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WHICH WAY DO WE GO? A STORY-BASED APPROACH TO ARCHAEOLOGICAL INTERPRETATION OF THE ROCK ART OF CASTLE ROCK, CHILLAGOE, NORTH QUEENSLAND, AUSTRALIA

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Abstract. Analysis of the rock art motifs at Castle Rock, near Chillagoe, north Queensland, has shown that this site provides a detailed landscape map of the surrounding country. A series of motifs shaped like asterisks or stars suggest vertical views of a number of the individual limestone tower karsts of the district, containing site complexes and other important cultural landscape features (such as springs and mines). We measured the alignments from the central star and concluded that the relative positions of the star motifs are an accurate representation of the landscape features. Another set of motifs at Castle Rock, 18 dingo paw prints, mirrors the peaks of the western Featherbed Range near the Walsh River. The Walsh represents a major shared travel route for the Mbarbarum, Wakamen and Kuku Djungan. Other motifs also appear to represent major site locations such as mound springs located in the adjoining Mbarbarum country. This suggests that the palaeomap represented by the ceiling rock art of Castle Rock sits at or near an intersection of primary trade and travel routes between the surrounding woodland savannahs and the rainforests of the Atherton Tablelands to the east, as well as to places much further afield in western Queensland. Recently recorded ethnographic information supports these conclusions.

Introduction

This paper presents the initial results of research carried out on the rock art at Castle Rock, near Chillagoe, north Queensland, in north-eastern Australia (see Fig. 1). The distinctive motifs of the Chillagoe region comprise certain stylistic and dating characteristics that distinguish this rock art district from the Cape York Peninsula figurative-style rock art province to the north, and the primarily stencil-based motif rock art of the North and Central Queensland Highlands area to the south (David and David 1988; Cole 1995; David and Chant 1995; Watchman and Campbell 1996; Morwood 2002; Winn 2009).

The characteristics of the Chillagoe-Mungana rock art region that have been previously determined include an overwhelming predominance of abstract and geometric,



Figure 1. Satellite image of north-eastern Australia showing the locations of Chillagoe, Cairns, Laura and Cooktown; the yellow line represents part of Australian national route 1; the northern section of the Great Barrier Reef World Heritage Marine Park can also be seen on the right-hand side of the coastline (image: Google Earth).



Figure 2. Satellite image of the Chillagoe-Mungana rock art district and the subdistricts of Almaden and Ootan, showing the locations of the townships of Atherton and Mareeba to the east as well, which also have ethnographic and archaeological evidence for connections with Chillagoe (image: Google Earth).



Figure 3. View of Castle Rock, Chillagoe, north Queensland, Australia, from the east; vegetation below site is mostly sclerophyll woodland, but softwood 'dry rainforest' vine thickets occur in the fire shadow of the limestone karst tower; that is, there are many food and medicinal plants concentrated near the site and on the karst tower (image: OCR).

non-figurative motifs, especially lines, grids, circles and star-like shapes. The motifs of the region contain relatively few anthropomorphic and zoomorphic designs, as well as few stencils of material culture items and few hand stencils. There is little superimposition of paintings on the rock surfaces, and a limited range of pigments is used, with primarily monochromatic painting and drawing in red ochre (haematite and jarosite), yellow ochre (goethite), white clay (kaolinite) and wood charcoal. Painting events span at least from 29 700 BP to the modern period (see Campbell et al. 1996; Watchman and Campbell 1996; Campbell 2000). The stylistic characteristics of the motifs exhibit chronological stability, and the majority of visible motifs are thought to date to the Holocene.

In the 1980s David Flett (Queensland National Parks and Wildlife Service) started to record stories from elderly Wakamen and Kuku Djungan elders living at Chillagoe and at Yarrabah Aboriginal Community near Cairns. This ethnographic recording had initially been kept secret, but in 2012 Dave Flett decided to share the information with WGE. The current team of researchers has been given permission by the families of the elders he interviewed and by him to publish our summary of this information in relation to Castle Rock and its connections.

Ethnographic evidence suggests that the star motifs found in the painted panel at Castle Rock and in other galleries throughout the Chillagoe karst country relate to specific locations within Wakamen (*wakamini*) cultural landscapes, as well as the landscapes of neighbouring groups. Flett recorded two stories from Aunty Rita Maddigan and Uncle Caesar Lee Chue (now both deceased) for the site that suggest the art represents a map. Other story was provided by WGE, as his uncle took him to the site when he was a teenager and explained how to use the map, showing him the locations of main camps and important resource gathering places and other important places found along the Walsh River. WGE was also told the stories that are represented at Castle Rock and about the trade routes or Aboriginal trackways that link places in the district and further away.

It was during discussions with Aunty Rita Maddigan, when seeking permission for conducting the James Cook University Rock Art Field School in 2007, that she asked if there was any way to show that the Castle Rock art indeed depicted a map of the landscape, 'like how a whitefella would draw a map on paper'. It was during the 2007 field school WGE drew JBC's attention to the idea that the painted panel at Castle Rock was actually a map of locations in the landscape and not what some have referred to as a star map or as an unknown asterism.

Aims

This research was undertaken with two general aims in mind. The first was to determine whether the star motifs at Castle Rock are a map depicting country and important cultural places in the Chillagoe-Mungana district. The second was to determine whether Aboriginal story, knowledge and archaeological investigation could be mutually inclusive without compromising either the story or the archaeological findings.

Description of Castle Rock

Castle Rock is located approximately 6 km south of Chillagoe in The Ramparts section of the Chillagoe-Mungana National Park (see Fig. 2). It is in a free-standing limestone bluff or karst tower

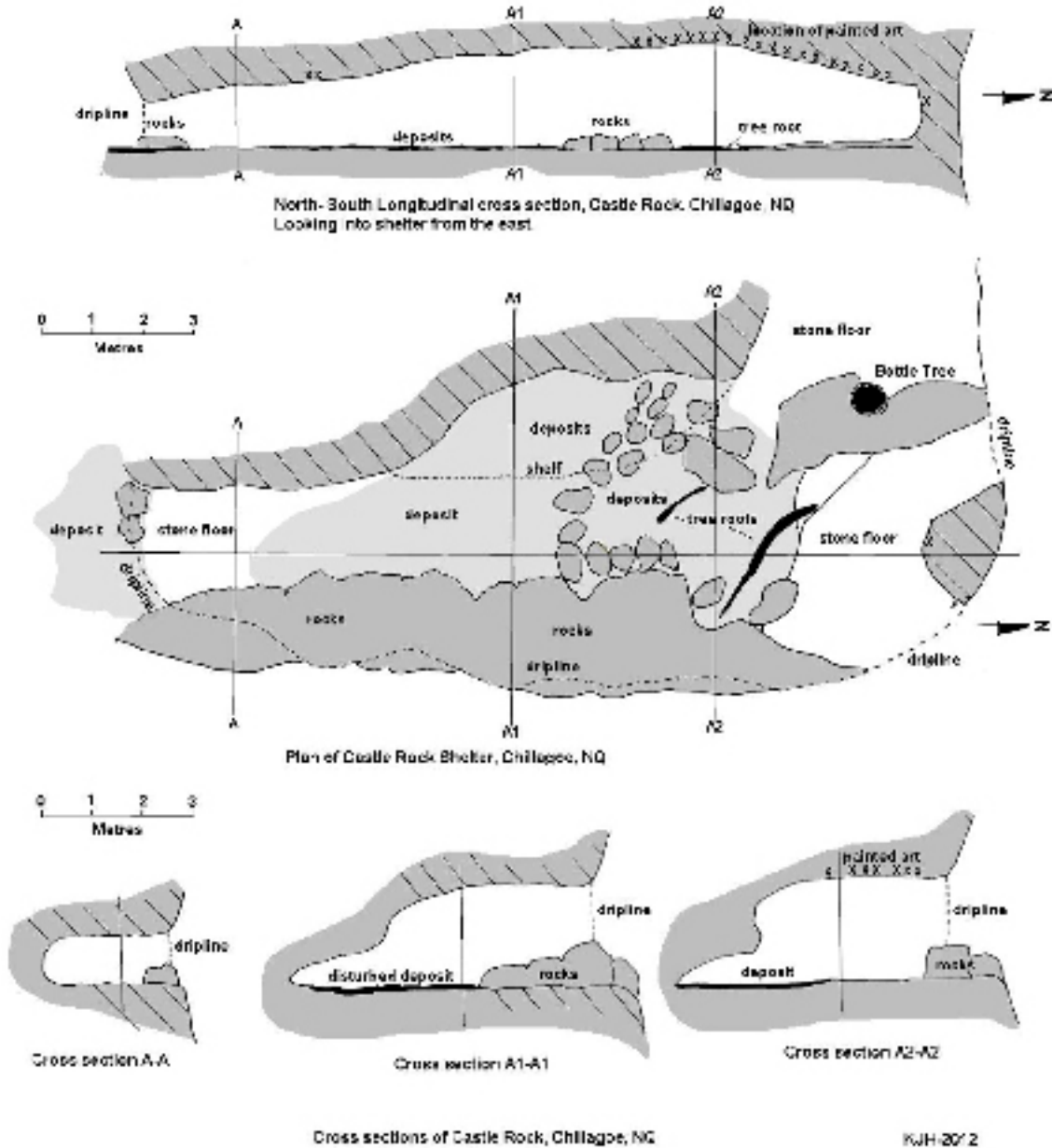


Figure 4. Longitudinal cross-section and floor plan of Castle Rock showing the location of the main art panel at the northern end of the rockshelter; the shape of the internal structure of the rockshelter is shown by the transverse cross-sections at A-A, A1-A1 and A2-A2 (drawing: WGE).

overlooking the country at a height of approximately 30 m above the surrounding plains (see Fig. 3).

The shelter has a north-south axis, 15 m in length with a relatively flat floor. There is a 270-degree view from the shelter to the southerly, easterly and northerly stretches of country. While the western aspect of the landscape is impeded by the bedrock of the rock-shelter wall, the karst tower is easily climbable, and from the top there is a 360 degree, uninterrupted view of the surrounding plains. The rock art is primarily located on the ceiling at the northern end of the site (see Fig. 4). The catalogue of the rock art motifs consists of five solid white lines, 18 identifiable star motifs (a number of which are faded) and 20 dingo paw prints (18 prints in a print trail, and two prints associated with a separate

motif). Figure 5 provides a view of the main part of the art panel, and Figure 6 depicts the principal variations in the star motifs at Castle Rock and indicates some of the links of certain star motif patterns with certain other sites in the district and beyond.

Methodology

In order to document the site-specific rock art motifs at Castle Rock, the ceiling panel was first fully recorded and catalogued. A north-south string line was then oriented through the central star (the star identified by the Aboriginal elders as representing the Castle Rock site itself). Bearings and distances were then calculated from the central star to the other star motifs on the ceiling panel. All measurements were taken initially



Figure 5. View of main part of rock art panel on ceiling of Castle Rock; weathered external surface of limestone rockshelter can be seen in upper foreground, and the trunk of a bottle tree (*Brachychiton australis*) can be seen through the other side of the shelter (this tree produces edible seeds); some of the variation in the star motifs can be seen, as well as the curving line of dingo paw prints just below and behind the shelter's front overhang (image: NBW).

		Associated location in the landscape			Associated location in the landscape
1		Castle Rock Wakamen	12		Turtle Cove Rock Shelter Nyngandj
2		Mound Springs Wakamen	13		Ngarrabullgan (Mt Muligani) Koko Djungun
3		Pillar Cave Wakamen	14		Hell's Gate Creek Shelter near Laura Koko Yonanj
4		Califer Wakamen	15		Nydhum Obsidian (Elizabeth Creek) Wokoro
5		Mortuary near Califer Wakamen	16		
6		Capule Cave and Siltstone Mine Wakamen	17		
7		Mungana Wakamen	18		
8		Rooftop Wakamen	19		
9		Amaden Wakamen / Atharbarwan	20		
10		Dotan Wakamen / Atharbarwan	21		
11		Walkunders Wakamen			

Figure 6. Variations in star motifs at Castle Rock; number 1 is the central star motif at Castle Rock according to the elders; the other numbered entries indicate which Castle Rock star motifs correspond to the same star-motif patterns at other sites; some of the star motifs are still in the process of being linked with other sites (drawing: WGE).

from magnetic north and then converted to Australian grid north and plotted on topographic maps (1: 100 000) of the Chillagoe-Mungana district, on which all currently known cultural places and archaeological sites were also located.

Results

When plotted on the topographic map, the correlation between the position of the star motifs on the ceiling panel and the locations of the known cultural sites proved to be accurate to within 200–300 m, and in some cases to be even more accurate. The stars on the ceiling panel are not only general indications of the geographic locations of cultural sites across the landscape, but they also encode site-specific information, since the motifs accurately designate individual sites. All the star motifs on the ceiling exhibit slight variations, that is, no two are exactly the same. When the individual star motifs were compared to the rock art motifs located at the distant sites that they pointed to, it was discovered that at all sites (that contained rock art) the identical star-motif design was present. That is, the radiating lines from Castle Rock go from a specific Castle Rock star-motif type to the same star-motif type at the relevant distant site. Each of these connections is unique (see Fig. 7; see again Fig. 6). It was also determined that while certain sites are not visible from the Castle Rock shelter (such as Walkunder to the south-west), these sites were still located accurately by star motifs on the ceiling panel, demonstrating that the artist had an intimate spatial awareness of the surrounding country that was not reliant solely on an open and direct line of sight.

The star-forming system is similar to a mathematical system ($x+1=y$) in that no two stars in a site are the same, but two main sites within a complex may have the same star motif. We hypothesise that some of the faded motifs could lead investigators to new or previously unknown or unrecorded sites.

Discussion and future research

While rock art has many diverse functions and meanings, there are numerous examples in Australia where rock art depicts maps of both spiritual and physical landscape. In the Australian context, rock art is multi-functional,

and it is sometimes used to mark significant sites across the landscape. Rock art motifs often trace the movement of Ancestral Beings along designated pathways, depicting the spiritual journey of various totemic entities through the physical geography of an area (Berndt 1976; Mulvaney 1976; Taçon 1993, 2005, 2011; McDonald 1999; McBryde 2000; Flood 2004; Franklin 2007; Bradley 2008; Ross 2012). These travels of Ancestral Beings, or Dreaming tracks, often link spiritually, socially or economically important geographical locations within and between territories (e.g. waterholes, quarries and hunting grounds; see also McCarthy 1939; Morwood 1982; Gould 1990; Brumm 2004; Smith and Burke 2007). The rock art motifs marking these localities serve to map out the trade routes, restrict access to resources or control movement through the landscape (Taçon 1994, 2004; McDonald 1999; Ross and Davidson 2006). The rock art motifs at Castle Rock fall into this tradition of marking places of cultural and spiritual significance.

Sections of the Chillagoe-Mungana limestone belt were first surveyed archaeologically for rock art by David and David (1988) and then by David and Chant (1995), but these surveys only covered 25.2% of the limestone belt (David and David 1988: 147). During the 1988 survey of the Chillagoe-Mungana district, David and David (1988: 147) identified 41 rock art sites, 36 being located in the limestone karst zone, and five in the neighbouring granite area. However, since these initial surveys were done, multiple additional sites have been located. During the initial survey, David and David (1988) catalogued 45 examples of the star-motif in several sites in the limestone belt. While they recognised the possible significance of the star motif because of its relative frequency, David and David (1988) lacked the ethnographic evidence that allows for the full interpretation of the motifs' functions in the Chillagoe district.

Now that the star-motif map system has been identified, several follow up projects are being undertaken to refine this interpretation further. While the majority of the star motifs on the ceiling panel of the Castle Rock site have known sites in the surrounding

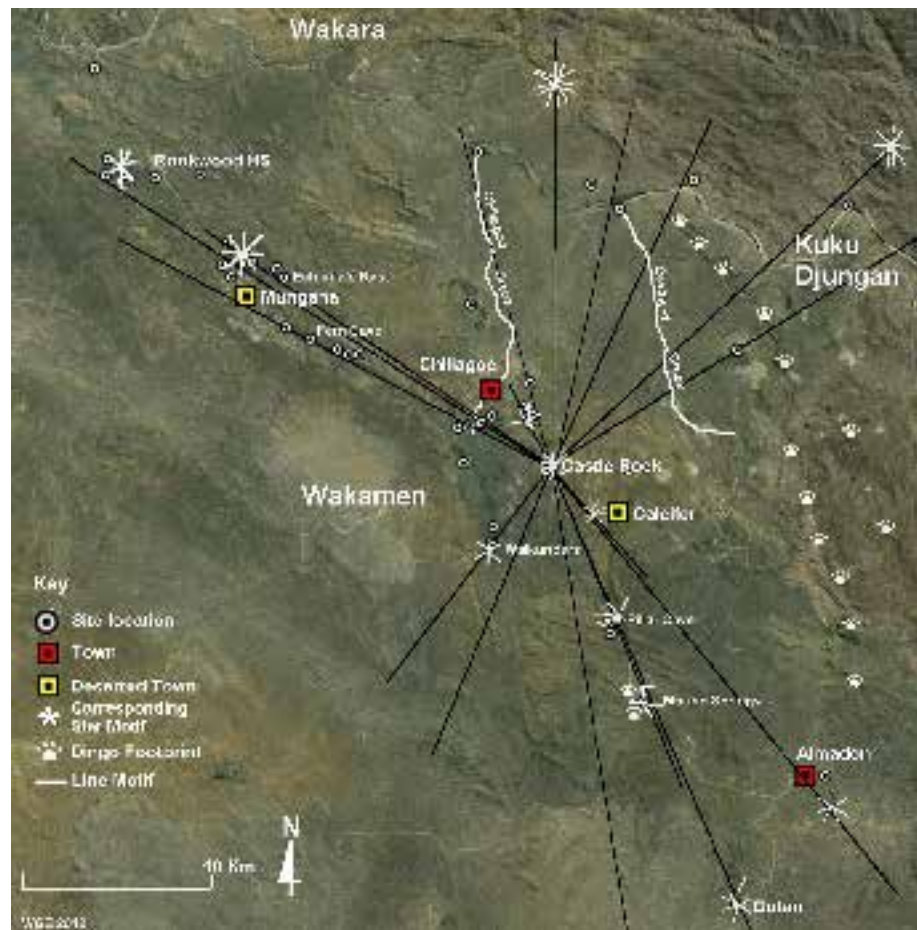


Figure 7. Connections and orientations between star motifs at Castle Rock and corresponding star motifs at other sites in the Wakamen, Wakara, Kuku Djungan and Mbarbarum countries of north-eastern Australia (image: Google Earth with additions by authors).

landscape associated with their placement on the ceiling panel, several stars point to locations where there are no previously recorded rock art sites. Although it could be argued that no matter where you draw a line on a map you will find an Aboriginal site, we have found that this is not necessarily the case when investigating any particular star motif and its location or relationship to places in the Wakamen and neighbouring cultural landscapes.

One of the authors (NBW) is currently surveying sections of the limestone belt as part of a larger PhD project. This follows on from her BA honours field research (Winn 2009). The aim of this new recording is to update previous studies in addition to recording and identifying previously unknown or 'lost' sites. During the course of this recent surveying, a rock art site was found that had not been included in any previous work. This new rockshelter contains numerous petroglyphs as well as a single painted star motif. This site lies along one of the Castle Rock radial lines that had had no known associated sites. The painted star motif in this new rockshelter matches the corresponding motif on the Castle Rock ceiling, providing additional

supporting evidence for our working model. This new rockshelter is located at the base of a karst tower next to a newly discovered pre-Historic silcrete mine. It should be noted that there are a number of sites between Castle Rock and this new site, but it is only at this site that a matching star motif is present in the art. While only preliminary investigations have been undertaken on the new mine site and associated rockshelter, these sites may yet prove to be significant sites in the Chillagoe-Mungana district.

The other unpaired motifs from the ceiling of Castle Rock and their landscape counterparts may indicate areas of the limestone belt that could yield additional unrecorded sites. Those areas will be targeted in the course of future systematic surveys. In addition to using the Castle Rock frieze to target survey areas, dating of the various star motifs may yield insight into the extent of time that this system, or at least the star aspect of it, has been used.

There have been several direct dating projects carried out in the Chillagoe area that have sampled various techniques and pigments. However, the Castle Rock ceiling has not been directly dated. Due to the fragile nature of the white kaolinite pigment and the depiction of dingo tracks, the maximum age of the panel can be suggested to be about 3500 BP, though it is perhaps likely to be much younger (cf. David and Chant 1995). The current visible panel at Castle Rock appears to be a single painting event, with no obvious superimpositions. Direct dating of the Castle Rock panel would clarify this assumption, and it is a priority for future dating projects.

Three other direct dating projects, while dating a range of motif types, not specifically targeting star motifs, have in their course dated three star motifs located at sites elsewhere in the limestone belt. The oxalate crust immediately overlying an engraved 'star burst' motif in bedrock on the cave wall at Walkunder Arch Cave in the southern end of the limestone belt has been AMS radiocarbon-dated to 7085±135 BP (Campbell and Mardaga-Campbell 1993; Watchman and Hatte 1996). At the Mungana site, Armitage et al. (1998) radiocarbon dated a star motif drawn in charcoal to 3350±350 BP. The third star motif dated is located at Ootan in the southernmost edge of the limestone belt. Again it is in charcoal, with a date of 2500±250 BP (David et al. 1999). While at present only three of the star motifs have been dated, with two of them directly dated by dating charcoal from the motifs, the range of dates and techniques demonstrates that the star motif was used throughout various locations in the limestone belt from the early Holocene through to the late Holocene in engraved, drawn and pigment forms. The star motif remained a meaningful symbol for groups in the Chillagoe-Mungana district, with little variation in stylistic form, just differences in technique and pigment choice.

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