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RETRACING STORSTEINEN: A DEVIANT ROCK ART SITE IN ALTA, NORTHERN NORWAY

Abstract
Storsteinen is one of the four major rock art localities in Alta, northern Norway, and also the least known part of this World Heritage site. The complex nature of the engraved panel combined with the rock's elevation above sea level may explain why it has been assigned a rather obscure position in Alta rock art research. Based on new recordings of the panel, and a reassessment of the rock's positioning in relation to the shoreline displacement, an analysis where Storsteinen is compared with assumed contemporaneous sites in Alta, in particular Hjemmeluft and Kåfjord, is presented. Based on this analysis a new suggestion for Storsteinen's chronological affiliation is provided and the author also discusses the congruity of the well-established chronological phasing of the Alta rock art corpus.

Keywords: Rock art, chronology, shoreline, phases, Storsteinen, Alta

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INTRODUCTION

Judged by numerous publications and other disseminations, the rock engravings of Alta in northern Norway are apparently beautifully ordered and sequenced: the thousands of figures have been identified as belonging to well-defined phases, dated by their position above current sea level, and matching in style (Helskog 1983; 1984; 1989; 2000; 2010; 2014; Gjerde 2010a). Even the very panels themselves seem neatly arranged, and the figures are mostly easy to discern. Storsteinen, however, is another story.

Literal translated to 'the big rock', it is one of the four major rock art sites with engravings in Alta, all located at the head of the Alta Fjord, in the vicinity of the seashore. While the other major rock art assemblages mostly are produced on bedrock, Storsteinen is a boulder. Apart from that, all the four sites differ in rock type, topography, size, quantity of panels and figures, and chronology.

The large panel on Storsteinen (Fig. 1) contains hundreds of engravings, probably close to 700. Superimpositions are common and weathering substantial; in Alta only parts at the Amtmannsnes site can compare. Its tangled appearance has been explained as an outcome of a long period of repeated use on a limited space (Helskog 1988: 64; 2010: 174; Gjerde 2010a: 253), or as the deliberate result of intertwining to merge the figures, and the rock surface, into a meaningful whole (Helskog 2014: 164).

Unlike most of the other Alta panels, Storsteinen is challenging to comprehend, and the depictions from the efforts of documenting it can appear even more impenetrable than the engravings themselves. Due to the figures' stylistic variation and the elevation above sea level, Storsteinen has proven tricky to place into the existing system of phases. It is also set apart by not having any evident scenes or compositions and its surface hardly display any of the micro-landscape features (apart from a small 'lake'),

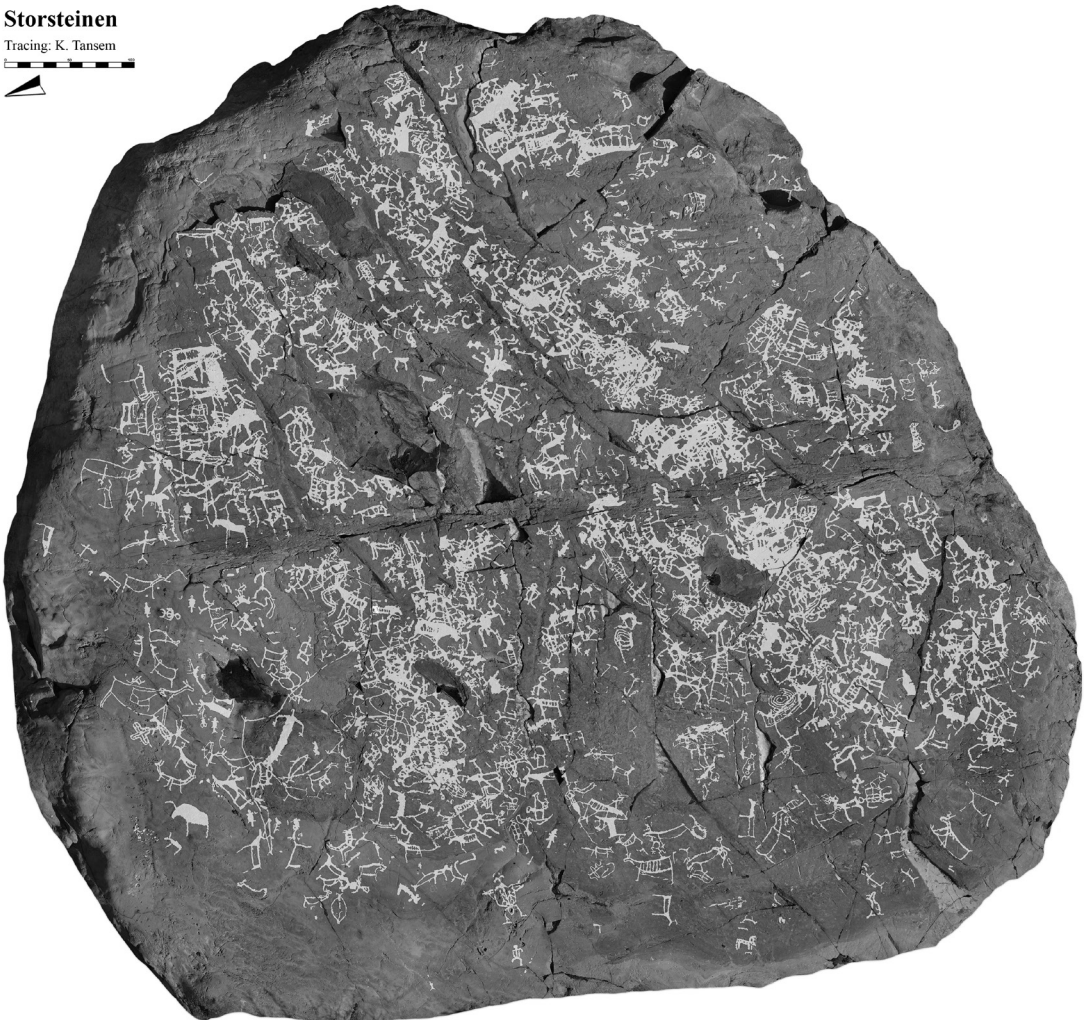


Figure 1. The Storsteinen rock art panel. Tracing, photogrammetry, and compilation. (Photo: Karin Tansem.)

otherwise emphasised in many current interpretations (Helskog 1999; Gjerde 2010a). These discrepancies may explain why Storsteinen has gotten a rather withdrawn position in Alta rock art research.

The purpose of the present work is not to discuss or offer any new interpretations of what the rock art of Storsteinen and Alta meant, why it was created, or who did it. Instead, I have retraced Storsteinen's rather limited appearances in the archaeological literature on the Alta rock art corpus, looked into how the phases and dates came into being, and how Storsteinen was situated and explained in relation to this. An important premise for developing a chronology for the Alta rock art, has been its connection to the seashore, and Storsteinen's present and past situations in relation to the shoreline are therefore explored. Moreover, in order to assess the chronology of Storsteinen, I have made a comparative analysis of the overall chronological development of the rock art in Hjemmeluft, Kåfjord, and Storsteinen, and used new documentation to analyse the figures on Storsteinen. Finally, the phasing of the Alta rock art and the proposal made for Storsteinen are discussed.

Clarifications

Absolute dating of the rock engravings of Alta is not a main ingredient in this paper, but relative dating is to some extent compulsory. In describing the development, all references of age (except where specified) are in accordance with Jan Magne Gjerde's (2010a: 152) chronological suggestion. When discussing the rock engravings or the rock art of Alta, I generally refer to panels located higher than 15 metres above sea level (masl), in Hjemmeluft, Kåfjord, and on Storsteinen. When other sites or panels are referred to, this is specified. The panels situated between 8–14 masl in Hjemmeluft (Apana Gård) and the small panels found further out the fjord, at Isnestoften and Svartskog, are not part of this discussion.

THE ALTA ROCK ART AND THE BUILDING OF A CHRONOLOGY

Rock art was a rare prehistoric feature in Finnmark until the large rock engraving sites in Alta were found in the 1970s. The first rock art discovery was reported in 1938 (Gjessing 1938). The number rose steadily, and in 1972 the rock art sites and objects in Finnmark counted eight, including the site Transfarelv in Alta with 15–30 rock paintings (Simonsen 1969), a painted flat stone slab found in a Stone Age grave at Nyelv, Unjárga/Nesseby (Gjessing 1942: 416–7), and two small panels on the Sámi holy mountain Aldon, also in Unjárga/Nesseby, usually dated to the Middle Age or younger (Simonsen 1969; Helberg 2016: 94). The rest was five relatively small boulders with 13 individual rock engravings all in all (depending somewhat on how you count), two in Kvalsund, two on Sørøya, and one at Isnestoften, Alta (Arntzen 2007: 9–13; Helberg 2016: 113–9). Then it all changed in the summer of 1973, when the site Ole Pedersen in Hjemmeluft and Storsteinen were the first great sites to be discovered in Alta, only a few days apart. During the following five years, all the major rock art sites in Alta became known; Amtmannsnes, Kåfjord and several more localities in Hjemmeluft. The modest amount of engravings in Finnmark had suddenly grown to thousands.

In Knut Helskog's research and publications from the 1980s, the number of engravings in Alta were estimated to be between 2500–3000. During his field investigation, he had observed that there were distinct differences in style and form at different elevations above sea level, and he aimed to construct a chronology based on statistical multivariate correspondence analysis using figure classes organised in a typological manner, primarily reindeer and elk, and combined with shoreline dating (Helskog 1983: 47–8). The analysis was based on 422 figures (350 reindeer and 72 elks) from 15 panels in Hjemmeluft, morphologically categorised into 25 types; 18 types of reindeer and 7 types of elk (Helskog 1983: 52). Three chronological units (later labelled phases) between 9–25.5 masl were identified, with a void, however, between 11.5 and 18 meters without figures at Hjemmeluft (at the time). Helskog suggested that this gap corresponded chronologically to the engravings at Amtmannsnes, situated between 14–16 masl, which thus formed a separate unit (Helskog 1983: 53–4). Storsteinen was not mentioned. The rock art was dated from 5500 to 2500 BP (uncalibrated), according to existing shoreline chronology (i.e. Marthinussen 1960; 1962; Helskog 1983: 54–5).

During the 1980s, Helskog further developed and refined his phase system (Helskog 1984; 1988; 1989), and an increasing number of figures were incorporated into it. The figures were arranged in nine classes (humans, boats, patterns, objects, reindeer, elk, other terrestrial animals, birds, and marine fauna (Helskog 1989)) and 93 types (87 in Helskog 1984) based on morphological traits from 1400 figures at 17 panels (Helskog 1989: 67). Analysing human figures and boats specifically, the four separate chronological phases from the first analysis were confirmed (Helskog 1984; 1985), and dated between 4200–500 BC (calibrated) (Helskog 1988: 33). Although phase four was split into two phases, 4a and 4b (Helskog 1985), the time frames did not change much during the 1980s (Helskog 1987; 1989).

The age of the earliest engravings in Alta, was questioned in the 1990s, when boulders with rock engravings similar in motif and style to the earliest phase were unearthed during excavations on Slettnes, Sørøya, 70 km north of

Alta (Hesjedal et al. 1993: 75–82; Hesjedal et al. 1996: 75–82). The fact that they were partly covered by marine deposits supposed to stem from the Tapes transgression could mean that they were as much as 2000 years older, and this dating could also apply to the Alta material (Olsen 1994: 46; Hesjedal et al. 1996: 82, 200). In 2010, Gjerde (2010a: 252) suggested that the earliest phase should be pushed back in time, from 4200 BC to 5200 BC, stretching the period of rock art production from 4000 to 5000 years, ending at 200 BC. This was based on comparisons with the Slettnes rock art and their probable age, carbon dating from new archaeological material from Alta and other sites, as well as new considerations on the local shoreline chronology (Gjerde 2010a: 249–54). Helskog (2011: 5; 2014: 29) has later modified his estimates accordingly.

The Alta rock art assemblage as archaeologically known has been in constant change. The number of engravings has risen as new figures and panels have been discovered, mainly associated with already known sites, most significantly when major parts of the Kåfjord panel were unearthed in 2002–4. The increase in number has represented a growth also in the variety of figures, motifs, and compositions. Every elevation meter from 8 to 26 metres now contain rock engravings, although the amount varies. Nevertheless, albeit the suggested time frames of the phases have been discussed and criticised, and adjusted or suggested adjusted several times by both Helskog and others, no *essential* or radical changes have been made, rearranging or making any other major impact on the relative chronology. The notion that figures on the same elevations display similarities, and thus represents chronological phases, has never been seriously challenged, and the relative framework of phases and age has not changed fundamentally since Helskog's first study in 1983.

CHRONOLOGY BY STYLE AND SHORELINES

In 1932, Gutorm Gjessing published the first overview of the engraved or polished Stone Age rock art in northern Norway, *Arktiske helleristninger i Nord-Norge*. He described and presented the at the time eight known sites, of which none were located in Finnmark. Gjessing considered technique, style, chronology, and relations to other European rock art. The number of engravings to describe, analyse, and group, were at this point rather small, and Gjessing's descriptions were detailed. His comparisons were often based on single figures, where his opinions on the quality of the engravings were expressed with phrases like 'excellent characterisation with a good and confident layout of the line', 'rather defect', 'strange', 'beautiful' or 'sadly unsuccessful' (my translations, Gjessing 1932: 19, 23, 28, 38). He also proposed a development and relative chronology based on style, which changed from large and naturalistic to increasingly smaller schematic forms. In a follow up publication, *Arktiske helleristninger i Nord-Norge II* (Simonsen 1958), that included the new sites discovered, Povl Simonsen referred to Gjessing's expectations that a forthcoming increase in material would create clarity on the confusing and diverse appearance of engraved figures in northern Norway. Simonsen, however, concluded that: 'This has not happened. On the contrary, more stylistic 'abnormalities' continues to emerge' (my translation, Simonsen 1958: 74). Simonsen still developed a chronology for northern Europe based on Gjessings stylistic groupings (Simonsen 1979).

To apply style, typology, or production technique (polished, pecked, or painted) as basis for chronologies for Stone Age rock art have been suggested or supported both for larger parts of northern Europe, as well as regionally and locally, and more often than not combined with shoreline dating, and sometimes supported by range of motifs (e.g. Hallström 1960; Bakka 1975; Hagen 1976; Mikkelsen 1977; Simonsen 1979; Malmer 1981; Forsberg 1993; Hesjedal 1994; Lindqvist 1994; Sognnes 1994; Ramstad 2000; Gjerde 2010a; Fuglestvedt 2018; for general overviews, see Gjerde 2010a; Lindqvist 1994; Stebergløkken 2016). Gjessing's subjective descriptions have gradually been replaced by more clinical and formal approaches to the description and categorisation of rock art. However, the subjective dimension that to some extent is inevitably linked to the application of style, or related concepts like morphology and typology, for sorting, grouping, sequencing, and ultimately dating rock art in research are difficult to get past (e.g. Lindgaard 2014; Stebergløkken

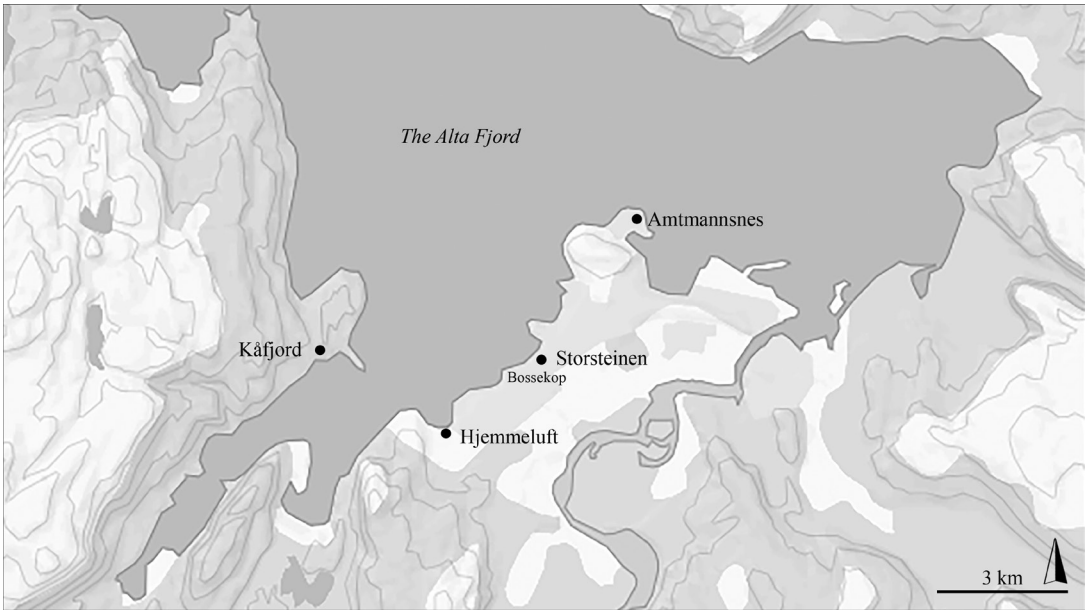


Figure 2. The major rock art sites at the head of the Alta Fjord. (Map: Norkart AS/Geovekst og kommunene/NASA, Meti. Illustration: Karin Tansem.)

2016: 25–41). Also, for other reasons, style can be viewed as problematic when dating rock art, especially when comparing over large distances (Gjerde 2010a: 44–6, 60; Stebergløkken 2016: 60–7).

The importance of excavations in the proximity of rock art sites to obtain more adequate material for dating has therefore been emphasised, and which also can provide additional information to rock art creation (Gjerde 2010a: 251; Lødøen 2013; Lindgaard 2014; Hjelle & Lødøen 2017). The Finnish rock paintings have been dated both by findings from excavations, comparisons to style and motifs from other Fennoscandian rock art sites, and seashore displacement curves (Lahelma 2008: 33–41). Rock paintings from the Lake Saimaa area have been divided into successive horizons by shoreline displacement curves, and changes in motifs and style suggested based on the results (Seitsonen 2005).

A prerequisite for the chronological framework suggested for Alta is the assumption that the rock engravings mostly were produced on rocks in the littoral zone (e.g. Helskog 1983: 54–5; Gjerde 2010a: 153–4, 402–3). As the Holocene post-glacial uplift displaced rock surfaces once situated on the shore, the engravings were displaced with them. Conspicuous change in style, motifs, and content on different altitudes were claimed (Helskog 1983: 55; 1984: 37). As for shoreline dating in the Alta area, current available data suggests that the land uplift was relatively steady and that the sea level regressed gradually, except for a period during the mid-Holocene transgression when the land uplift was levelled out by glacial Artic melt water (Møller 1987). Thus, in principle, the higher above sea level the rock art is located, the older it is.

There are, however, uncertainties relating to the shoreline chronology in the area, one of them being securely dated sea levels. Although geometrical simulation programs (e.g. Møller & Holmeslett 2002) can procure overall development for local sea level curves (Romundset et al. 2011: 2400), the lack of sufficient series of radiocarbon dates hinders more accurate reconstructions of the shoreline displacement in Finnmark (Romundset et al. 2011: 2399). Another factor is the possibility of local variations in elevation rates due to differential uplifts, for which there is no detailed knowledge in Alta, as opposed to e.g. the Varanger Fjord (Sanjaume & Tolgenbakk 2009). The marine limit in Alta are at its highest 76 meters at the head of the fjord and 59 masl 30 km further north, at Storekorsnes (NGU).

The four major Alta rock art sites are all situated at the head of the current fjord, and the three analysed here within an area of 6.5 km^2 (Fig. 2). Marine limit is set to 76 masl in Hjemmeluft, ca. 70 masl in Kåfjord and somewhere in between in the area east of Storsteinen. The deposits the marine limits are derived from could stem from different times, but this still implies that the altitudes in the Kåfjord area could be older than the corresponding altitudes in Hjemmeluft. The seashore displacement (or emergence) rate was fast during deglaciation, with an average of 5–10 cm/yr, with the highest rate in the inner fjord, while the postglacial average rate was 0.5–1 cm/yr (Corner 2006: 164). Thus, the closer to present time, the less the difference in elevation and age between the sites should be. Still, it is certainly possible, even probable, that the elevations with rock engravings in Alta do not correspond in age entirely.

Transgressions after the mid-Holocene are not recorded in Alta. However, in Hjemmeluft, at the locality Ole Pedersen, a few engravings are worn and polished, probably from wave or ice action. They are situated at approximately 18.5 masl at several adjacent panels (OP3, OP5, OP11C, OP17), and at one of the panels (OP11C), 'fresh' engravings are superimposed over the worn ones (see Gjerde 2010a: 247; Tansem 2011: 56). This could indicate an intermediate period of sea level stagnation or that engravings in some cases were made at altitudes washed by waves. The time needed for waves to actually cause this wearing, is unknown. The same goes for some figures that possibly are water or ice worn on the upper part of the Kåfjord panel.

The reliability of shoreline dating of rock art in both Alta and other rock art sites in northern Europe has been critically discussed (Ramstad 2000; Sognnes 2003; Lahelma 2008; Gjerde 2010b; Lødøen 2015; Goldhahn 2017; for discussions on Alta see Helskog 1983: 54–5; Gjerde, 2010a: 249–54). The claim that Stone Age rock engravings mainly were created on the seashore has also been debated (e.g. Sognnes 2003; Lødøen 2015; Stebergløkken 2015). Still, there is a general support among scholars of applying relative shoreline dating in combination with style differences to establish a chronology, as Helskog did for the Alta rock art (e.g. Ramstad 2000: 60; Sognnes 2003: 94; Gjerde 2010a: 251; Lødøen & Mandt 2010: 22; Goldhahn 2017). Bearing its weaknesses in mind, the use of generalised displacement curves to propose a relative dating and tentative chronology can therefore be regarded as an acceptable method while hoping for more detailed research results on the shoreline development in the Alta Fjord to emerge. However, as a tool for estimating the absolute age of the Alta rock engravings, the seashore dating method must be considered unreliable.

STORSTEINEN AND THE ALTA ROCK ART CHRONOLOGY

How did Storsteinen fit with the overall chronology proposed by Helskog? Actually, it did not. Helskog published the first paper on Storsteinen in 1976 (Helskog 1976). The panel and the rock were described, the number of engravings were estimated to be around 450, and the age to no older than 2000 BC. In the analysis from 1983, Storsteinen played no part (Helskog 1983). In the following study, Helskog considered that the panel as a whole was most similar to the Amtmannsnes engravings (Helskog 1984: 13), and that it had to belong to the same phase 3. The rock art on Storsteinen is situated between 21–22 masl, but Helskog still placed phase 3 at 15–17 masl in a diagram showing the relation between elevation, panels and phases. The diagram depicted at which height *most* of the figures belonging to the respective phases were located, and the segment between 21 and 22 meters, where the panel on Storsteinen are situated, was conspicuously empty (Helskog 1984; 1985; 1987; 1988; 1989). This, however, can be explained by inaccurate height measures on Storsteinen: ca. 20–20.4 masl (Helskog 1984: 13; 2010: 173; 2014: 31).

Storsteinen was hardly mentioned in the studies that were published the next years, focusing on boat figures (Helskog 1985: 13), and possible relations between the rock art imagery and that on Sámi drums (Helskog 1987). In 1988, however, a new solution for Storsteinen was suggested; that the figures may have been made over a longer period of time than any other panel in Alta, from 4000–1700 BC (Helskog 1988: 63–4). This interpretation has since largely been upheld (Table 1). Wendy Konstantellos (2004)

Table 1. The dating suggestions for the Alta rock art made by Helskog (1988; 2014) and Gjerde (2010a), and how Storsteinen has been dated in the same publications.
**Helskog divided the earliest phase into two periods in the publication from 2014, but for the sake of simplicity, I have re-merged them here, and use the term phase instead of period.*

	Helskog 1988		Gjerde 2010		Helskog 2014	
	Age	Masl	Age	Masl	Age	Masl
Phase 1	4200–3600 BC	23–26.5	5200–4200 BC	22–25.5	5000–4000 BC*	23–26.5
Phase 2	3600–2700 BC	17–21	4200–3000 BC	17–21	4000–2700 BC	17–21
Phase 3	2700–1700 BC	15–17	3000–2000 BC	14–17	2700–1700 BC	14–17
Phase 4	1700–500 BC	8.5–11	1700–200 BC	8.5–12.5	1700 BC–100 AD	8.5–11
Storsteinen	4000–1700 BC	21–22	4200–3000 BC	21–22	3300–1700 BC	21–22

analysed in her master's thesis focusing on shamanism, cosmology, and connections to Sámi culture, the figures with body patterns (skeletal figures) which she by comparison to figures in Hjemmeluft and Amtmannsnes concluded belonged to phase 1 and the 3. The possible phase 2 figures had no body patterns, and where thus not part of the analysis. The problematic sides of the chronology brought up here, were not addressed. Gjerde assigned the figures to the three earliest phases, and suggested they could have been made over a period of 2000–3000 years (Gjerde 2010a: 253), but nevertheless gave the panel a more fixed date that coincide with his phase 2 (Gjerde 2010a: 254). Based on the figures form, Helskog placed a few of the figures in the final stage of phase 1, and the rest in phases 2 and 3 (Helskog 2014: 149). Still, based on seashore dating Helskog determined that the earliest possible time the rock could have been used for making art, was 3300 BC (Helskog 2014: 31).

There are exceptions to chronological suggestions that should be mentioned: Lindqvist (1994: 164–5, 221), with his somewhat confusing and intricate style-based chronological system combined with shoreline dating, placed Storsteinen with Helskog's phase 1 (his own style-phases 1 and 2), at 22–25 masl, together with panels in Hjemmeluft (style-phases 1.2 and IV). In another table where style-phases were not the subject, and the Alta rock art was treated separately, Storsteinen's altitude was set at 20 masl (Lindqvist 1994: 175), without addressing this inconsistency. Helskog's suggestion that some of the figures at Storsteinen were linked to Amtmannsnes and phase 3, was rejected, partly based on the panel's altitude, and partly on stylistic reasons, although with the reservation that he had not been able to study the panel himself (Lindqvist 1994: 222). In a very short description of Storsteinen, Bjørn Helberg (2016: 146) dated the panel to 4000 BC based on its height above sea level. Because of the small interval between the highest and the lowest engravings on the panel, he suggested a short period of use between phase 1 and 2. Motifs or style were not considered.

The most obvious problem with the placement of Storsteinen within Helskog's and Gjerde's chronological framework, is the lack of fit between the figure chronology and shoreline dating, thereby also questioning the assumption that rock engravings were made in the littoral zone. This typological and temporal mix has been explained with the lack of other flat rock surfaces in the nearby area, making Storsteinen the only option (Helskog 1988: 64). The small rocky peninsula Nilsenberget, situated ca. 300 m north-east of Storsteinen, could have been an alternative, but this is not mentioned, as no

rock engravings have been found there so far. As the nearly vertical front facing the sea was 4 meters high, new engravings could not be made lower on the rock as the sea level slowly receded (Helskog 2010: 174). Moreover, due to this height, Storsteinen would lie in the littoral zone for a long period and this relates to another argument explaining this mix. Drawing on analogies from Arctic cosmology, currently favoured understandings of the Alta rock art interpret the seashore as a zone of transition attracting shamanistic rituals, rock engraving included (Helskog 1999; Gjerde 2010a). Seen from this perspective, Storsteinen's persistent location close to water made its cosmological significance lasting as reflected in the rock art's stylistic mix and superimposed figures (Gjerde 2010a: 253; Helskog 2010: 174; 2014: 31).

The phases were initially based on an analysis of the Hjemmeluft material, but later also Kåfjord and Amtmannsnes were incorporated into the system. The rock engravings in Hjemmeluft and Kåfjord have become the very definition of Alta rock art through research and general dissemination, and although the strange and idiosyncratic imagery at Amtmannsnes demands more attention, it is at least firmly placed chronologically, both by elevation and style. Storsteinen early got stuck in the chronological position it has been in since; as an anomaly contrasting the orderly rest and thus little suited for the argumentation supporting this order. It became, in short, a matter out of time and place. The problem or challenge of Storsteinen's altitude and temporal mix of figure styles, was never really addressed, and this evasion has followed the rock since. While Storsteinen often is mentioned when the rock art sites in Alta are presented, it is seldom described further, it is more as a digression than a *real* member of the Alta rock art corpus. Considering the fast growing rock art material in Alta, the limited number of researchers, and the emergency to document, analyse, explain, publish, and discuss the more undemanding and straightforward rock art panels, Storsteinen's resistance to identification and interpretation probably placed it at the end of the line.

STORSTEINEN: A SHORT INTRODUCTION AND BIOGRAPHY

Storsteinen is a glacial erratic carried from afar during the last ice age. The rock type has been defined as igneous (Helskog 1988: 35), it is probably not of a native kind, and the origin of the rock is currently unknown. Storsteinen rests on a slope facing the fjord, consisting of glaciofluvial and marine deposits. The north facing top surface is 8 meters across and covers ca. 50 m^2. Today, Storsteinen's highest point is at 22.2 masl, and the lowest point on the slightly tilted top surface with a gradient of ca. 15%, is at 21 masl. It is difficult to estimate the rock's size and weight, as parts of the rock are buried. It is allegedly four meters tall in the almost vertical front, and ca. two meters tall at the back. If we assume that the rock, if it indeed is igneous, weighs ca. 3000 kg pr m^3 (SINTEF), we get close to 450 tons. The rock has some horizontal layering, it has patterns and swirls embedded, and the colours span from red or deep purple to pink, and from light grey to nearly black. As with other rock surfaces outdoors, the colour's hue varies by weather conditions; sun, rain, air humidity, and overcast.

In modern times, Storsteinen was a landmark in the Bossekop area. According to locals, Storsteinen was a good place for children to play, for people to meet for coffee and conversation, and a traditional and often huge midsummer bonfire was reputedly held on top of the rock. During the 1960s and 1970s, more and more houses were built in the area, two of them close to and above the rock, situating it in their gardens. A brick wall was constructed some metres below the rock, and the ground was evened out with gravel and dirt, to a point where the sea-facing front of Storsteinen was reduced from 4 to 2 meters. The garden owners wished to get rid of the large rock, and a demolisher, Åge Nilsen, was contacted. Fortunately, he discovered the art after drilling some holes for dynamite, stopped working, and to his credit and with personal economic loss, called the local papers and Tromsø Museum. Later, a fireplace or grill was built joined to the south side of the rock. This was removed in the early 2000s. When studying the top surface of the rock, it is quite obvious much recent activities have been going

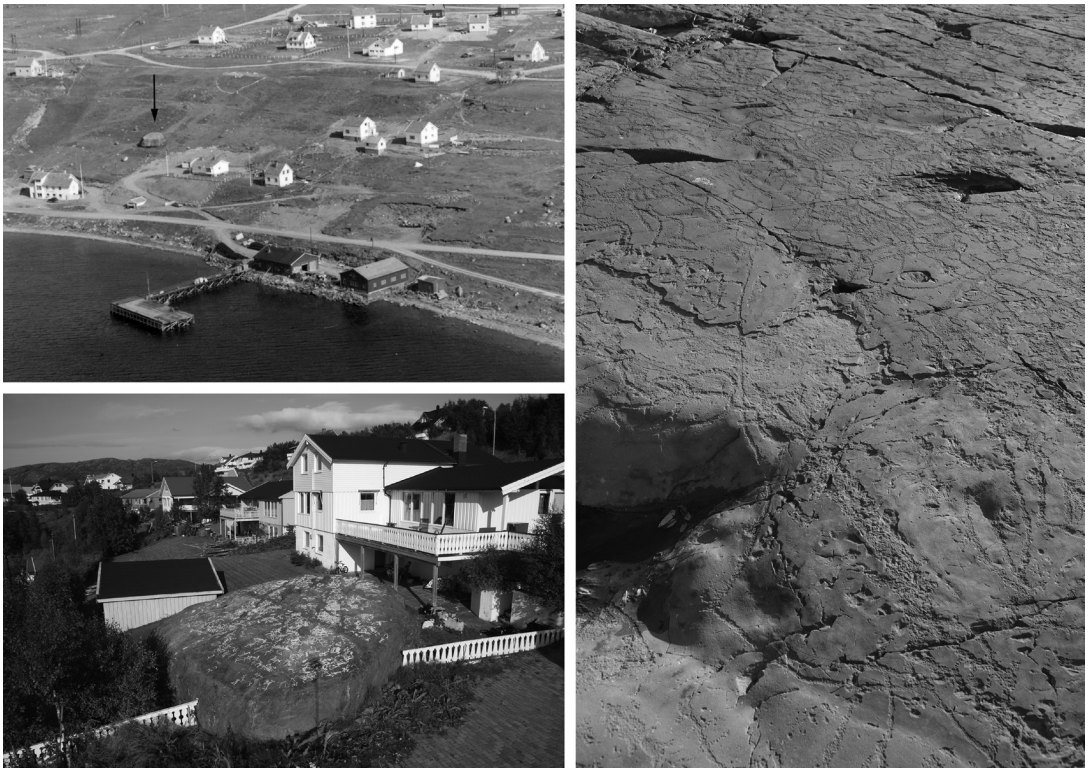


Figure 3. Top left: In 1961 Storsteinen stood by itself (its whereabouts indicated with an arrow), and the surrounding ground was relatively unaltered. Bottom left: Storsteinen as it is in the present, enclosed by buildings and other constructions in the gardens. The carvings are marked with quartz powder. Right: A part of the panel, where the hindquarters of the largest reindeer figure in Alta are positioned closest to the photographer. The back line continues upwards, but the head is obscured by superimpositions. (Photos: Widerøe Flyfoto, J. Roxrud and K. Tansem.)

on here. The whole surface is peppered with tiny scratches and marks, as well as bigger ones, and a few modern engravings. Some places the whole surface is missing, which may be the result of the bonfires, combined with the drilling and the layering of the rock. Hardened stains and traces of burnt rubber or tar is another reminder of bonfires. The past grandeur of Storsteinen as a landmark is lost, but recalling what the rock has been through, it is in a surprisingly good shape (Fig. 3).

Thousands of years ago, Storsteinen lay submerged in the Alta Fjord, and when marine limit was at its highest during deglaciation, somewhere around 55 metres below sea level. The post glacial land upheaval eventually situated it in the littoral zone, and to get an idea of its changing appearance during its stay in the Stone Age, the conditions of the seashore of today are of relevance. The lower littoral zone on the rocky seashores in the Alta Fjord is normally populated with brown and red algae, followed by the barnacle belt, black tar lichen, and biofilms, before a more or less barren belt in the upper and supralittoral zone ends in terrestrial vegetation such as lichens, mosses, and vascular plants, depending on geology, topography, angle, solar radiation, and runoff (Knox 2001; Hayward & Ryland 2017; Tansem & Storemyr, in press). The bare belt on the seashore in Hjemmeluft and below the Kåfjord panel can stretch from 0–2.5 masl, but the most conspicuous vegetation free elevation is between 1–2 masl. This is of course a schematic description that does not cover all the variations on the seashore. Still, there is a general pattern that can be used to speculate on

Figure 4. The average interval between high and low tide is close to two meters in Alta, but astronomical spring tides and weather effects can increase or reduce the water level substantially. On 13 September 2016 at 0922 the waterline was at mean sea level (NN 2000) by the Hjemmeluft seashore. Notice the rock with the seagulls to the right; this may be how Storsteinen appeared when mean sea level was at 22 masl (Kartverket). (Photo: Karin Tansem.)

how rock surfaces now lifted far above the littoral zone developed when they at some point emerged from the water, providing that conditions for vegetation and growth on the seashore was roughly the same as today (Tansem & Storemyr, in press).

Storsteinen is hard and smooth, and thus conditions for organic growth are probably similar to Hjemmeluft and Kåfjord. In the following speculations regarding its changing appearance, I have placed the limit for terrestrial vegetation growth, lichens, and mosses, at 2.5 masl, to be on the safe side. For tar lichens their presence is placed between 30–100 cm above mean sea level because of the north-west facing top surface, and the barnacle belt just below this. Everything further down I assume must have been heavily populated by seaweeds and other organisms.

Storsteinen's first encounter with air must have happened when mean sea level was at 24 masl, probably somewhere around 4700–4500 BC, according to Gjerde's (2010a: 252) seashore dating sequence. Storsteinen's uppermost part would peak up during the spring low tide, and at this point, the rock must have been covered with green and brown algae, not unlike todays rocks or bedrock that surface during low tide. At around 4200 BC, when mean sea level was at 22 meters, the rock was still probably entirely overgrown with seaweed and barnacles (see Fig. 4).

When sea level regressed to 21 masl, the whole surface would be out of the water half the time, but only the uppermost part of the rock escaped the slippery tar lichens. At 20 masl, the top surface would only occasionally be wet with the tides, and most of the rock's upper part would at this point be free of any vegetation. When mean sea level was at 18.5–19 masl, the top surface was overgrown with terrestrial lichens, and dry from sea water except for spraying from waves from time to time. On the sides of the rock, the bare belt followed the receding water level downward.

Different types of activity on the rock could have affected how the vegetation developed. Rocks protruding from the water seem to be popular among seagulls, crows, and magpies, producing slightly acidic but also, for plants, highly nutritious guano. Human activity could also have had an impact, but the lichens by the

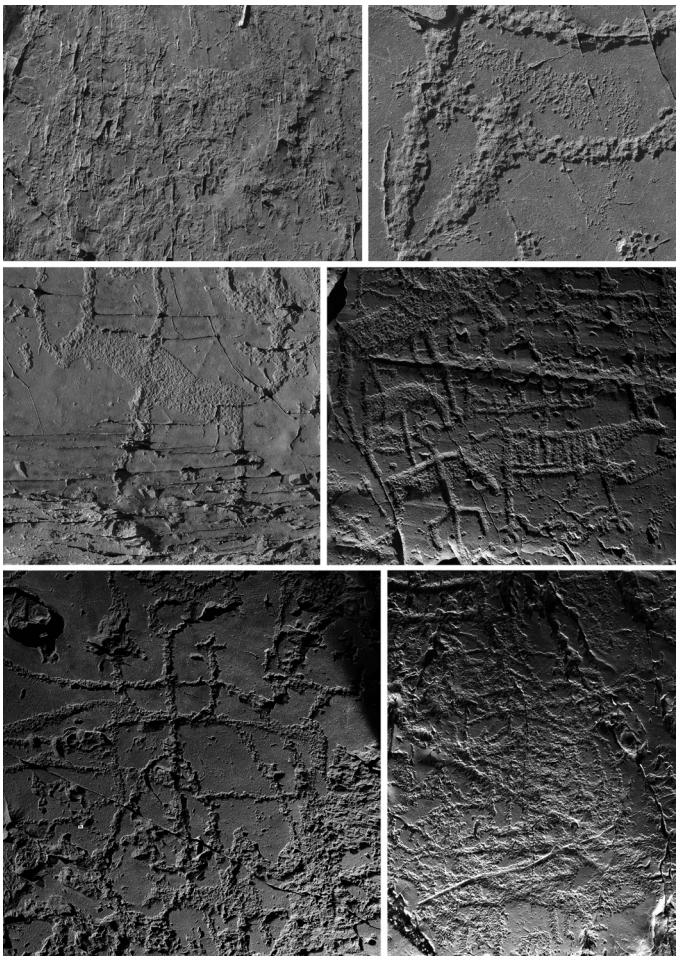


Figure 5. The Storsteinen rock art and rock surface provide variation and challenge: heavily eroded or well-preserved areas, deep and shallow figures, and superimpositions. The three first photos are taken in daylight, the rest with artificial light at night. (Photos: Karin Tansem.)

shore are extremely resilient. There are no traces of damage on the other rock art panels in Alta suggesting that bonfires were used connected to rock art activity.

If this scenario is reasonable, the rock surface at Storsteinen would be optimal for producing rock art when mean sea level was between 19.5–20.5 masl, with a peak of conditions around 20 masl, ca. 4000 BC. Bear in mind that this whole account is based on that the rock engravings were made in the littoral zone, and that absence of vegetation was desirable. In theory, rock engravings could have been made much earlier in between seaweeds and periwinkles, but the small amount of water eroded engravings in Alta makes this seem unlikely, and none have so far been spotted at Storsteinen.

During the centuries when Storsteinen emerged from the water, it probably was comparable to other rocks breaking the sea surface in terms of prominence. And for a period, it was a large, flat and colourful rock, often surrounded by water. As it rose the fact that it was a boulder became evident, it stood more and more out, and for thousands of years Storsteinen was a most prominent element in the Bossekop scenery.

DOCUMENTING STORSTEINEN

Experiencing rock art directly is of course very different from looking at them as mediated by photographs or other reproductions. The complexity of a rock art panel is not easily captured. Any rock art documentation will always be a reduction of reality (Gjerde 2010b: 170), a bleak, lacking and inaccurate version of the real thing, one way or another, and the panel has lost its

setting in the world. Nevertheless, in order to work with rock art other places than *in situ*, you have to find means to remember them by. And even at the panel, if the number of engravings or the size of the panel reach a certain limit, you rarely get a full overview just by observing it.

Several methods for documenting rock art have been put to use; drawing, rubbing, analogue and digital tracing, photography and lately, the application of digital methods for 3D-modelling of rock art sites, such as laser scanning and photogrammetry, are increasing (Domingo et al. 2013; Jaillet et al. 2017). The level of detail the latter methods can provide, may be highly beneficial for several purposes, including monitoring and dissemination.

The purpose of the documentation is often decisive as to which method to use. The need for both overview and a certain level of detail can arise, demanding some form of 'dismembering' of an entity that is both art and rock. Tracing is in principle the simplest form of documentation. Though it often misses details both on figures and the features of the rock, tracings have the advantage of working as maps, giving an easily accessible overview of what is there and where, and thus resulting in a manageable mass of visual data. This is the main reason why I chose to deploy this old and 'primitive' method.

Tracings are in themselves results of interpretation and this involves using one's subjective comprehension, and thus, also risking mistakes. On some panels, this act of identification is relatively easy, but this is not the case for Storsteinen. When comparing the art on Storsteinen with the other rock art of Alta, it is massively chaotic opposed to the other mostly well-ordered panels. The number of engravings and superimpositions, the battered surface, the size of the panel, and the confusing mix of figures from different chronological phases, makes it a real challenge (Fig. 5). To wrench some meaning out of Storsteinen, it is not just a matter of separating engravings from nature, but also to separate them from each other.

Storsteinen has previously been documented by tracing by Knut and Ericka Helskog, Tromsø Museum in 1973 (Helskog 1976: 25; 1988: 64; 2014: 148). They used natural and artificial light in combination with wetting the rock to discern the figures, marked them with chalk

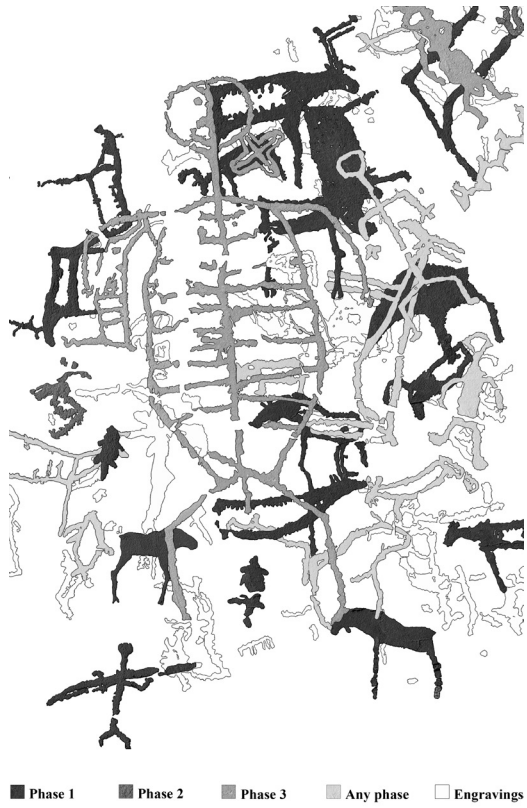


Figure 6. An attempt at ordering the superimpositions in the area that contains the large Amtmannsnes style human figure. (Illustration: Karin Tansem.)

and, finally, transferred and drew them on transparent plastic. Helskog (1976: 26) noted that the figures on some parts of the rock were extremely difficult to separate, and worst were a combination of superimposed, weathered, and shallowly carved figures. In 2009, the panel was documented again in the field by archaeologists from Alta Museum (Martin Hykkerud, Heidi Johansen, Geir Amund Sørgård, and the author) with quartz powder mixed with water, painted into what was judged to be prehistoric man-made marks. Instead of artificial light, artificial darkness was used. Hours and days were spent lying under large black plastic sheets, letting in light from lifting the edges, and thereby creating the slant light that can enhance the visibility of engravings. The marked engravings were photographed, and later reassembled digitally (Alta Museum Rock Art Archive).

Despite the existing tracings, I chose to go into the process for a third time, mainly because it felt necessary to engage with the rock art directly once more, for getting to know it, and in trying to separate figures. The systematic removal of lichens by applying alcohol to the rock surface over several years for conservation purposes, was advantageous, as lichens were present during previous documentation. This time, the tracing process was performed on the computer screen with Adobe Photoshop, with photographs, and photogrammetry produced with Agisoft Photoscan as base. The panel was visited numerous times, before and during my work on the tracing, on occasions with different light and light angles, and on dark nights with lamps, both to examine and re-examine the art, and take pictures.

In tracing Storsteinen, I have not focused on cracks, the layering and colour changes in the

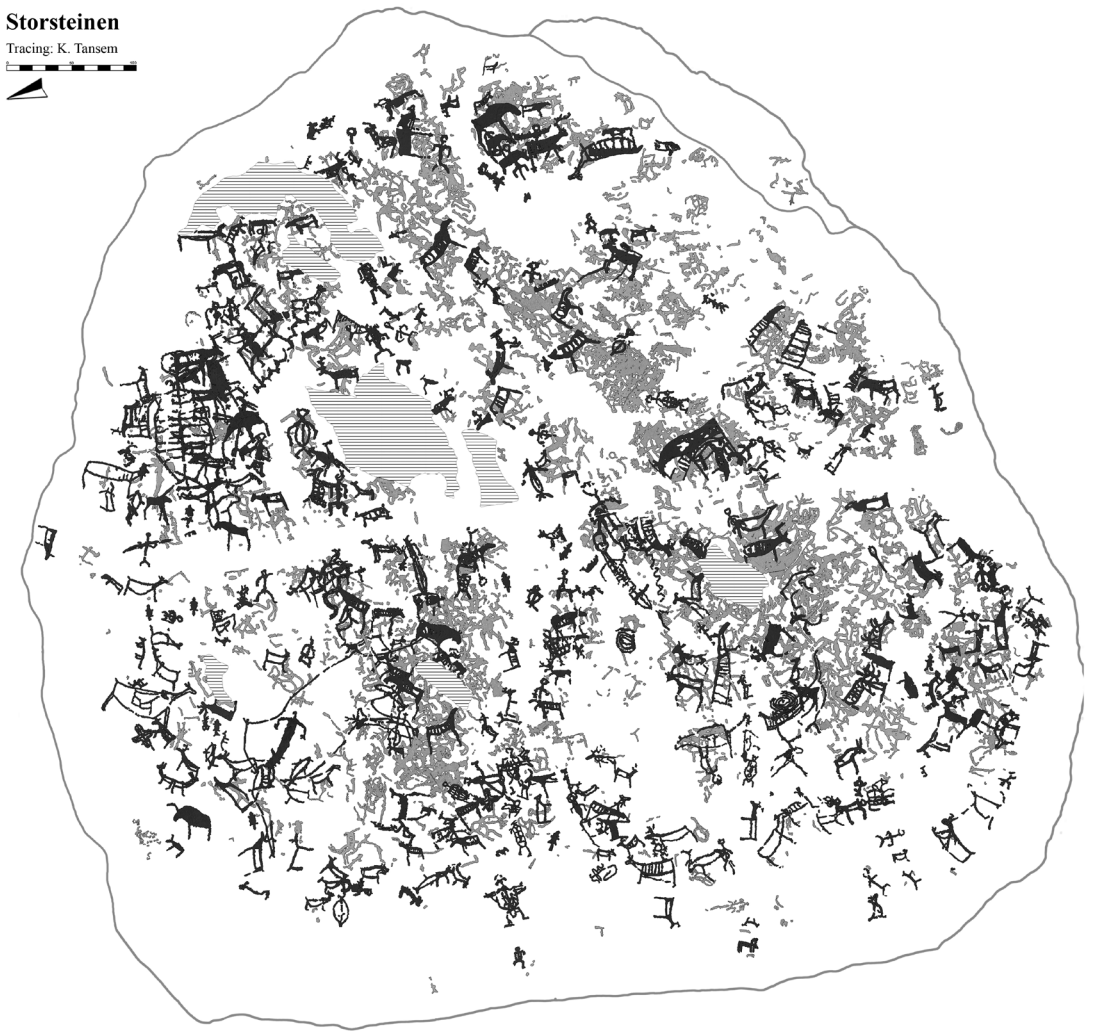


Figure 7. The tracing of Storsteinen. The figures that have been singled out and isolated from the body of engravings, are of a darker shade than the rest. The northern and eastern sides of the rock contain a handful of carvings, above 21 masl. The northern side of the rock would be a good place to carve some figures if one wished to do so, but here only what might be a small bear figure and a couple of lines have been found, indicating that the top surface was the preferred 'canvas'. These figures, as well as three humans and some lines at the eastern side of the rock, are missing from the tracing, and my analysis. (Tracing: Karin Tansem.)

rock, or other natural features in the rock's surface. The only thing recorded in the tracing other than engravings, are the relatively large portions of the surface that are totally missing. 'The tyranny of the figures', as Helskog called it (2010: 172), referring to the habitual and traditional focus on figures alone when seeing, documenting, and interpreting rock art, is thus also a fault that can be assigned to my documentation. However, I am not sure that the recording of rock features on tracings necessarily should be mandatory. For more representative reproductions of figures and their possible affiliation with rock features, photography or 3D-recordings can be better alternatives, and an excellent example of this is a boat figure from Nämforsen, as shown by Gjerde (2010b: 177).

To pick which features of the rock that should be recorded is also an interpretive choice, and to me, there are no apparent connections between any features and figures. On the other hand, this is not something I have been actively searching for either. The surface of the panel on Storsteinen consists of a dark, smooth, and hard type of rock and by colour a lighter, more ruddy rock type. It seems that both surface types are used equally, and figures cross the borders between them. The transition between the two different rock types is vulnerable as they are layered, and parts of the surface are not seldom missing there. These smaller parts are not recorded, but these areas with lack of figures may give an impression of intentionally unengraved spaces. Inherent structures in the rock, like the transverse band consisting of severely cracked rock, apparently dividing the panel in two, could have made some parts of the surface less appealing already thousands of years ago. The level of weathering on some areas makes it difficult to assess if they ever contained figures, and there are also perfectly smooth and unweathered rock surfaces that are untouched.

The many superimpositions posed an extra challenge (Fig. 6). The reasons behind this practice is not something I want to speculate on in this paper, but it is evident that many figures have been erased or partly erased by it, making the upper figures the latest. However, it is not always easy to recognise the order in which each figure was made, on the contrary. I turned to the rock itself, to photographs taken in natural and artificial light coming from different angles, and to 3D-models in trying to find an order, but in many cases I could not resolve it. As my goal was to trace the entire rock, the time-consuming endeavour to go deep into every cluster of figures had to be given a lower priority. The potential in technology and other ways of studying this, is surely there.

No matter which method that is selected – from free-hand drawing to the most detailed laser scans – the need to distinguish between actual engravings and naturally caused cracks and marks can still be there. When doing the tracing *in situ*, you have to make the decision right then and there; what is engraving and what is nature, weathering or other marks? Sitting by the screen, using digital documentation methods away from the archaeological object, offers other possibilities that should not be shed off as alienating, mechanical, or mindless work, it actually provide another way to achieve closeness to the archaeological object you study. Moreover, this method ensures the possibility to go back and check, both the rock and the photographs, to doubt your results, change your mind, making new discoveries, and alter the outcome. It also made it a painstakingly long process in trying to get the tracing right. Nevertheless, there is little doubt that also this latest tracing on Storsteinen is inaccurate and entails mistakes, but the format makes the potential for evolving the tracing further substantial. Similar or other methods, as well as new technologies, performed by other tracers and documentarists, will surely provide other results.

However, with my rather basic method, I managed to single out and isolate 383 figures from the body of what I judge as engravings (Fig. 7). The level of certainty concerning the layer order of superimposed figures are not generally differentiated. Considering the amount of undefined engravings, and the fact that many must have been partly erased, a rough estimate of the total number of figures on Storsteinen could be as many as ca. 700. The tracing and the photogrammetry are available at altarockart.no.

FIGURES, FORMS AND NUMBERS

When Helskog published the analysis of the reindeer and elks in Hjemmeluft in 1983, he

categorised the figures according to what with 'relatively high certainty can be identified as reindeer. This is based on my perception of the reindeer's form' (my translation, Helskog 1983: 50). This element of subjectivity cannot be escaped when identifying species or otherwise categorise rock engravings, as perception and opinion of what constitutes a reindeer for example, varies from person to person. My own sorting does not pretend to be very sophisticated and was done quite intuitively (Fig. 8). It is not unlikely that others would sort them differently to some extent, both in terms of choosing categories and in which category the figures belong.

My analyses are based on tracings from all of the documented panels with rock engravings in Hjemmeluft situated from 15–26 masl, as well as Kåfjord, and Storsteinen. A couple of small panels in Hjemmeluft are missing, as well as the parts of Ole Pedersen 1A and Bergheim 1 that are most weathered. Ole Pedersen 1C has not been traced at all, except for an elk and a boat.

The figures were sorted in 24 categories based on my perception of the motif (Fig. 9), not considering their altitude, or any other special traits or connotations. A human is a human, and an elk an elk. The category *ODL*, objects, dots, and lines, includes the engravings I could not identify, but which clearly are something. Some of them are on the verge of being abstract or 'geometric' patterns, animals, or something else, and others are partly eroded. These are of

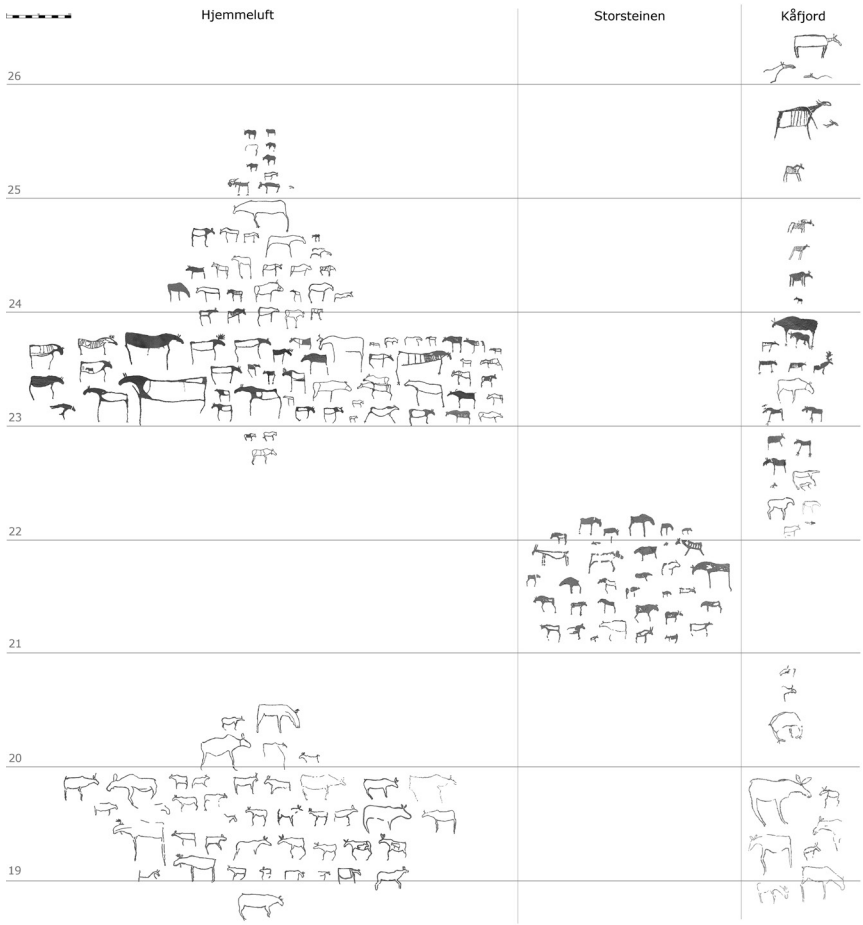
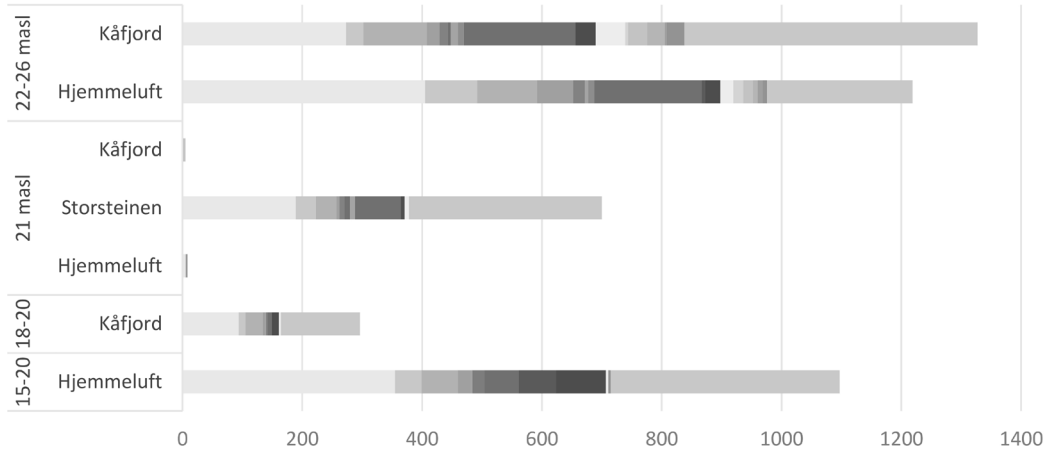
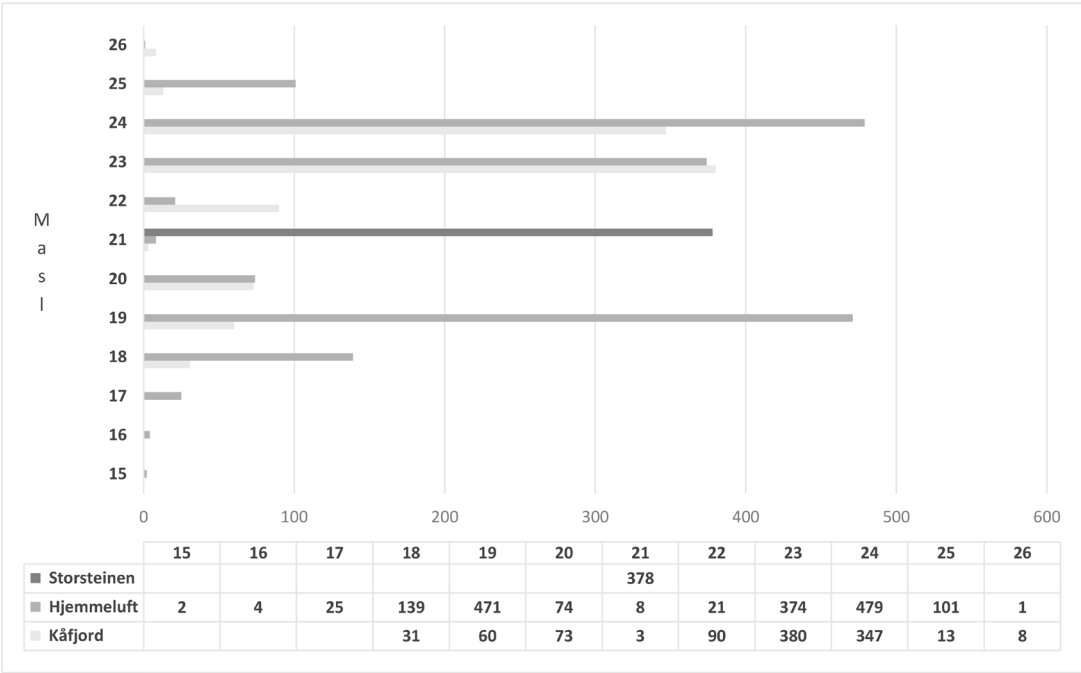


Figure 8. All the 205 elks at Kåfjord, Hjemmeluft, and Storsteinen may serve as an example both on how the figures are sorted, and the distribution and variety of the elk. For comparisons with the phasing suggestions, see figure 3. (Illustration: Karin Tansem, based on tracings by R. Normann and K. Tansem.)



	15-20	18-20	21 masl			22-26 masl	
	Hjemmeluft	Kåfjord	Hjemmeluft	Storsteinen	Kåfjord	Hjemmeluft	Kåfjord
Reindeer	355	94	5	189	1	405	273
Elk	44	11		34		87	29
Unsp. animal	61	29	1	34	2	100	106
Bear	21	5	1	5		60	21
Dog/wolf				8		20	14
Beaver				10			5
Whale	2			8		5	12
Fish	1	1				10	9
Bird	20	2				1	1
Human	57	7		76		179	186
Human in Boat	63					5	
Boat	83	12	1	7		26	34
Pattern	4	3		7		22	49
Fringed drop						16	5
Foot						16	32
Snowshoe						8	29
Fence						8	3
Other	4					8	30
ODL	382	132		322	2	243	489

Figure 9. In the diagram the categorised motifs are grouped by site and elevation. The category others includes seal, hare, hand, bear den (without the bear), drive hunting device (inussuk), and standalone elk headed staff.



	15	16	17	18	19	20	21	22	23	24	25	26
Storsteinen							378					
Hjemmeluft	2	4	25	139	471	74	8	21	374	479	101	1
Kåfjord				31	60	73	3	90	380	347	13	8

Figure 10. The total number of identified figures on each site sorted by metres above sea level.

another kind than the dots and the lines (which in many cases probably also are parts of eroded figures), but as the borders between them are so gliding and vague, they ended up in the same category for now. The for me unintelligible engravings on Storsteinen were also put into this category, and as the estimate is 700 in total, and the categorised figures count 378, the artificial number 322 are used for the rest.

After the figures were sorted, they were counted in order to get a better idea on how the figures were distributed on each site, and in which phase, strictly according to elevation. I did not count the lines in boats that are considered to represent the boat crew, only the figures that have more individual semblance to humans. A tricky category is the bear tracks, 1117 in Hjemmeluft and 598 in Kåfjord, all situated between 23 and 25 masl. Should each track count as one figure, or should they be counted by the rows they always are a part of? To avoid this problem, they have been removed from the assessment.

In total, according to my calculations, there are 3082 identified figures, 1571 objects, dots and lines, and altogether 4642 figures at Hjemmeluft (between 15–26 masl), Kåfjord, and Storsteinen.

The figures were also sorted and counted by elevation per metre, from 15–26 masl (Fig. 10). This is also an approximate account, as the height of single figures have not been measured. However, there is accurate measures of some figures on every panel, and I have used these, together with the general height lines available on digital maps and my knowledge on the panels' geography, to assess at which height each figure is. All the figures on Storsteinen are placed between 21 and 22 masl in the diagram, although some engravings are situated above, between 22 and 22.2 masl.

The result shows that the number of engravings in Kåfjord and Hjemmeluft is substantial at both 23 and 24 masl. At 22 masl, the amount is still relatively high in Kåfjord, but in Hjemmeluft it is more modest. The numbers then dip down between 21 and 22 masl, before the activity resumes at 20 masl and continues on the height metres below, and at 19 masl much more intensely in Hjemmeluft than in Kåfjord. Between 21 and 22 masl, where hundreds of engravings were made on Storsteinen, only 13

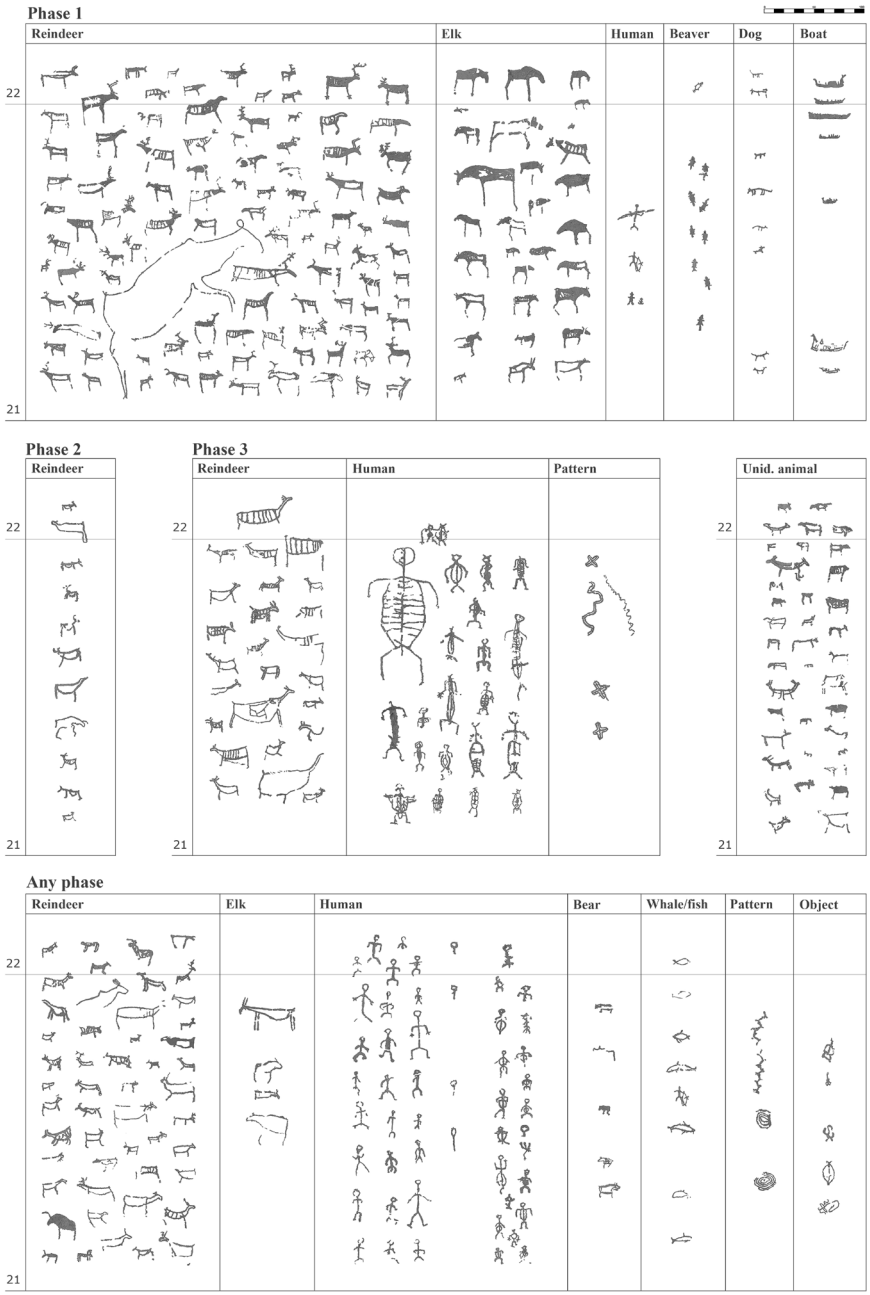


Figure 11. The figures on Storsteinen as they are sorted by their resemblance to the established phases. The figures are placed approximate to their height above sea level. (Illustration: Karin Tansem.)

engravings, 11 of them identified, were made in Hjemmeluft and Kåfjord together. If the category objects, dots and lines are added, the tendencies are still the same. This pattern has not been unknown prior to this study, but neither has it been emphasised.

Kåfjord and Hjemmeluft differs in that in Hjemmeluft there are many 'good' rock surfaces available over a larger area all the way down to the current seashore, also reflected in the later panels situated between 9–14 masl. The Kåfjord engravings, on the other hand, are confined within a rather narrow belt with red and green volcanoclastic mudstone, and where the smooth surface stops abruptly just below the lowest engravings at ca. 17 masl. Moreover, the indicated

break in rock art activity in Kåfjord at 21 masl, may be related to the topography of the panel where a pronounced trench in the rock separates the upper and lower panel, and thus creates a natural divide. At Hjemmeluft, however, numerous suitable rock surfaces were available at 21 masl to rock art producers at the seashore in the period but were for some reason not used.

When mean sea level was at 20 masl, the rock surfaces with engravings in Kåfjord and Hjemmeluft at 23–24 masl would mostly be colonised by lichens. Rock surfaces at 22 masl was affected to a lesser degree, and in the same period Storsteinen was at its most favourable in terms of absence of vegetation. When mean sea level had regressed to ca 19 masl, Storsteinen would probably be covered with lichens. At this point, rock art activity in Kåfjord and Hjemmeluft resumed. The most plausible explanation to the distribution between 21–22 masl, in line with the phase-thinking and overall chronology, should be that the activity in Hjemmeluft and Kåfjord were limited in this period, and that Storsteinen now was the place of choice.

STORSTEINEN: IMAGERY AND PHASE AFFILIATIONS

The problem with this interpretation is of course the figures, recalling that they are presumed to have been produced over a substantial period of time, and argued to belong to both the two earliest phases, as well as phase 3 (sometimes referred to as the Amtmannsnes phase). When the rock art activity at both Hjemmeluft and Kåfjord apparently were paused or abandoned at the end of phase 2, approximately 3000 BC (Helskog 2000: 10; Gjerde 2010b: 252), rock engravings start to appear at Amtmannsnes. Amtmannsnes is a small peninsula north east of the Komsa mountain, centrally located at the head of the fjord. It is 26 masl at its highest point, and extends ca. 0.5 km^2. It was an island until ca. 3000 years ago, and is, except for some small boulders further out the fjord, the only known rock engraving site made on an island in Alta. Apart from location and rock type, the style of the figures also differ. Most of the figures portray humans, reindeer (or elks), and abstract and geometric patterns. At Amtmannsnes all the known engravings are situated between 14 and just above 16 masl.

I have sorted the engravings on Storsteinen (Fig. 11), trying to assess which of the established phases each identified figure resembles the most. As Stebergløkken puts it, a typology will depend on the questions the scientist asks about the material, and what the empirical material is supposed to illustrate (Stebergløkken 2016: 57). My goal has not been to investigate styles, or to establish a typology or style-sequenced chronology for the Alta rock art. The ambition was rather to get an overview and identify some tendencies in the material, and based on my general impression of the style characterising or distinguishing the established phases according to elevation, suggest where Storsteinen may belong in relation to the Alta chronology. Technique or the depth of figures was not considered a decisive factor as to which phase the figures belong, as I have not been able to find any clear tendencies on this matter. This is also something that applies to the other sites with rock engravings in Alta; even if the majority of figures on certain panels are made deep or shallow, broad or narrow, it has not been shown that these are traits that characterise any of the chronological phases. On the contrary; a variety of techniques, depths, and widths seems more common than not. The order in which superimposed figures are layered, has not been assessed systematically, since it in many cases are undetermined. It has however been taken into consideration for some of the figures where the layering was discernible.

In my sorting into phases, the 38 unidentified animals are excluded. Figures resembling phase 1, in motif and form, counts 158. Typical phase 2-figures amount to 11, while figures I find resembling phase 3 are 52. Then there are the figures with forms that are found on elevations corresponding to all the three phases, or none of them, and therefore could belong to any phase. This apply to 50 reindeer, the majority of the human figures, as well as all the bears, the whales (of which some could be fish), three of the abstract or 'geometric' patterns and five unidentified but apparent figures.

My perception is that although many figures are similar to classic figure forms of the established phases 1 and 2, they appear to be somewhat deviant too. As the illustration shows, reindeer are the largest and most diverse group of figures, many of which I find resembling the

reindeer in phase 1. In Kåfjord, most of the reindeer at 20 masl are not very typical to Helskog's phase 2, and some of them could compare to the ones on Storsteinen. Other indicative figure forms are:

- The 50 humans in the category 'any phase' can be separated into two groups. The stick figures with circular heads are most common in phase 2, but the form is present on panels from all the three oldest phases. This also apply to the figures with marked torsos, but they are mostly found in phases 1 and 3. This large number of standalone humans, the stick figures in particular, may be an indication of a transition from phase 1, where human figures are numerous, to phase 2, where their number are more moderate.
- The 15 beaver like figures in Alta are found exclusively at Storsteinen and the upper part of the Kåfjord panel.
- 42 dogs (or wolfs or foxes) are only present between 22 and 26 masl at Kåfjord and Hjemmeluft, and at Storsteinen.
- The boats at Storsteinen resemble the ones in phase 1 the most. The upper boat at Storsteinen, just above 22 masl, and apparently carrying some sort of cargo, has its equals only in Kåfjord, where 13 boats of the same form are found, the lowermost at 22 masl.
- Most of the elks resemble the elks from phase 1 found elsewhere.
- The large reindeer at Storsteinen are quite similar to one of the five figures found at 21 masl in Kåfjord, and another just above 22 masl, also in Kåfjord. These three reindeer figures stand out with their size and shape at both panels, but the form bear semblance also to some reindeer in phase 2.
- Whales and fish are not a very large group in Alta, counting 48. There are few represented in phase 2, only four all together. The eight whales or fish at Storsteinen represent the second largest group of whale/fish at any panel, only outnumbered by Kåfjord. Their form could compare to the two whales from phase 2, and to some degree to the whale/fish figures on Amtmannsnes, but they could as well represent a distinct style.

My proposal to a solution for this long-lasting predicament, is that Storsteinen contains the results of two periods of use, or two assemblages. The earliest assemblage was made when sea level was between 19.5 to 20.5 masl, and the rock's surface at 21–22 masl was at its most inviting. During this period, rock art activity was mostly put on hold in Hjemmeluft and Kåfjord. Most of the figures belonging to this assemblage are stylistically connected to the earliest phase in Alta found at 22–26 masl. The figures do not have any distinguishing style of their own, but at the same time they appear to be a little 'off'. The range of motifs, in particular the beavers and dogs, are elsewhere only found at higher elevations, but other typical phase 1 motifs, like the drop shaped fringed figures, elk headed staffs, fences, snowshoes and footprints, bear dens and bear tracks, are missing. The phase 1-like appearance of many of the Storsteinen figures, may come across as too old for the altitude; they should not be there. However, reasons as to why such figures should be restricted to the higher altitudes, are in fact hard to find, other than the established and widely accepted phasing and chronology of Alta that confine phase 1 to 22–26 masl. The range of phase 1 could in principle just as well be 21–26 masl, as phase 2 figures mostly is found at 17–20 masl. Some figures, reindeer and humans, have stylistic traits that points towards phase 2, in particular to the figures at 20 masl in Kåfjord. This does not necessarily rule out that engravings were made on Storsteinen during phase 2, but I suggest that most of them were not.

The earliest assemblage on Storsteinen, in conclusion, represents a separate segment between phase 1 and 2, an impression also reinforced by the choices of motifs. The large compositions and some of the motifs defining phase 1 are absent and so are the boat figures that in many ways characterise phase 2, as well as the birds. This assemblage may not qualify to become a phase of its own, but it is sufficiently distinct to be regarded as something more than an appendage to the established phases. Moreover, since some of the engravings on Storsteinen seems to represent a transition rather than a new phase, the rock engravings in Alta may be viewed in a slightly different manner – that the two oldest phases and the earliest engravings

on Storsteinen in fact represent one continuous tradition, different from the later ones. This was also suggested by Lars Jølle Berge (2014) in his master's thesis from 2014, although based on different reasoning, and not mentioning Storsteinen. The lack of attention to Storsteinen may have prevented scholars from recognising this more continuous tradition of early rock art production in Alta, making the division between phase 1 and 2 artificial. The panels assigned to the two early phases in Alta are with a few exceptions found together, which further strengthens this notion.

The second and later assemblage at Storsteinen is represented by figures that have their closest stylistically resemblance with those at Amtmannsnes. Some of the figures, however, especially those depicting humans, I have placed in there because of their peculiar and somewhat phase 3-like appearance, without having any resembling matches neither at Amtmannsnes nor at any other panels in Alta. The engravings belonging to this assemblage otherwise consist of reindeer and geometric or abstract patterns. The cross-shaped figures, three of them found on Storsteinen, are known from Amtmannsnes (four figures), and thus considered as belonging to phase 3. The one cross-shaped figure found in Kåfjord, at 22 masl, could imply that this motif was also known and depicted earlier (Gjerde 2010a: 253), or that revisits and adding figures to at the time ancient panels occurred also at other sites.

If the second assemblage were made at Storsteinen at the same time as the art at Amtmannsnes, which are at 14–16 masl, the upper part of the rock would be full of growth at this point, and sea water would barely touch it, as the sea level would be at 15 masl at the most, going down to 13 masl during the period. The vegetation growth pattern on the seashore in Alta also apply to Amtmannsnes and varies according to the same local differences that occur elsewhere. The ruddy rock type at Amtmannsnes, a metamorphic arkosic sandstone, seems to make it easier for lichen to colonise than the smooth rocks at Hjemmeluft and Kåfjord, thus leaving a relatively narrower bare belt along the seashore. If the growth pattern was similar to the present, this might imply that clean rock surfaces were less imperative for rock art production than earlier; in other words, that lichen covering Storsteinen and to some extent the rocks at Amtmannsnes did not prevent the artists to make engravings. Storsteinen at this point would indeed be striking as it lay fully visible by the shore in Bossekop, a feature which perhaps generated or added to the attraction as a place to make rock engravings also in this second period. This assemblage should be recognised as truly belonging to phase 3 on par with the Amtmannsnes rock art, adding clues and significance to how both sites are conceived and interpreted.

PROBLEMATIC PHASES AND CONCLUDING REMARKS

My classification, or sorting, is based on resemblances and differences in form as I perceive them, and further on comparison with figures of similar forms at other sites at certain elevations. It is not made to challenge the established Alta chronology; actually, it is to a considerable extent based on an acceptance, in essence, of Helskogs original phase proposal. Helskog wrote in 1984 that 'the picture will be a little more complicated when all the figures are classified, but the tendencies in the material will probably be the same' (my translation, Helskog 1984: 16). On this I basically agree. The Alta material has later been described by Helskog as horizontal layers in a cake, grouped by 'profound and distinct differences in content, morphology and style' and he continues: 'The changes in form and content are so obvious that a statistical analysis to explore for chronological patterns became a verification of what can be seen with the naked eye in the field' (Helskog 2011: 5). This, however, has certainly not applied to Storsteinen. Moreover, although I agree that the changes in form and content are well documented at other panels; and that most of the rock engravings in Alta are at the elevation they are 'supposed' to be, there are also many variations and anomalies that disturb the picture to an extent that cannot be ignored, and for which Storsteinen represents a paramount case. The new documentation presented here, and the chronology and interpretations offered, must be regarded as a first go at this intricate rock art panel, belonging to a seemingly less complicated collection of rock art. When the rock and the superimpositions are

more closely studied than I have been able to do, new discoveries will be made, and a disclosure of Storsteinen may turn out to be like opening Pandora's box to the established phasing of the Alta rock art, or alternatively, the phases could be confirmed or developed in unexpected ways.

Phase is a chronological term used to comprise both a period of time and its content, and as a key concept in the description of the Alta rock art, used frequently in this paper. The phases that were defined and seemed reasonable in the early days, now have to embrace the array of new panels, figure forms and documentation, novel recording techniques, and other new information complementing, complicating or even disrupting the order. It seems that the more figures there are the greater the variation, and as Simonsen (1958: 74) put it 'abnormalities continues to emerge'. To use the phase system to identify panels and figures has become increasingly more problematic, as it often is unclear whether one is referring to elevation or style. The frivolous design and placement of some of the figures and stylistic expressions, on Storsteinen as on other panels, suggest that variations within and similarities between phases are more extensive than previously assumed; alternatively, that the seashore connection was not so firm after all. I believe both alternatives to be true, with emphasis on the first.

Scholars have never hidden the fact that there are a lot of uncertainties on the classifications, the age, and the rigidity of the phases (e.g. Helskog 1984: 15; 2000: 6). However, as a concept or interpretation develops and argumentation moves on to the next subject, 'might be' easily becomes 'is'. This often happens naturally and may somehow be necessary in order to proceed; I have followed suit in this very paper to avoid having to repeat all the reservations and uncertainties connected to the subject matter. And beyond the level of individual scholarly aims and objectives, there is also a discursive 'political economy' in the way concepts, chronologies, and interpretations sediments and takes on weight. Thus, after nearly 50 years of research, it would pose problems to alter the whole phase system by changing or adding labels or insert new phases, replacing the vocabulary associated so heavily with the panels and figures. The phase system of Alta has become remarkably fixed in the scientific and popular literature, in museums and exhibitions, in the management archives on all levels (included UNESCO), not to mention on the Internet, that the representations of the rock art, both written and otherwise, in some sense have ended up more real than the engravings themselves.

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