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Dynamic Figures of Mirarr Country: Chaloupka's four-phase theory and the question of variability within a rock art style

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Introduction

This chapter highlights the concept of 'style' within rock art research in relation to Dynamic Figure rock art found in western Arnhem Land, Australia (Figure 6.1). Our aim is to reassess George Chaloupka's four-phase chronology for this art style. The data for this revision are 155 Dynamic Figure paintings, documented through our ongoing fieldwork in Mirarr Country as part of the Mirarr Gunwarddebim (Rock Art) Project.



Figure 6.1 Dynamic Figures scene from Mirarr Country.

Source: Photograph by Matthew Abbott.

Throughout his life, Chaloupka sought to document rock art across western Arnhem Land, amassing a remarkable collection of site recordings, ethnographic records and vast general knowledge relating to this region's rock art. His work spanned decades, and his publications, particularly *Journey in Time* (Chaloupka 1993a), helped to promote the importance of this body of art, both within Australia and internationally, arguing that it is the world's longest continuing art tradition. Chaloupka considered Dynamic Figures to be 'the most vital and exciting paintings of the region's long art sequence' (Chaloupka 1993a:106). While in this chapter we critique his work, we do so with the utmost respect for his pioneering achievements.

Chaloupka took his investigations of Dynamic Figures one step further than any other rock art style he wrote about. He attempted to develop an internal chronology within the Dynamic Figure style, following his observation that 'at first [Dynamic Figures] seem to be a homogenous body of art, but several well defined subgroups can be identified' (Chaloupka 1993a:106). In this chapter, we focus on Chaloupka's attempt to define chronological subgroups among Dynamic Figures, a difficult but crucial undertaking that identified significant attributes of the style and facilitated similar future studies. We explore the theories motivating such a process and, based on our analysis of Mirarr rock art, we discuss newly identified problems with Chaloupka's proposal.

The results of our analysis show few correlations between Mirarr Country Dynamic Figures and Chaloupka's four-phase chronology. We present evidence for a lack of distinct differences between his phases, for example by showing that a large percentage of images and scenes within the overall assemblage bear traits that belong to more than one phase. Our work suggests that variability within Dynamic Figure art is more representative of motivations unrelated to chronology, and we argue that such variability should thus be interpreted in other ways.

Style and chronology in Arnhem Land rock art research

The concept of 'style' was introduced to rock art research as a typological tool during the early 20th century (Francis 2001). In many ways, this was a result of increased and more systematic fieldwork that demonstrated the immense variation of rock art traditions in different parts of the world. At first, the concept of 'style' was used to distinguish particular rock art traditions from each other, such as Palaeolithic versus post-Palaeolithic rock art in southern Europe (e.g. Breuil 1920), or differences between 'hunter-gatherer' and 'farmer' rock art in northern Europe (e.g. Almgren 1927, 1934; Gjessing 1936, 1939). Soon after, the notion of style came to be used to construct chronological phases within specific rock art traditions (e.g. Althin 1945; Anati 1976; Breuil 1952, 1955–1975; Gjessing 1936; Glob 1969; Hallström 1938; Leroi-Gourhan 1967; Marstrander 1963). In this context, 'style' came to be used as the kind of analytical tool that is still prominent today (Francis 2001; Sanz and Fiore 2014).

Even though the concept of 'style' has been widely debated within archaeology, material culture studies and social anthropology (e.g. Carr and Neitzel 1995; Conkey and Hastorf 1990; Hodder 1982; Layton 1991), most rock art researchers have been reasonably conservative in their efforts to challenge the concept (Francis 2001). We also find some general differences in how the notion of 'style' has been formulated by rock art researchers belonging to different schools of thought. In traditional culture-historical approaches to archaeology (Trigger 1989), stylistic change within a corpus of rock art was generally treated as indicative of chronological change (e.g. Breuil 1952; Hallström 1938), an approach that continues to linger in some rock art research. Changes in thinking since the 1960s in particular have led to a number of new approaches. For example, Conkey (e.g. Conkey and Hastorf 1990) argued that 'style' should not be seen as indicating peoples, chronological phases or the like, but rather as a context of doing things. In the late 1970s and early 1980s, a strong intellectual movement away from treating style from an etic perspective

as passive adaption to environmental conditions (e.g. Binford 1972) saw the emergence of style as active, emic social engagements. In these latter formulations, the notion of style came to feature in more conscious social and ideological uses of material culture through the notion of 'symbols in action' (e.g. Hodder 1982). The latter has often been discussed in relation to theories of information exchange, with deep roots in various forms of structuralism (e.g. Wobst 1977; see also Clegg 1977; Conkey 2001; Leroi-Gourhan 1967; Lewis-Williams 2002; McDonald 2008; Nordbladh 1978; Smith 1989; Taylor 1996; Tilley 1991).

From an etic, formalistic perspective, there are several reasons to rethink the 'style' concept in rock art research. When direct accelerator mass spectrometry (AMS) radiocarbon dating of rock art was introduced in the 1980s, researchers rapidly showed that what had been thought of as established rock art chronologies born of stylistic criteria now had to be reconsidered (e.g. Lorblanchet and Bahn 1993). While there were some agreements between the established chronologies and the new absolute dates, there were also numerous differences. One possible reason for such inaccuracies is that already-present images influence the creation of new art, a phenomenon that is evident in both past and contemporary artworks in western Arnhem Land (see May 2008; Taylor 1996).

Moreover, Chippindale and Taçon (1993) have shown that sometimes it is only a fraction of the rock art images of a given region that fall within proposed stylistic criteria. In their work at Mt Brockman and Twin Falls in western Arnhem Land, only 35 per cent and 18 per cent, respectively, of the rock art figures could be placed within existing chronological frameworks, leaving the majority of the art undefined and unaccounted for (Chippindale and Taçon 1993:38, 48–56, Tables 1 and 2). This led them to abandon the use of the term 'style' when describing rock art, using the expression 'manner of depiction' instead (Chippindale and Taçon 1993:36).

There are also reasons to challenge the 'style' concept from an exclusively emic perspective. Studies of material culture within anthropology have listed more than 150 reasons why stylistic differentiation will appear (Roe 1995; see also Layton 1991); chronology is only one of these reasons. In this context, the recent history of making rock art in western Arnhem Land is instructive. Here, particular stylistic traits are shown to be the result of specific individuals or artistic groups working closely together (e.g. Taylor 1996). A telling example is the life, work and legacy of Najombolmi, a Narwagite man born around 1895 within what is today Kakadu National Park. Najombolmi is often recognised as one of the last great rock artists of western Arnhem Land (Chaloupka 1993a; Haskovec and Sullivan 1989; Taçon and Chippindale 2001b). There are more than 600 rock paintings attributed to him. These paintings are found over an area of 1800 km², stretching over the territories of several languages groups, including at least six recognised clans (Haskovec and Sullivan 1989:62). Seen from an etic, Eurocentric perspective, the distinctive individual style of Najombolmi's artworks, characterised as 'decorative X-ray' by Chaloupka (1993a), could easily have been classified as its own art style or sub-style within a larger corpus of rock art (cf. Taçon 1987, 1989). This raises questions not only about what the notion of 'style' represents per se, but also how it is defined and used in rock art research more generally.

Despite these concerns, 'style' is still used as a basic concept when creating rock art chronologies. One reason for this can be found in the widely recognised problem of dating rock art. Notwithstanding advances in dating techniques, many, if not most, rock art chronologies still continue to be built following a stylistic logic first formulated and introduced in rock art research in the early 20th century (Francis 2001), albeit with new theoretical perspectives (e.g. Sanz 2012; Sanz and Fiore 2014; Smith 2008). Rock art chronologies of western Arnhem Land are no exception to this trend.

The manifold artistic assemblage of western Arnhem Land rock art is indeed overwhelming. Based on its diversity and density, researchers have been able to distinguish at least 11 overarching rock art styles by which to create rock art sequences and chronologies (e.g. Brandl 1982; Chaloupka 1984b, 1993a, 1993b; Chippindale and Taçon 1998; Lewis 1988; Taçon and Chippindale 1994).

Many of these chronologies have been developed from sequences created at key sites and then tested, to various degrees, more widely across the region (e.g. Chaloupka 1977; Chippindale and Taçon 1993; Haskovec 1992). Chaloupka's chronological model was mainly based on superimpositions observed in the rock art of Mt Gilruth and extended via data obtained from his more widespread surveys, the most detailed of which came from Deaf Adder Gorge and Mt Brockman (Chaloupka 1977, 1984a, 1984b). His observed patterns of superimposition among specific rock art faunal motifs were later related to what environmental researchers had identified as regional environmental changes (Chaloupka 1984a, 1993a, 1993b). His resulting chronology consists of three environmental periods, Pre-Estuarine, Estuarine and Freshwater, followed by so-called Contact rock art. The Pre-Estuarine period, which is the main focus of this article, consists of seven styles, which from oldest to most recent read in the following chronological order: Object Prints, Large Naturalistic Figures Complex, Dynamic Figures, Post-Dynamic Figures, Simple Figures with Boomerangs, Mountford Figures and Yam Figures (Chaloupka 1993a:89).

In contrast, Lewis's (1988) chronology is largely constructed from observations of technological changes in depicted material culture, principally spearthrowers, but other material culture associated with different styles and regions were considered as well. Even though some differences are noticeable between Chaloupka's and Lewis's chronological models, their main sequences both hold Dynamic Figures in a similar position as the first substantial group of depicted human figures with distinct items of material culture (May et al. 2017).

Definition, distribution and chronology

Brandl (1982:169, 172–173) was the first researcher to identify Dynamic Figures, which he described as 'early' Mimi art, as a specific, chronologically meaningful rock art style for western Arnhem Land. Various, more detailed definitions of the style now exist, including Chaloupka's (1984b:8) detailed report on Dynamic Figures:

This style consists of small drawings of human figures, anthropomorphs, animals and composite beings, predominately portrayed in animated action. In the depictions of running figures with their wide spread legs, the artist of this style translated the intensity of physical motion into pictorial dynamics.

Chaloupka (1984b:4) understood the notion of 'style' to be both an objective and subjective tool in rock art research:

In my study of the Arnhem Land Plateau rock art I have considered the paintings in a broader perspective, and used *style* – art's objective, descriptive aspects of constant form and elements, and the subjective, evaluative aspects of qualities and expressions, as the most important factors in its analysis. It is by identifying individual styles and by arranging them in chronological sequence that a meaningful division in a body of art can be achieved, and it is only then that other forms of analysis can be used.

It follows that Chaloupka viewed the concept of style from an etic perspective, and first and foremost as a chronological tool within rock art research, something that we will try to reconsider through our case study from Mirarr Country.

The current known distribution of Dynamic Figure art falls within an area that measures north–south about 180 km in length and east–west 200 km in width, stretching from the Cadell and Mann rivers in the east to the outliers of the Arnhem Land escarpment to the west, and from the Wellington Ranges in the north to Birdie Creek in the south (Chaloupka 1984b, 1993; Chippindale et al. 2000:66, Figure 1; cf. Gunn and Whear 2007; May et al. 2017).

Dynamic Figures have received more attention than any other style, arguably because of their regional distribution, complexity and quality of depiction and their apparently key role for understanding how the rock art of western Arnhem Land has changed over time (Chaloupka 1984b, 1988, 1993a, 1993b; Chippindale et al. 2000; Gunn and Whear 2007; Haskovec 1992; Lewis 1997; Taçon and Chippindale 2001a). At the moment, no direct dating exists for the earliest styles of rock art in western Arnhem Land. That said, researchers broadly agree on the relatively early position of Dynamic Figures in western Arnhem Land rock art sequences (Brandl 1982; Chaloupka 1977, 1984b, 1993a; Chippindale and Taçon 1993, 1998; Haskovec 1992; Lewis 1988; Taçon and Chippindale 1994). These chronologies propose that Dynamic Figures form the first substantial collection of depicted humanoid figures to feature in recognised rock art styles, and contain the first explicit scenes, providing unparalleled opportunities to understand aspects of the cultures that produced them.

Chaloupka is the only researcher who has established an internal sequence for Dynamic Figures, a chronology based on variations in the ways anthropomorphs were depicted and for which he proposed four distinct temporal phases (Chaloupka 1993a:106). These phases are defined in relation to how they vary from the second phase, which he named Classical Dynamic Figures (Figure 6.2):

The first representations of this style are considered larger than the following, classical *dynamics* when the figures attained the maximum of visual movement. In a third phase the bodies of the male figures became stockier, their arms lost their musculature and became one-line thick as did the associated boomerangs. That the stylistic variation was also expressed for some time is suggested by differentially weathered superimpositions. The final figures in this phase are fully composed of dots (Chaloupka 1993b:93).

Chaloupka's suggested chronology was built on stylistic differences within the corpus of Dynamic Figures. His analysis takes in evidence from at least 250 sites (Chaloupka 1984b:8), although he notes knowing of 350 sites (Chaloupka 1993a:106, 1993b:92–95). Even though his general rock art chronology from western Arnhem Land has been, to some extent, reviewed and revised by subsequent researchers (e.g. Chippindale and Taçon 1993, 1998; Haskovec 1992; Lewis 1988; Taçon and Chippindale 1994), so far Chaloupka's four-phase chronology for Dynamic Figures has not been subject to any critical assessment.

Chaloupka did not provide specific examples and descriptions of each of his four phases. As a result, his classification and identification is to some degree problematic. However, based on his published and unpublished reports, we have ascertained the key aspects of classification for Chaloupka's Dynamic Figure phases (Figure 6.2).

In summary, Phase 1 images are described as the largest Dynamic Figures, with similarities to the Phase 2 'Classical Dynamic Figures'. Classical Dynamic Figures are described as expressing the most exaggerated 'movement' among all Dynamic Figures; these figures are smaller than those of Phase 1. In Phase 3, the depiction of male bodies becomes 'stockier', with arms and legs now expressed as single lines and losing musculature and definition in the process. Finally, Phase 4 are 'pointillistic' figures, with small dots being applied to form an image. This includes dots around the body, and in some cases dots replace solid brush strokes (Chaloupka 1993a:106, 1993b:93; see Figure 6.2). 'Pointillistic' Dynamic Figures are distinctly different from some Dynamic Figures that are depicted with dots around them or emanating from their mouths to indicate intangible aspects of a scene (see Chippindale et al. 2000).

PHASE 1



PHASE 2



PHASE 3



PHASE 4



Figure 6.2 Examples of Chaloupka's four phases of Dynamic Figures from Jabiluka, from left to right representing the oldest to youngest phases.

The Phase 4 image does not strictly conform to a 'pointillistic' form but demonstrates the dot-technique; no Dynamic Figure in the Jabiluka study area is formed of dots alone. Not to scale.

Source: Iain Johnston.

The distinction between Phases 1 and 2 is the most problematic, as Chaloupka does not give actual measurements or size parameters for Dynamic Figures associated with each phase. However, as he recorded some sites from the same region as our study area, we were able to re-record these same figures and determine his method of measuring Dynamic Figures. The criteria for determining whether a Dynamic Figure belongs to Phase 3 or Phase 4 are easier to follow, as the determining single-line arm depiction versus dot construction are simple presence/absence criteria (Figure 6.2).

Another problem with Chaloupka's four-phase chronology is that he does not provide a great deal of evidence for the suggested temporality of Dynamic Figures. In his 1984b report, the most detailed analysis of western Arnhem Land's Dynamic Figures that Chaloupka completed, he mentions 28 sites that show temporal evidence. For example, he notes nine examples of superimposition among Dynamic Figures. Four of these sites (Sites 83, 144, 179, 188) each have larger figures over smaller figures; a further four sites (Sites 13, 192, 233, 234) are simply discussed as having unspecified superimpositions. It is hardly convincing as evidence for a reliable four-phase chronological sequence if many examples exist that contradict the claimed or hypothesised chronology. That said, Site 113 has superimpositions consistent with Phase 2 following Phase 3, although Chaloupka (1984b) does not describe the superimposition in as much detail as he does with other Dynamic Figure sites.



Figure 6.3 Dynamic Figure from Chaloupka's Site 124, described as a later Dynamic Figure but not showing any evidence of dotting and with characteristics more consistent with his earlier phases.

Source: After Chaloupka 1984b:192, courtesy of the Museum and Art Gallery of the Northern Territory.

There are other examples of inconsistencies in his chronological framework – a painting at Site 124 (Figure 6.3) is described as a later Dynamic Figure but it has no example of dotting; according to our understanding, these particular Dynamic Figures are more consistent with his Phase 1 or Phase 2.

Our overall impression of Chaloupka's presented evidence is that there are some contradictions in his suggested Dynamic Figure chronology, which means that the chronology is itself problematic. These problems are further explored below by reference to Dynamic Figures of Mirarr Country.

Research area

Our team conducted a systematic survey of the Jabiluka Leasehold area (henceforth, Jabiluka) within Mirarr Country between 2012 and 2014. The area is bordered on all sides by the World Heritage-listed Kakadu National Park. Within Jabiluka, the Dynamic Figures recorded for this research come from the Djawumbu-Madjawarnja complex, which is the largest rock formation within Jabiluka, at approximately 5×2.7 km in area (including outlying rock formations) (Figure 6.4). As of 2014, we recorded a total of 528 rock art sites within Jabiluka. Ethnographic sources suggest that the Djawumbu-Madjawarna complex was a significant area for cultural activities for several clan/language groups during ethnographic times, including Mirarr, Dadjbaku and Bunidj (Chaloupka 1978; Kamminga and Allen 1973; Layton 1981, cited in Wright et al. 2014). This and further information on the ethnographic evidence for occupation of the Jabiluka area are discussed elsewhere (see Chapters 3 and 5).

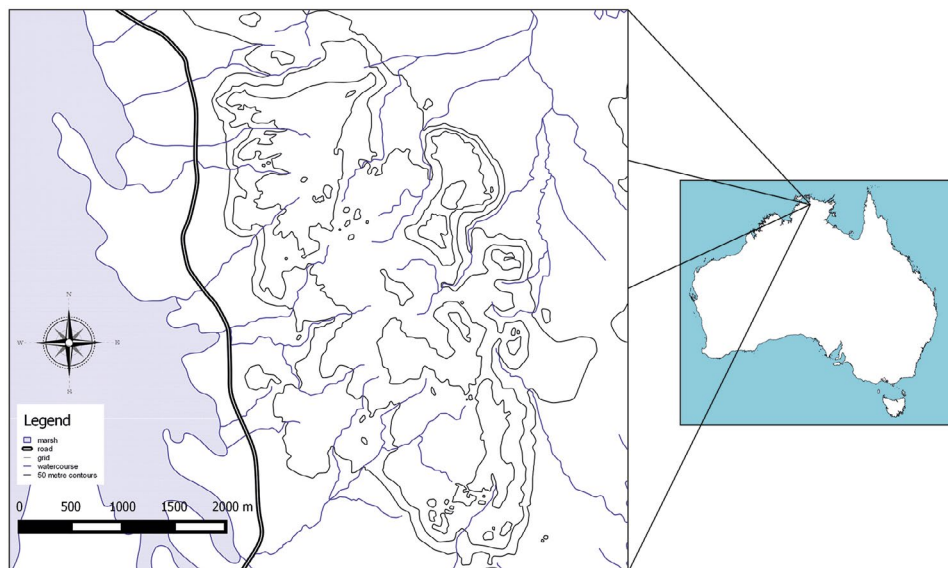


Figure 6.4 Map of the Djawumbu-Madjawarna Massif.

The vast majority of Dynamic Figures analysed were recorded on the eastern and southern rock formations. The Mirarr people have requested that the exact location of sites are not shown.

Source: Map by Phil Davill.

Survey areas compared

As already stated above, Chaloupka explains that Dynamic Figures are present at 350 sites recorded in an area 180 km in length by 200 km in width, representing much of the western Arnhem Land plateau and surrounds. This area includes unknown numbers of sites with Dynamic Figure animal images, hand stencils of the three middle finger type (3MF) and object stencil sites, which Chaloupka (1993a:106, 1993b) argues were largely contemporaneous with Dynamic Figures (see also Lewis 1988:56–57). Our own survey area consists of a significantly smaller area measuring approximately 5 × 2.7 km, within which 117 sites with Dynamic Figures, boomerang stencils or 3MF stencils have been recorded. Leaving aside other, possibly contemporaneous art such as boomerang stencils, our team recorded 33 sites with 155 Dynamic Figure anthropomorphs, some with eight to 10 figures making up single scenes. Whether the high proportion of sites with Dynamic Figures in our study area is due to more thorough and detailed surveying and recording methods used in the Mirarr Gunwarddebin Project, an unusually high density of Dynamic Figures within Jabiluka or for other reasons can only be determined by comparative studies of similarly systematically surveyed areas.

Recording method

To ensure comprehensive survey coverage, the Jabiluka study area was divided into 500 × 500 m survey units. This quadrat grid system was then used to guide the survey work. The survey teams worked systematically through the quadrats, relocating sites that had been previously recorded and documenting previously unrecorded ones. This is a time-consuming process that ensures a certain level of confidence that the majority of sites have been recorded (or re-recorded) and are appropriately documented within each survey quadrat. Once Dynamic Figures were identified at a site, site recording forms were completed and information entered into both the Mirarr data management system and the Dynamic Figure database. The recording and subsequent analysis included attempts to allocate individual Dynamic Figures to Chaloupka's phases.

Analysis

We now provide an analysis of the Dynamic Figures recorded within Jabiluka in line with the methodology used by Chaloupka to construct his four-phase chronology.

In Table 6.1 we have attempted to categorise the Jabiluka Dynamic Figures into Chaloupka's four phases. This was done to determine the number of Dynamic Figures that actually conformed to the parameters of his phases. Alongside of this, testing Chaloupka's argument that the size of Dynamic Figures relates to their place within the chronology is difficult, as he did not provide exact parameters for size differences between phases. As such, Table 6.2 simply illustrates the average size of anthropomorphs within a scene for both Phases 1 and Phase 2. Phase 2 anthropomorphs were classified as such based on their size similarities to Phases 3 and 4 and their exclusion from Phase 3 and 4 based on other criteria such as single-line arms and 'pointellistic' characteristics. Phase 1 anthropomorphs are the largest remaining examples of Dynamic Figures of the four phases. This is as close as we could come to replicating Chaloupka's impressionistic method of categorisation.

Table 6.1 Number of individual Dynamic Figures recorded from Mirarr Country by each of Chaloupka's Dynamic Figures phase.

Chaloupka's Dynamic Figures phases and combined phases	Total
Phase 1	45
Phase 1/2	8
Phase 1/3	4
Phase 1/3/4	13
Phase 1/4	7
Phase 2	15
Phase 2/3	20
Phase 2/3/4	4
Phase 2/4	7
Phase 3	20
Phase 3/4	1
Phase 4	0
No phase	11
Total	155

Source: Iain Johnston.

Table 6.2 Average size of Dynamic Figures within a scene that includes both Phase 1 and Phase 2 anthropomorphs.

Average size of Dynamic Figures in scenes (cms)	10-25	25-40	40-55	55-70	70-85	No measurements recorded	Total
Phase 1		7	5	4	3	3	22
Phase 2	5	7					12
Grand Total	5	14	5	4	3	3	34

Source: Iain Johnston.

Overall, only 52 per cent (80 of the 155 examples) of Dynamic Figures we recorded conform to one or other of Chaloupka's four phases. No Jabiluka Dynamic Figure could be allocated to Phase 4 alone.

In order to explore Chaloupka's idea that the size of Dynamic Figures changed over time, we have analysed the average size of each Dynamic Figure within given scenes. The results presented do not show clear size differentiation between all of Chaloupka's phases (Table 6.2). Rather, Phase 1 Dynamic Figures are generally of a range of sizes larger than those of the other phases, but other factors may be influencing these findings.

Phases within Mirarr Country

Only slightly more than half of the Jabiluka Dynamic Figures conform to a single Chaloupka phase (Table 6.1). Moreover, in many instances adjacent anthropomorphs composing individual scenes belong to several of Chaloupka's phases. A large proportion of the Dynamic Figures in our analysis possess distinctive traits belonging to two or more of Chaloupka's phases (Table 6.1). A similar situation of anthropomorphs not conforming to any one style has been noted for western Arnhem Land rock art chronologies in the past (Brandl 1982; Chippindale and Taçon 1993; Lewis 1988).

Other problems are also evident in each of Chaloupka's four-phase division. The Jabiluka Dynamic Figures show little distinction between Phase 1 and Phase 2 imagery. Chaloupka (1993a:106) explains that Phase 1 consists of large, very finely executed examples of Dynamic Figures compared to Phase 2 images, which are smaller yet equally as detailed and skilfully depicted. If these phases are meaningful as chronological markers, Table 6.2 would need to show a separate clustering of larger figures in Phase 1, with a clear decrease in size into Phase 2 and possibly Phases 3 and 4. It should be noted, however, that Chaloupka never clearly stated whether the decrease in size continued past Phase 2 and on to Phases 3 and 4.

There are other concerns with the Phase 1/Phase 2 division. The three largest scenes of Dynamic Figures from our study area (e.g. Figure 6.5) suggest that the activities depicted in a scene may influence how Dynamic Figures are depicted, indicating that size is a problematic temporal indicator. These three scenes that have the Dynamic Figures in similar positions, with straight legs and stretched out arms, are stylistically very different to each other; the thickness of lines, internal patterns, form of limbs, etc. are dissimilar in each case (see Figure 6.5; Chaloupka 1993a:230, Figure 263). The largest two scenes (Figure 6.5 and Chaloupka 1993a:230, Figure 263) appear to depict cultural activities similar to each other in each scene, further signalling how the activity may influence the size of the images. In each of these two latter scenes, a Dynamic Figure is shown lying down with arms outstretched above its head, while another is crouching over it as it performs some cultural activity over the lying figure.

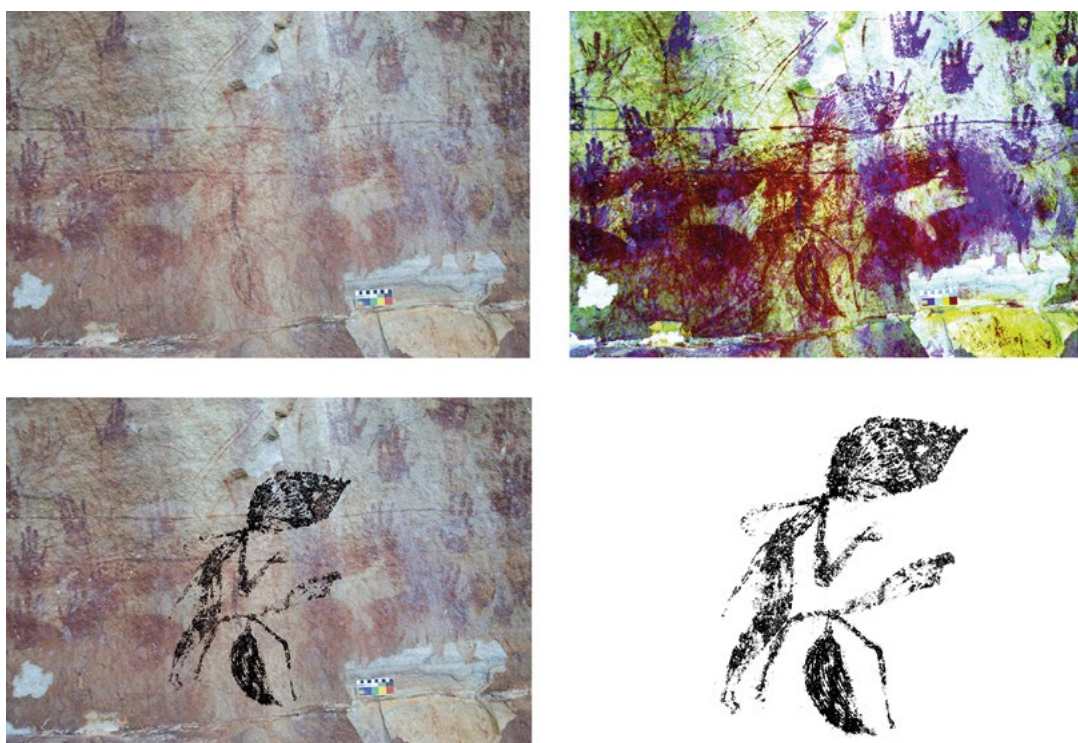


Figure 6.5 The second-largest scene of the Jabiluka Dynamic Figures, depicting what appears to be a similar cultural activity as evident in the largest scene.

Two anthropomorphs are depicted with large headdresses; one Dynamic Figure leans over another, lying figure. Top left: Original photo of panel. Top right: Panel enhanced with D-stretch. Bottom left: Panel with Dynamic Figures traced in black using Photoshop CS6. Bottom right: Traced Dynamic Figures.

Source: Photograph and enhancement by Iain Johnston.

A further issue with using size as a temporal indicator is that, in some scenes, one Dynamic Figure is depicted considerably larger than the others (Figure 6.6). Ultimately, the size of Dynamic Figures more likely relates to preferences of individual artists and artistic groups, or the purpose of the scene and the desire by the artist to emphasise some particular individuals within a scene, rather than to a chronological phase.

The identification of Phase 3 is also problematic. In nine scenes from our research area, each Dynamic Figure has its arms depicted as single-line strokes. It is this single-line convention that characterises the Phase 3 Dynamic Figures (Figure 6.7). However, in six scenes one figure has single-line arms, while other Dynamic Figures in those same scenes have muscular definition in their arms (see Figure 6.6). These are examples of multiphase scenes, a phenomenon that Chaloupka suggests does not exist. Each of these same scenes is stylistically diverse and covers a range of image sizes.

Chaloupka (1993a:106, 1993b:93) specifies that Phase 3 single-line arms are specific to male figures (he does not include indicators for female figures at all in his phases). However, in our study, three of the scenes consist of female figures depicted with single-line arms together with male or non-sexed Dynamic Figures with muscular arms. Furthermore, three scenes depict male and female Dynamic Figures, each with muscular arms. Consequently, the stylistic criteria of the single-line arm is better interpreted as a convention used by specific artists in certain paintings, principally as its infrequency and presence in scenes with muscular arms do not suggest that this convention can be used as a chronological indicator among Dynamic Figures.



Figure 6.6 The large central Dynamic Figure is depicted in the Phase 1 style running with spears across its body; other Dynamic Figures are below and above it running yet depicted in Phase 3 style, while the Dynamic Figure to the right has Phase 2 muscular arms.

The ensemble of images demonstrates that these image attributes do not signify temporal phases. Top left: Panel. Top right: Panel with colours enhanced with D-stretch. Bottom left: Panel with Dynamic Figures traced in black using Photoshop CS6. Bottom right: Traced Dynamic Figures.

Source: Photographs and tracing by Iain Johnston.

Figure 6.6 demonstrates most clearly the problems associated with Chaloupka's Dynamic Figure phases, as it encompasses attributes of each phase. It consists of one large Dynamic Figure being speared, depicted in great detail, suggesting Phase 1. Around this large figure are three smaller Dynamic Figures, one with muscular definition to its arms and the other two without, suggesting both Phases 2 and 3. Finally, dots are used to provide animation to the scene, an aspect used in all phases, as Chaloupka notes, but particularly in Phase 4 (Chaloupka 1993a:106, 1993b). This scene alone provides enough evidence to debunk the four-phase chronology.



Figure 6.7 Two scenes of Dynamic Figures.

The top set of four images are of a row of six Dynamic Figures all conforming to the Phase 3 convention of single-line arms. Four anthropomorphs are running to the left while the last two are running to the right and standing, respectively. Each Dynamic Figure wears a headdress. The bottom set of four images is of a scene of two Dynamic Figures intertwined with each other, one with muscular arms and a female with single-line arms. For each set of four images: Top left: Panel. Top right: Panel with colours enhanced with D-stretch. Bottom left: Panel with Dynamic Figures traced in black using Photoshop CS6. Bottom right: Traced Dynamic Figures.

Source: Photographs and tracing by Iain Johnston.

No Dynamic Figures from our study area completely conform to Chaloupka's 'pointillistic' fourth phase; that is, no Dynamic Figure has a body constructed of dots. Twenty scenes each have at least one figure with a material culture object constructed of dots, often a headdress or pubic skirt (Figure 6.8). However, these Dynamic Figures are stylistically diverse. Here each Dynamic Figure also exhibits conventions present in the other three phases, such as single-line arms, large sizes and so forth. As Phase 4 proper appears to be absent from the Jabiluka Dynamic Figures, this phase could be restricted to areas away from where we undertook our study, or as we prefer to see it, it is probably a regionally specific artistic convention limited to the Mt Brockman and Deaf Adder Gorge areas rather than a temporal phase.



Figure 6.8 Two examples of Dynamic Figures with material culture objects constructed of dots.

The top set of four images of a Dynamic Figure wearing a skirt, holding boomerangs and engaged in a complex activity with other figures and a therianthrope. The bottom set of four images is a running Dynamic Figure with a dot headdress. Such depictions do not match precisely the Phase 4 Dynamic Figures that Chaloupka described, but nonetheless possess the dotting attribute of Phase 4. For each set of four images: Top left: Panel. Top right: Panel with colours enhanced with D-stretch. Bottom left: Panel with Dynamic Figure traced in black using Photoshop CS6. Bottom right: Traced Dynamic Figure.

Source: Photographs and tracings by Iain Johnston.

Discussion and conclusions

Examination of Jabiluka Dynamic Figures does not support Chaloupka's four-phase sequence. Our rejection of this sequence implies that his conclusions about changing Aboriginal lifeways for the broader period must also be reconsidered. For example, Chaloupka (1993a:106) suggested that the presence of his four phases within a Dynamic Figures style indicates the long duration of the overall style. While it still may be the case that Dynamic Figures were painted over a long time, the phase evidence cannot be used to support this possibility.

We further suggest that the absence of distinct chronological style phases among Dynamic Figures from our study area in Mirarr Country signals the importance of variability in ways of depicting among individual artists or artistic groups. The size differences between Dynamic Figures within a scene are not directly related to the relative antiquity of those figures, but more likely signal their narrative role (cf. May and Sanz 2010). In short, instead of viewing these stylistic traits from an etic normative perspective, the stylistic pattern that Dynamic Figures do demonstrate could be interpreted as a social and cultural positioning within and between those groups that created the paintings. This situation may not be unique to Dynamic Figure art but is clearly observed because of the quality of painting and skill of the artist(s). Furthermore, the sporadic use of single-line arms may also represent a component of narrative purpose in Dynamic Figure scenes. The ubiquity and uniformity of the convention in certain scenes, and select use in others, visually articulate to viewers messages of formal differentiation within particular social scenarios.

The absence of distinct phases in our study area also requires a reconsideration of Chaloupka's (1993a:106) arguments about the spatial distribution of Dynamic Figures across the western Arnhem Land plateau. The geographical distribution of Dynamic Figures has been used to model past socio-cultural boundaries across Arnhem Land. The contrasting spatial extent of Dynamic Figures relative to later rock art styles has provided a point of departure for theoretical discussions about Aboriginal lifeways through time. Such discussions have often included debate about how changes in the art reflect changing environmental conditions (Chaloupka 1984a, 1988, 1993a, 1993b; Chippindale and Taçon 1998; Lewis 1988; Taçon and Brockwell 1995). Taçon and Chippindale (1994) further discuss changes in artistic scenes where conflict is depicted. They argue that, through time, smaller conflicts make way for large battles, which they see as evidence of changing cultural organisation as the result of changing environmental conditions. Lewis (1988) developed another hypothesis of how the size of cultural boundaries changed over time, based upon the homogeneity of Dynamic Figures, his estimation of their age and the environmental conditions of the period. Our results do not reject any of these conclusions *per se*, as they are based on different methodologies, but the results of our analysis of Dynamic Figures from the Jabiluka area demonstrate that variation between regions within western Arnhem Land may well exist, something that needs further investigation.

Other results from our analysis suggest that variable conventions practised by individual artists or regional artistic groups may be responsible for spatial and stylistic variations among Dynamic Figures. For example, Chaloupka's Phase 4 appears to be restricted to or concentrated within a specific region. Similarly, individual Dynamic Figure styles also appear to be present within our own study area. For example, the Jabiluka Dynamic Figures have four scenes in which the anthropomorphs have unusually long arms, a trait that, to our knowledge, is not often found elsewhere. Here the arms are often bent and are as long as or longer than the length of the torso and legs combined (Figure 6.9). The Dynamic Figures in these scenes are stylistically similar to each other, although they are differentially weathered. In other words, we have detected some regional variability that may reflect the work of a particular artist or 'school'. Such stylistic variability across space is in line with Haskovec and Sullivan's (1989:73) conclusion in relation to Najombolmi's art: 'a small number of individuals may be responsible for a large proportion of a particular body of art'.

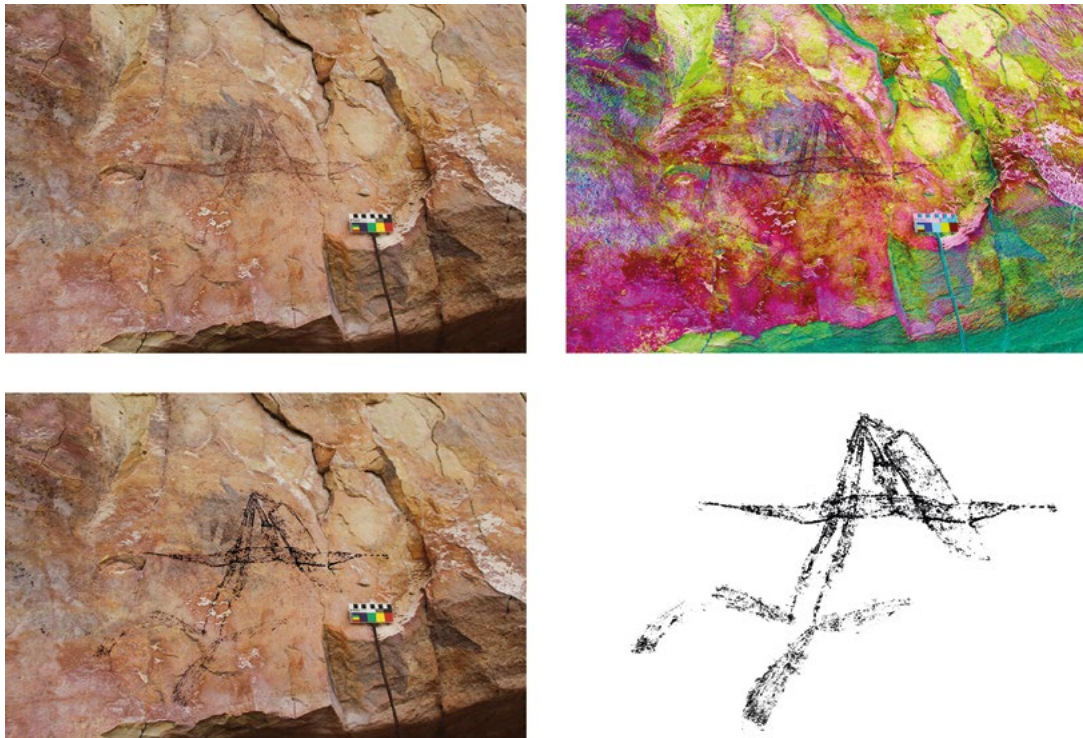


Figure 6.9 A long-arm Dynamic Figure from Mirarr Country.

The anthropomorph is running in a 'splits' pose holding a bunch of boomerangs in both arms below its legs. The exceptionally long-arm may be an example of an attribute used by a particular artist or artistic group. Top left: Panel. Top right: Panel with colours enhanced with D-stretch. Bottom left: Panel with Dynamic Figures traced in black using Photoshop CS6. Bottom right: Traced Dynamic Figures.

Source: Photographs and tracing by Iain Johnston.

Finally, as Chaloupka notes, Dynamic Figures represent one of the most visually exciting art periods in the Arnhem Land sequence, a body of art crucial for understanding past Aboriginal lifeways. Chaloupka argues that the depiction of Dynamic Figures (and the existence of a four-phase chronology) is uniform across Arnhem Land. Our research has concluded that Chaloupka's four phases are not accurate for the Jabiluka Dynamic Figure assemblage. Therefore, his proposed temporal explanation for stylistic variation must also be rejected. We suggest that Chaloupka's conclusions about relationships between the Dynamic Figure rock art style, temporality and artistic expressions need to be reconsidered.

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