at the iconography of the rock carvings to encompass the whole of Bronze Age society and the role of the rock carvings therein.

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The article is based on the dissertation: "Helleristninger I kontekst. Studier af danske helleristninger i relation til landskab og samfund i skandinavisk bronzealder". Magisterkonferensspeciale by Louise Felding, handed in at

Copenhagen University October 2009. Available for download at:

<http://www.bricksite.com/lufelding>

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