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Bichrome anthropomorphs, Kimberley, Australia (Plate 1, D. Welch).



Plate 2 (article by D. Welch). Two bichrome, rayed head-dress figures, superimposed over two monochrome anthropomorphs. In addition to marks possibly depicting tassels there are blobs of weathered red ochre which Grahame Walsh has identified as the first recorded examples of macropod foot *prints* in rock paintings; they were made by dipping a macropod foot in the paint and then pressing it against the rock to make a positive print. Bichrome figure at right 70 cm.

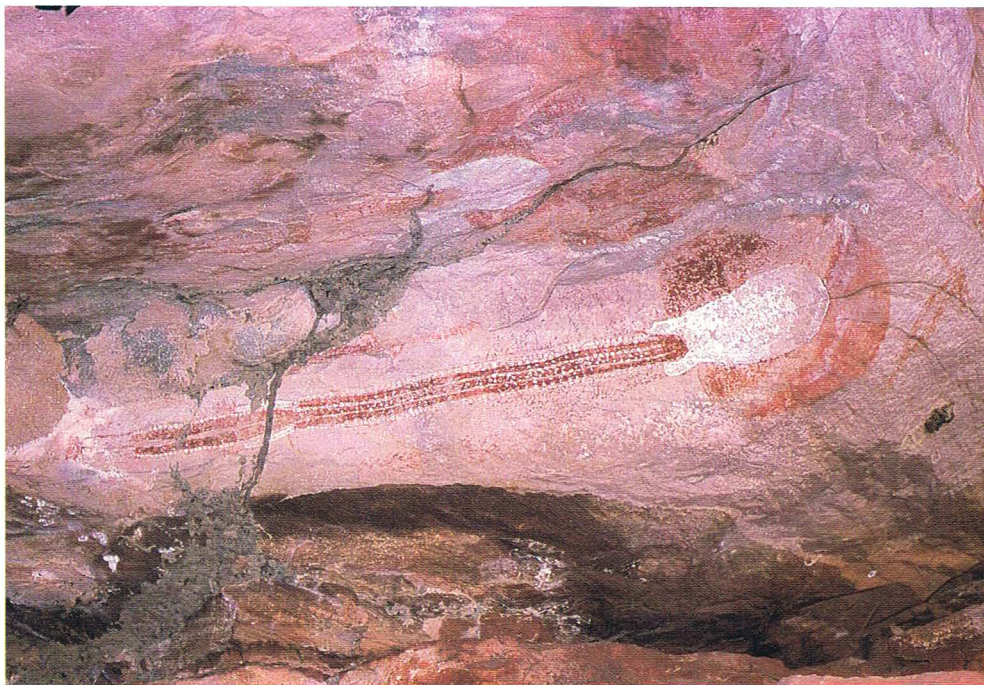


Plate 3. Bichrome figure with large headdress, with arms and legs more clearly shown than in other examples of this type. In this case white pigment of the original painting has survived; 113 cm long.

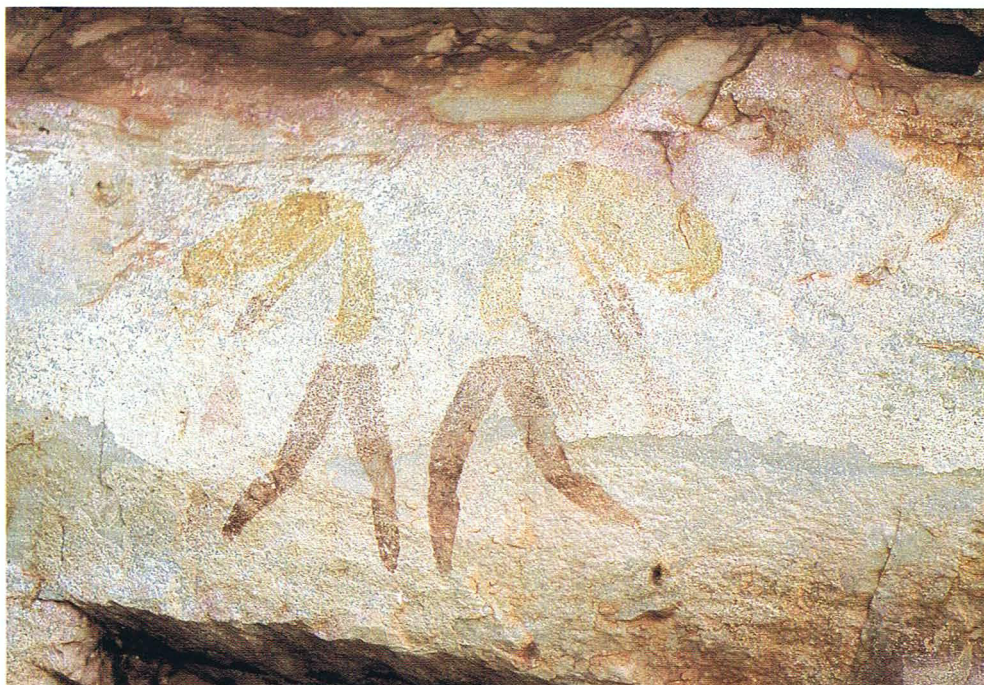


Plate 4. Early example of polychrome art. Red and yellow paints are present, with gaps where a third paint was originally applied. The figure at right appears to wear a type of apron or skirt from the high waist and is 45 cm tall.

(All colour photographs depict rock paintings of the Kimberley, Australia, and are by David Welch.)



KEYWORDS: Bradshaw figures - Art traditions - Chronology - Kimberley

THE BICHROME ART PERIOD IN THE KIMBERLEY, AUSTRALIA

David Welch

Abstract. This paper is based on a survey of 217 rock art sites in the Kimberley district in the north of Western Australia. A distinctive period of art production, the 'bichrome period', is described, which occurred between the production of the oldest monochrome 'classic Bradshaw figures' and that of the more recent polychrome *Wandjina* paintings. One hundred and eight bichrome anthropomorphs were seen at 39 sites. They are unique in that they, alone, are associated with the depiction of an artefact that resembles a 'hooked stick'. A similar artefact is depicted in the rock art of the Kakadu region.

Introduction

The Kimberley district comprises that part of north-west Australia which is north of the Fitzroy river, extending to the east as far as the Northern Territory border (Fig. 1). The Napier Range, in the south-western part of the region, is composed of limestone and only the comparatively recent painting style is found there. To the north lies a quartzite plateau with large areas of sandstone and smaller areas of basalt. The oldest paintings occur in shallow rock shelters found in quartzite and sandstone boulders and cliffs, especially when these are associated with creeks, springs and lagoons.

The Kimberley experiences a 'wet' season from November to March and a 'dry' season from May to October. Climatologically, the best time of the year to conduct field work there is from June to September, when the weather is coolest, least humid, and surface water remaining from the previous wet has had time to evaporate.

Between 1979 and 1988 I recorded 15 sites in the eastern Kimberley. Following the First AURA Congress in Darwin in August/September 1988 I participated in the two major post-congress field trips, the Top End tour (Arnhem Land and Victoria River district) and the Kimberley - Pilbara tour. At Derby, Dr Charles Warner and I left the AURA group and returned to the Kimberley to carry out a more detailed survey. Two weeks were then spent exploring an area from the Napier Range in the south to the King Edward River Crossing in the north, and 105 sites were recorded. In August 1989, another 97 sites were recorded by me, from the Caroline Ranges in the south to Kalumburu in the north (see Fig. 1), some of these with Grahame Walsh.

The Kimberley holds a magnificent collection of rock paintings showing as wide a range of art styles and painting techniques as is found in the Kakadu region (Arnhem Land). These include ancient monochrome red figures, formerly bichrome figures from which one colour is now missing (the subject of this paper), 'stick figures', hand prints, hand stencils, grass prints (near the Drysdale River), imprints of thrown objects (first observed during the AURA tour, at The Grotto, later at the Drysdale River), several 'yam men', paintings in thick paints resembling mud, paintings and

drawings of charcoal, petroglyphs, *Wandjina* faces, and other recent polychrome paintings. Thrown object prints and grass prints have not been previously described in the Kimberley, but they have been reported in the Kakadu region by Chaloupka (1984: 17) and in the Victoria River district by Lewis (1984: 58-61) and McNickle (1991).

The polychrome art period

The most recent paintings in the Kimberley are often made up of several paints of different colours, depicting large anthropomorphs, zoomorphs and the *Wandjina* figures. Many of these paintings play a significant role in contemporary Aboriginal beliefs, and they have been the subject of previous studies of Kimberley rock art (Elkin 1930, 1948; Love 1930; Worms 1955; Schulz 1956; Playford 1960; Crawford 1968, 1977; Blundell 1976; Blundell and Layton 1978; Walsh 1988). Although there are recent paintings also in only one or two colours, several colours have been used in the majority of recent motifs. This most recent phase of Kimberley rock art can therefore be collectively described as the polychrome art period.

'Bradshaw figures'

The two traditions I distinguish below, monochrome and bichrome, have been described collectively as 'Bradshaw figures', and the more naturalistic, flowing, monochrome paintings among them as 'classic Bradshaw figures'. Joseph Bradshaw, in 1891, described paintings he saw near the Prince Regent's River as

... colored in red, black, brown, yellow, white and pale blue. Some of the human figures were life-size, the bodies and limbs very attenuated, and represented as having numerous tassel-shaped adornments appended to the hair, neck, waist, arms, and legs; but the most remarkable fact in connection with these drawings is that wherever a profile face is shown the features are of a most pronounced aquiline type, quite different from those of any natives we encountered. Indeed, looking at some of the groups, one might almost think himself viewing the painted walls of an Egyptian temple. These sketches seemed to be of great age, but over the surface of some of them were drawn in fresher colors smaller and more recent scenes, and rude forms of animals, such as the kangaroo, wallaby, porcupine, crocodile, &c. (Bradshaw 1892: 100)

Bradshaw's sketches depict superimpositions of smaller



Figure 1. The Kimberley district, north-west Australia.

monochrome humans and larger animals, probably of polychrome type.

In 1910 G. Hill produced over 40 sketches of old paintings which were described as being in 'terracotta' and in one case in 'rufous'. These were published in Mountford (1937). They include what I define as monochrome and bichrome paintings.

Schulz introduced the term 'Bradshaw paintings' to describe the old paintings which were not of the *Wandjina* type and which were not part of the contemporary Aboriginal mythology (Schulz 1956: 45). Her examples include monochrome and bichrome figures.

In 1953 and 1954 Worms recorded old paintings in the Kalumburu area (Worms 1955: 546). His illustrations appear to be only of monochrome paintings. The Aboriginal people called the paintings *Giro Giro* and used the same name for the artists of the paintings. Thus, Worms used the term 'Giro Giro miniatures' to describe these paintings.

Crawford, in his 1968 book, used the term 'Bradshaw figure' to describe 'small red paintings which show people busy dancing and hunting' (Crawford 1968: 81). Later he defined the term 'Bradshaw figure' to include old bichrome figures, and introduced the idea of a 'classic form' to indicate the monochrome 'human figures in which body features such as muscle and shoulders, stomachs, sometimes facial profiles are very clearly and carefully depicted with curvaceous delineation' (Crawford 1977: 357).

Stubbs (1979: 28, 36) uses the term 'Bradshaw' paintings to describe all old paintings of the monochrome and bichrome types.

Walsh (1988: 222) describes the west Kimberley as

having three styles of 'Bradshaw figure' and the north Kimberley as having an additional style, called *Kiera-Kirow* by the Aborigines. These are:

- (a) A comparatively rigid figure, sometimes with spreading skirt, lacking conventional weapons.
- (b) Figures of a 'clothes peg' appearance, often with two or more multi-barbed spears.
- (c) 'Classic Bradshaw' figures with arm and leg musculature and stomach paunch, often with long headdress and tasselled skirt. The *Kiera-Kirow* figures are described by Walsh (1988: 224) as being 'far less elegant . . . monochrome red applications'.

The term *Kiera-Kirow* used by Aboriginal people of Kalumburu to describe the old paintings to Walsh in 1987 is similar to the term *Giro Giro* told to Worms in 1953-54. However, my visit to Kalumburu in 1989 with Grahame Walsh revealed that the various styles of monochrome paintings (including 'classic Bradshaw' figures) and bichrome paintings occur in that vicinity and that these are also classified as *Kiera-Kirow* by local Aboriginal people.

The monochrome and bichrome art periods

In previous publications on Kimberley rock art, the older human figures have thus been grouped under the term 'Bradshaw figures'. However, the evidence suggests that at least two early art periods can be distinguished.

Amongst the oldest rock paintings found during my survey, most fall into one of three broad groups. These are (a) human 'stick figures', often carrying boomerangs; (b) monochrome red paintings, mainly of human figures; and (c) paintings with gaps where paint is missing, also mainly of human figures. The term 'bichrome figure' will be used here to describe paintings which comprise only weathered red

'ochre'. These paintings vary in shade from orange to very dark purple. It is often clear that specific parts of figures are missing. Red iron oxide pigments are generally the most resistant to weathering in rock art. The missing sections are therefore likely to have been painted in pigments which have weathered away without a trace, such as charcoal or kaolin. Such incomplete paintings have been observed in the rock art of the Sahara (Striedter 1984: 134, 139-41, 167; see also Trost 1981), South America (pers. comm. R. G. Bednarik), India (pers. comm. Bednarik), and in other parts of Australia (e.g. Victoria River district, McNickle 1991; cf also Crawford 1968; Layton 1985; Walsh 1988). Since the majority of Kimberley paintings of this type have only small parts missing it is assumed that only one colour has been lost. Of the human figures examined, the forearm, waist belt, lower legs or the shafts of spears are often missing, sometimes part of the trunk (Figs 2-22). As will be seen, these paintings have other characteristics in common which allow them to be grouped together as a single art tradition, which is here called the bichrome art period.

The results of this research

A total of 217 Kimberley rock art sites were analysed with regard to early paintings in red ochre. Human figures were analysed in terms of their spatial grouping, dress, the objects they appear to carry, the style in which they were painted, and whether they fit into the monochrome or bichrome category. Where definite identification of a feature or attribute was not possible due to weathering any ambiguity was noted. The results appear in Tables 1 and 2.

Seventeen of the sites examined contained both monochrome and bichrome figures. While thickly painted polychrome figures had been superimposed over many of these paintings, only three superimpositions were found among monochrome and bichrome paintings. In two instances, the bichrome paintings appeared fresher, and in one instance the monochrome figure appeared to be the more recent. Despite this small number of superimpositions one gained the impression that the monochrome paintings were generally older. The degree of weathering was roughly estimated in all figures and was found to be consistently higher in monochrome figures. Moreover, it was noted that obvious exfoliation or chipping of the rock had occurred in 39 monochrome figures, but in only 8 bichrome figures. In two cases, monochrome paintings on vertical surfaces have been

Feature	No. with	% with	No. without	No. uncertain
Headdress	135	77	13	27
Tassels	85	49	70	20
Skirt	36	21	121	18
Boomerang(s)	34	19	131	10
Spear(s)	0	0	166	9
'Hooked stick'	0	0	165	10
Parts of body painted in straight lines	22	13	151	2
Profile head	102	58	50	23
Profile body	81	46	83	11
No. of sites with monochrome anthropomorphs = 49				
No of groups of figures = 76				
Total No. of figures = 175				

Table 1: Kimberley monochrome anthropomorphs.

Feature	No. with	% with	No. without	No. uncertain
Headdress	66	61	30	12
Tassels	12	11	86	10
Skirt	27	25	75	6
Boomerang(s)	18	17	80	10
Spear(s)	26	24	71	11
'Hooked stick'	23	21	70	15
Parts of body painted in straight lines	95	88	13	0
Profile head	21	19	84	3
Profile body	23	21	82	3
No. of sites with bichrome anthropomorphs = 39				
No. of groups of figures = 61				
Total No. of figures = 108				

Table 2: Kimberley bichrome anthropomorphs.

truncated by quarrying of the quartzite for stone tools. I have observed this in Kakadu rock art as well.

Further support for a chronological separation between monochrome and bichrome paintings are the following findings:

(1) The bichrome anthropomorphs are unique in their association with an implement best described as 'hooked stick' (Figs 3-17). Of the 108 bichrome figures seen, 23 are holding a 'hooked stick', whereas such an implement has not been seen associated with monochrome, polychrome or human 'stick figures'.

(2) Bichrome anthropomorphs are unique in their association with a two-part, multi-barbed spear. The Aborigines of the Kimberley are noted (Blundell 1976: 422-4) to make both single-piece wooden spears and also spears consisting of a shaft made of two sections of about equal length, half bamboo, half solid wood, and then tipped with a sharp stone or glass point. Almost all spears in the bichrome paintings have been depicted as multi-barbed. The use of two pigments to depict them seems to be illustrating that the shafts also consisted of two sections - the section depicted in one pigment having weathered away and only the section painted in red remaining (Figs 4, 5, 8, 9, 11 and 18). Twenty-six bichrome figures had multi-barbed spears, whereas none of the monochrome figures had spears of this type.

In comparison, the frequency of the boomerang is far more consistent, with 19% of monochrome and 17% of bichrome anthropomorphs carrying one or more.

(3) A marked difference is evident in body adornment, with 49% of monochrome human figures having tassels hanging from their bodies and headdresses, and only 11% of bichrome figures being similarly adorned. When they occur on monochrome figures the tassels are usually multiple (Figs 23, 24), whereas bichrome figures have only one or two (Figs 4, 12, 25).

Skirts and headdresses are similar in the two groups. Of the monochrome figures, 21% have a skirt, compared with 25% of bichrome figures. Headdresses occur on 77% of monochrome figures and on 61% of bichromes. However, some of the bichrome figures may have had headdresses or other adornments painted in the more transient pigment, of which no evidence remains, so there may have been a higher incidence of these features than appears the case now.

Continued on page 120

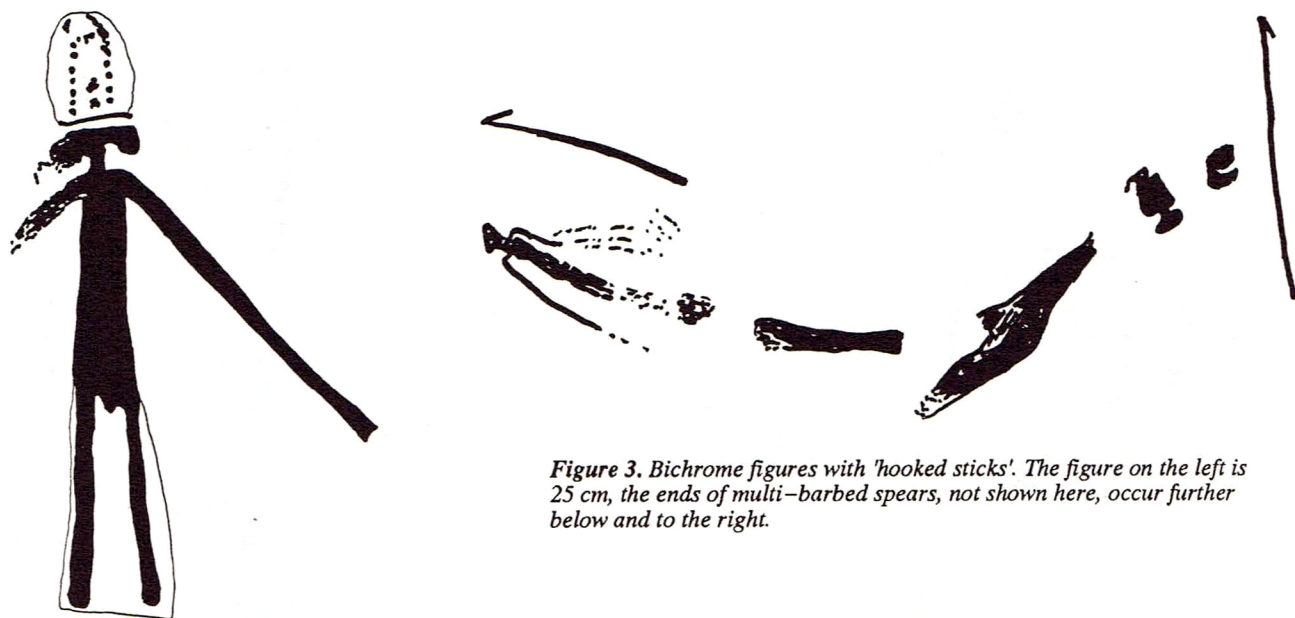


Figure 3. Bichrome figures with 'hooked sticks'. The figure on the left is 25 cm, the ends of multi-barbed spears, not shown here, occur further below and to the right.

Figure 2. Anthropomorph in dark-brown paint (shown black) with a lighter brown lower section and headdress (shown not filled in). The missing parts make up what was originally a third colour, so this is likely to be an early example of polychrome art. Figures with similar headdresses are seen painted in profile in Plate 1 (front cover). The part of the figure shown here is 28 cm tall. Mt Elizabeth Station.



Figure 4. At upper right, a blackish-red bichrome figure with a boomerang in one hand and two boomerangs and a dilly bag in the other. It appears to be the oldest of these three figures. At left is a bichrome anthropomorph in brown-red ochre, 39 cm, with 'hooked stick', and at the right is a very tall figure with 'skirt', faded headdress (stippled at top), and two arms painted over the older, darker figure, to which the multi-barbed spears belong.



Figure 5. Bichrome figure with what appears to be a small dilly bag suspended from the neck. Paint is missing from lower arms, feet, waist, spear shafts, and parts of headdress and trunk. Height 48 cm.

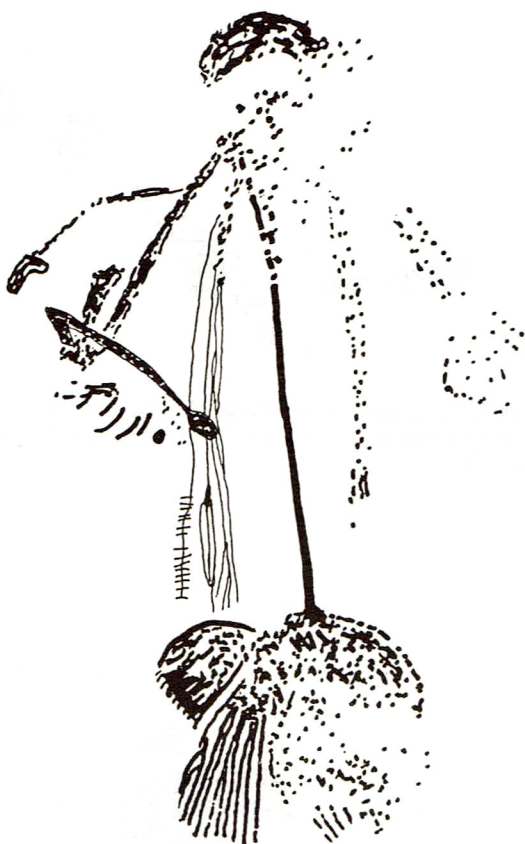


Figure 6. Bichrome figure, 42 cm tall.

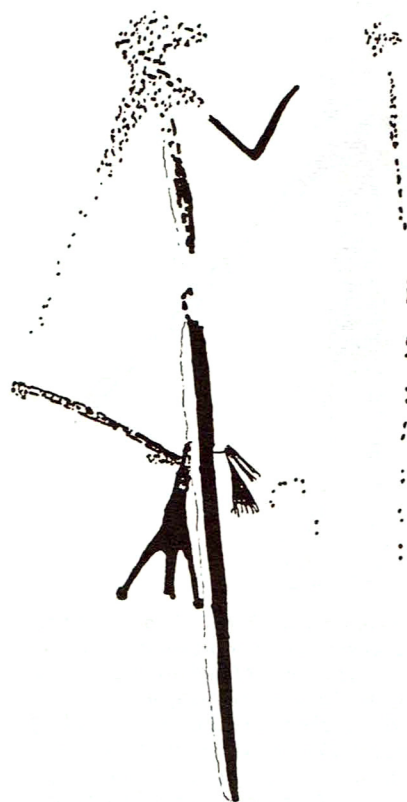


Figure 7. Faded dark-red figure, 42 cm tall, with 'hooked stick', three-part 'skirt', and possibly associated with a long line at the right which may represent an implement. The thin line down the left side of the body indicates the edge of a fresher, orange-brown line that has been added only to this part of the painting. This is one of several examples of retouching found on early bichrome figures.



Figure 8. Bichrome figure associated with multi-barbed spears and a 'hooked stick'. The segment seen here is approximately 20 cm high.



Figure 9. Bichrome anthropomorph, 34 cm tall, associated with multi-barbed spears and a 'hooked stick'.



Figure 10. Bichrome anthropomorph associated with multi-barbed spears, 'hooked stick' and boomerangs. The spears have been illustrated in only one colour. The segment seen is 50 cm high. Near Mt Hann.

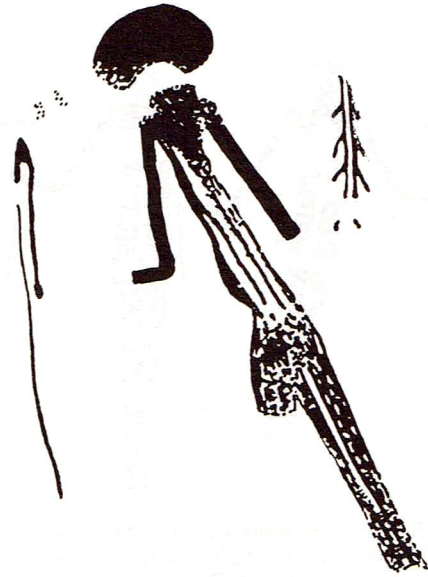


Figure 11. Bichrome human with 'hooked stick', another straight stick (spear?) and multi-barbed spears; 23 cm tall, Kalumburu.

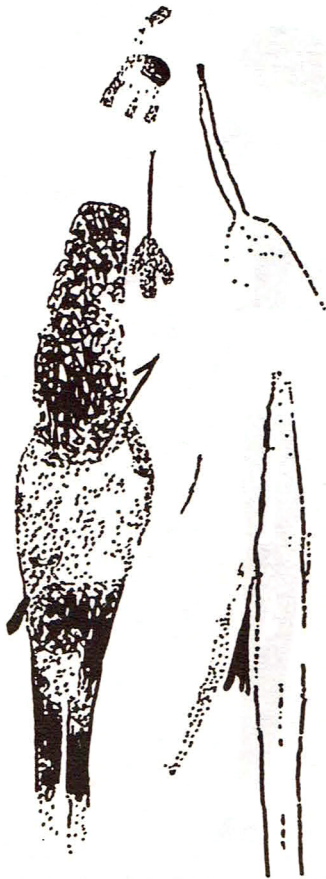


Figure 12. At left is a bichrome figure, 35 cm, with single tassel from headdress. At right is a weathered figure with 'small skirt'. The 'hooked stick' may belong to the right-hand figure. Kalumburu.



Figure 13. Bichrome figure, 40 cm tall, in blackish-red ochre, north of Kununurra. Painted in a horizontal position, the hands are missing. It is associated with a 'hooked stick', other objects and possibly another anthropomorph at the right.



Figure 14. Bichrome anthropomorphs with 'hooked sticks' and boomerangs. The left and central boomerangs have obvious gaps in the paint, presumably where they were held by the now missing hands. The left and central 'hooked sticks' are positioned such that they may have been held by an outstretched hand or they may have been sitting in a now-missing belt on each figure. Similarly the 'hooked stick' at the right may have belonged to the right-hand figure or it may have been suspended from the arm of the central figure. Note the extension to the headdresses. Central figure 43 cm.



Figure 15. Details of the right-hand 'hooked stick' in Figure 14. Note the unusual attachment to the shaft of the implement. There is very faint pigment in the gap, as shown. It is not clear whether this represents where the hand of the right-hand figure held the object, or whether it represents where string which may have been bound around the shaft was then tied to this attachment.



Figure 16. Another bichrome figure, from the same panel as Figure 14. The 'hooked stick', in dark-red pigment like the rest of the painting, has an obvious gap in the lower handle where a hand would have originally held it, but in which some very light brown pigment remains; 41 cm.

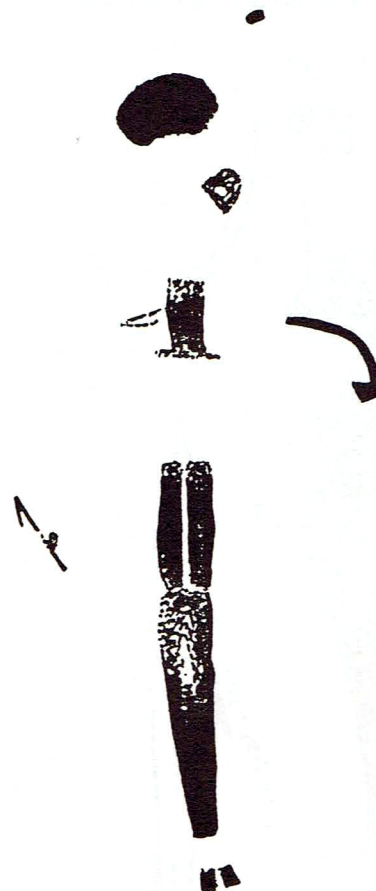


Figure 17. Bichrome anthropomorph, 42 cm, associated with a 'hooked stick' and a boomerang. The latter appears to be strangely hooked, but alternatively the protuberance at its lower end may be part of the hand holding it. This is supported by the similar protuberance on the 'hooked stick'. Unfortunately the 'hooked stick' is weathered at that section and the detail is not as clear as it is for the boomerang. The feet are painted in the same pigment, which would also be consistent with the boomerang protuberance representing a hand.

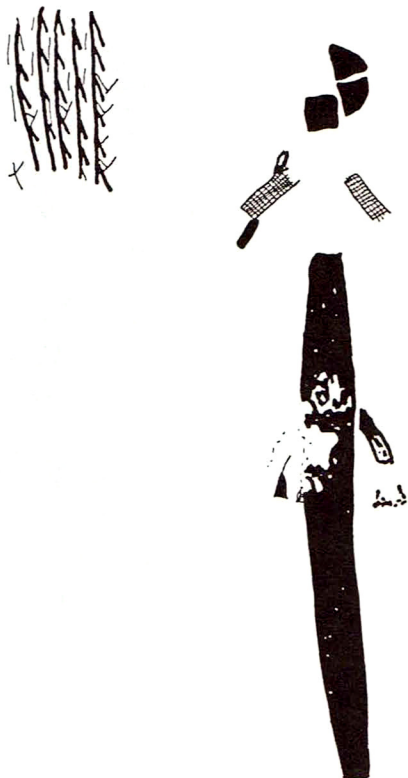


Figure 18. Bichrome anthropomorph, 51 cm, with 'skirt' and associated with multi-barbed spear ends.

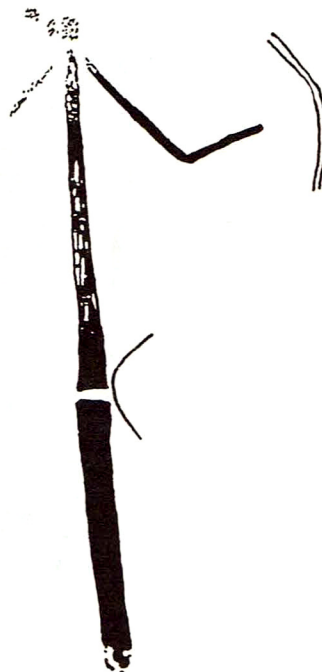


Figure 19. Bichrome anthropomorph, holding two boomerangs and with a third tied to the waist; 47 cm, Drysdale River area.

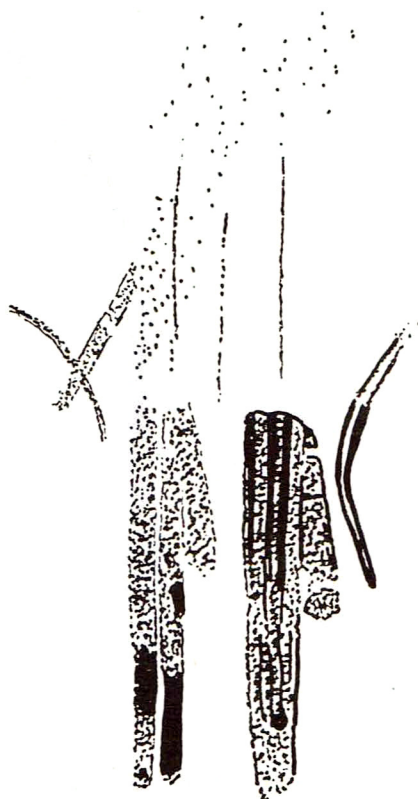


Figure 20. Two bichrome anthropomorphs with 'skirts' and boomerangs; 44 cm, Kalumburu.

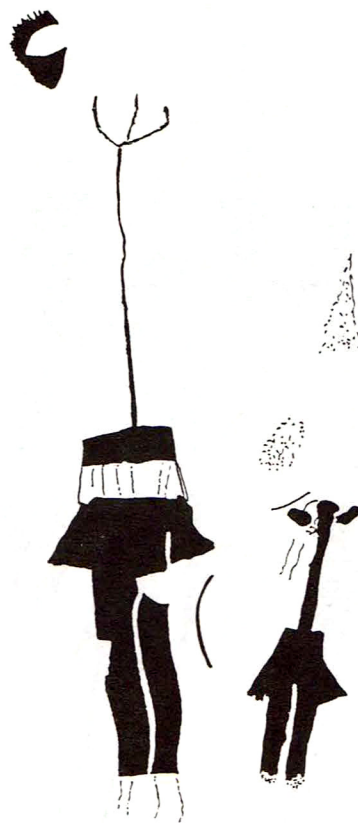


Figure 21. These two figures appear fresher than many of the other examples shown. They are in an orange ochre, the figure at left is approximately 78 cm tall.



Figure 22. Dark-red ochre bichrome figures. The shorter figure wears a 'skirt' and a different headdress, the other is 30 cm tall.



Figure 23. Heavily weathered monochrome figure, approximately 70 cm tall. Manning Creek Gorge.

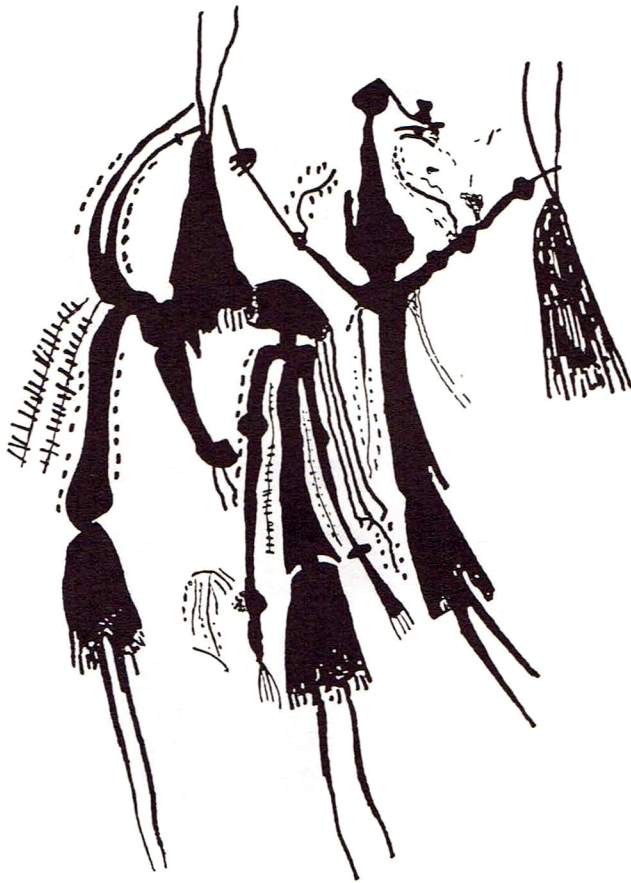


Figure 24. Part of a frieze of six anthropomorphic figures of the monochrome art period. Height of left figure 79 cm.



Figure 25. Bichrome figure carrying an object (stick? boomerang?), 73 cm tall. Mt Elizabeth Station.

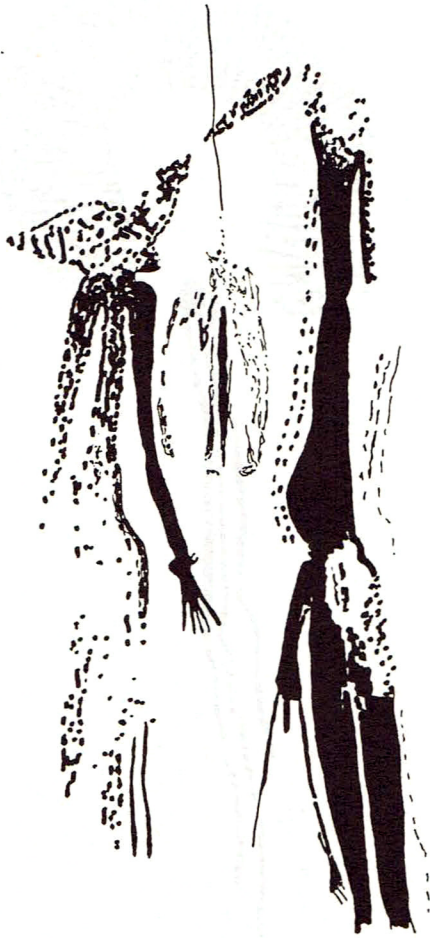


Figure 26. Two monochrome figures. The remaining pigment on the left figure is 45 cm high. Located at the King Edward River Crossing.



Figure 27. Monochrome figure of a style that appears to belong to the late monochrome art period, characterised by having a 'skirt', holding a boomerang, and by lacking numerous tassels. Note the 'epaulets' and frontal stance.



Figure 28. Two of a group of three monochrome figures, lacking skirts, but with wing-like appendages from their heads. Right figure 29 cm, Drysdale River area.



Figure 29. Thin anthropomorph, with some pale pigment remaining in the head and shoulder areas; 58 cm tall, Mt Elizabeth Station.



Figure 30. Bichrome human figure with distinct area of missing pigment in the hair or headdress, 33 cm tall. Barnett River Gorge.

(4) There are stylistic differences between the monochrome and the bichrome figures. Monochrome anthropomorphs tend to be portrayed more naturalistically (Figs 23, 24, 26–28), while bichrome figures tend toward straighter lines and rectangular-shaped bodies (Figs 5, 7, 10, 14–22, 25, 29): 13% of monochrome human figures compared to 88% of the bichrome human figures have a major part of the body painted in a straight line. Of the monochrome figures, 29% are painted with body and head in frontal view, compared to 76% of bichrome figures.

Both monochrome and bichrome figures vary greatly in size. They average about 60 cm height for monochromes and 50 cm for bichromes, but the tallest in the series are a 170 cm monochrome and a 204 cm bichrome. Both styles were found from Manning Creek Gorge and Mt Elizabeth Station in the south to Kalumburu in the north. They extend from at least Mt Hann in the west to Kununurra in the east. However, no monochrome or bichrome figures are present among 22 art sites recorded in the Napier Range, south-west of Manning Creek Gorge. The Napier Range consists of limestone, and all paintings seen there are of the recent polychrome type.

Bichrome paintings in the literature

The literature on Kimberley rock art reveals few examples of bichrome figures. Elkin (1930, 1948), Love (1930), Mountford (1937) and Playford (1960) make no mention of such figures, but an illustration in Mountford (1937: Fig. 30)

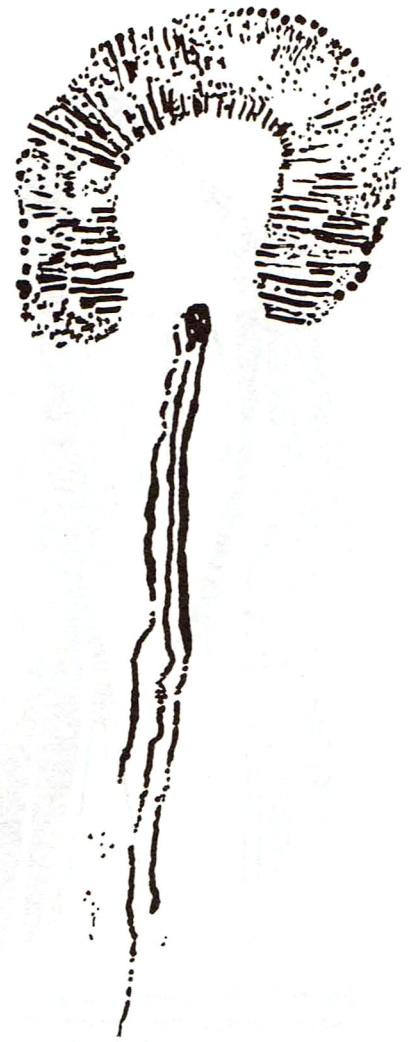


Figure 31. Bichrome figure with large rayed headdress. The part shown here has two weathered arms and is 54 cm tall. The central body line is weathered away but one can just make out two lines which represent the legs (not illustrated here) on the rock surface below; hence the length of the original figure is 91 cm. Two similar figures are seen in Plates 2 and 3 (see back cover).

appears to be of the bichrome figure type. Worms (1955) shows only monochrome figures in his examination of the prehistoric rock paintings. Schulz illustrates some ancient bichrome figures (Schulz 1956: 45–8, Fig. 37, Pls XXXIa, XXXVa) but she does not recognise that the spears have their shafts missing and instead identifies these spear ends as 'branch-like motifs . . . found together with an outstretched arm' (Schulz 1956: 46). Schulz's examples are similar to the spear ends in Figs 4, 5, 8, 14.

In discussing Bradshaw figures, Crawford illustrates a typical tall, thin bichrome anthropomorph holding a spear from which the shaft is missing, two boomerangs and a 'hooked stick' (Crawford 1968: 85). An Aboriginal consultant described a grasshopper legend to him and interpreted the barbed spearhead 'as the back leg of the grasshopper'. In a later publication, Crawford (1977: 359) does discuss briefly the existence of bichrome figures and includes a photograph which shows an excellent example of straight-bodied bichrome anthropomorphs apparently superimposed on monochrome figures (Crawford 1977: Pl. 1).

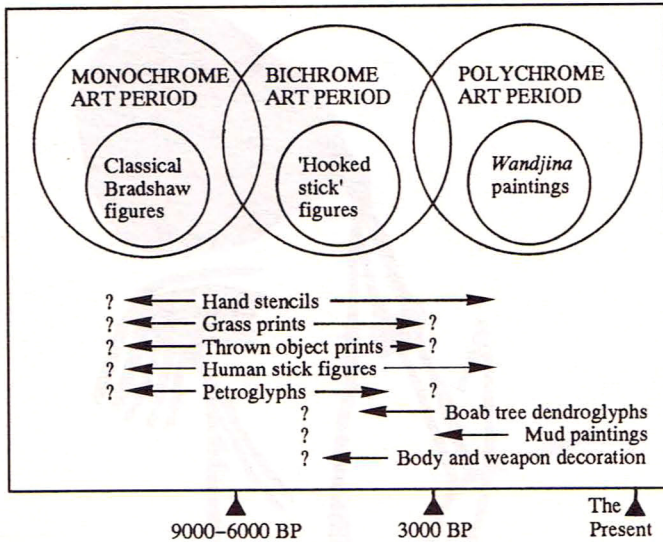


Figure 32. Venn diagram of all Kimberley Aboriginal art.

Discussion

A proposed sequence of Kimberley rock art

The monochrome anthropomorphs are made up of several distinct styles (Walsh 1988: 222). It appears that the oldest figures often do not carry weapons, nor wear skirts (Figs 23, 26), but later figures have skirts and boomerangs (Fig. 27). One style (Fig. 28) may even postdate some bichrome figures. Much more research will be needed before I can discuss these styles further.

The bichrome figures also occur in several styles. Some are naturalistic (Fig. 30), some very rigid (Figs 7, 19), one style consists of very long, thin human figures with large headdresses and possible tassels down their sides (Fig 31, Plates 2 and 3, see back cover). Eleven figures of this type have been found up to 60 km apart. One has white paint superimposed on the red (Plate 3). These figures may be forerunners of the later *Wandjina* figures, because their headdresses closely resemble those of the *Wandjinas*.

From the rock art seen and the data presented in this paper it appears that bichrome paintings generally followed monochrome paintings, but that there may have been an overlap, with some monochrome paintings appearing after bichrome paintings.

Some paintings, contemporary with bichrome figures (Fig. 2), have been executed in two distinct shades of red ochre and where a gap exists, a third colour (or second pigment) may have originally been painted. In other words, there were early examples of polychrome paintings at the time when bichrome paintings were produced.

One would expect the monochrome technique to continue through to the most recent times. Similarly, once paintings were being done in two colours, that convention is likely to have continued through the subsequent phase, and this can be seen to be the case.

My study of the anthropomorphs in the rock art of the Kimberley suggests that there was a time when only naturalistic monochrome figures existed, often painted in profile. This period was followed by a stylistic change to frontal, straight figures and a bichrome painting technique. In the last period, a wide variety of painting styles continued, with *Wandjinas* and associated themes common, and generally multi-coloured.

One could use a Venn diagram (Fig. 32) to illustrate these points and show the probable overlap between what are

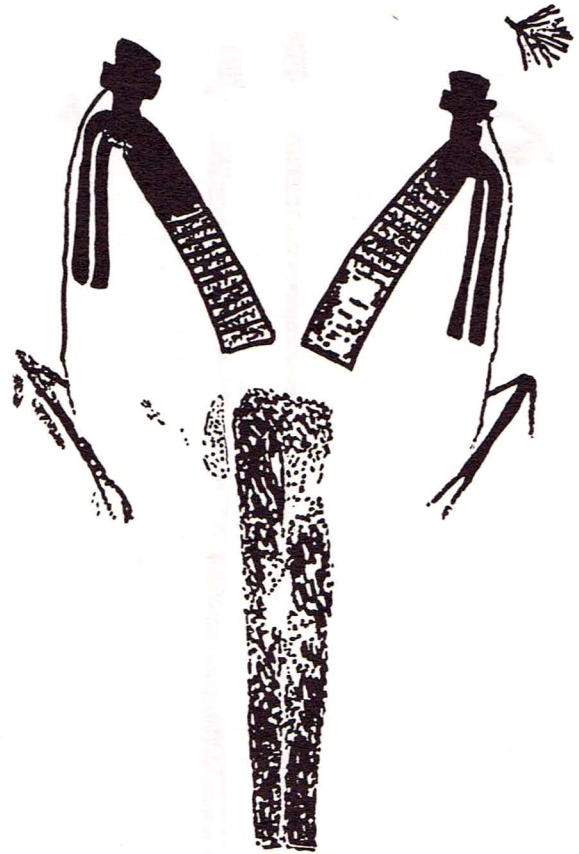


Figure 33. Two bichrome anthropomorphs, back to back, each with a line extending from the head down to a smaller human figure; 29 cm high.

considered here as the three main periods of Kimberley rock art. 'Classic' Bradshaw figures fit as a subgroup within the monochrome art period, human figures with 'hooked sticks' are a subgroup of the bichrome art period, and *Wandjina* paintings are a subgroup within the polychrome art period.

Paintings such as 'stick figures' and hand stencils may have occurred throughout this sequence, but do not fit into the category of a specific period. Hence they are shown in my Venn diagram as belonging to this art body, but without being related exclusively to any one of the three successive art periods I have postulated.

The 'hooked stick' in the bichrome art period

As was seen from the data collected in this survey, anthropomorphs of the bichrome art period often hold multi-barbed spears, boomerangs and a 'hooked stick'. This 'hooked stick' vaguely resembles a spear-thrower, but the hook portrayed is much longer than would be expected on a spear-thrower, and in some paintings (Figs 6, 14-17) there appears to be no associated spear. To date, no bichrome figure has been seen with a 'hooked stick' loaded with a spear as if being used as a spear-thrower. In one group of paintings (Figs 14, 15) there appears to be both a handle grip and a piece of string with another grip on the 'hooked stick'. The string might allow greater leverage on the implement. If the 'hooked stick' represented a fighting pick one would expect this to be a heavy implement with the hooked end being heaviest, yet all the 'hooked sticks' seen are held with the hooked end uppermost. There is no ethnographic record of a fighting pick such as this being used by Kimberley Aborigines. An exhaustive dissertation by Blundell (1976) on the

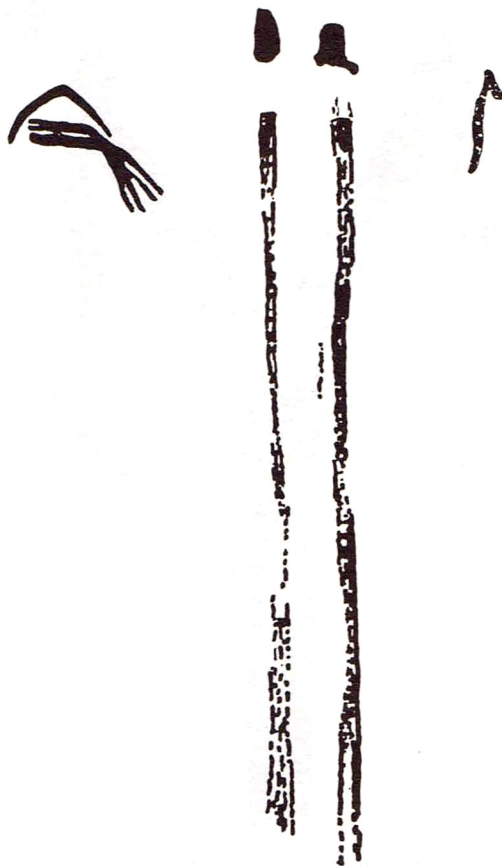


Figure 34. Bichrome anthropomorphs with 'hooked stick' and boomerangs, Djauan Valley, off Katherine Gorge, Northern Territory. Note the frontal view and long straight stance, common to the bichrome figures of the Kimberley. Approximately 50 cm, recorded by the author in 1980.

archaeology of the Kimberley does not mention any such artefact.

In Katherine Gorge in the Northern Territory, 450 km to the east of Kununurra, bichrome anthropomorphs are again associated with 'hooked sticks' (Fig. 34). However, north of Katherine Gorge, in the Kakadu region, 'hooked sticks' occur with monochrome, stick-like human figures (Fig. 35). There is a discernible sequence from monochrome to bichrome to polychrome technique in the Kakadu region, but there the bichrome period is mainly represented by illustrations of animals ('incipient X-ray style', Brandl 1973: 168) and most examples of human figures are either monochrome or polychrome. Bichrome anthropomorphs do occur in the Oenpelli and East Alligator areas (Walsh 1988: 226; Welch 1982: 15, 20).

In the Kakadu region, figures with 'hooked sticks' fall into Chaloupka's (1984: 29) categories of 'post-dynamic figures' and 'simple figures with boomerangs', and Lewis's (1988: 105) 'hooked stick'/boomerang period'. Lewis (1988: 15-38, 47, 86-95) discusses at length the 'hooked stick' in the Kakadu region and he carefully looks at the possibility of it representing a fighting pick. Although some paintings show it being used in combat in Kakadu (Chaloupka 1984: 36; Lewis 1988: 228), Lewis concludes that there is not enough evidence to call this artefact a fighting pick or a spear-thrower, and that the term 'hooked stick' is preferred. He explains that the 'hooked stick' does not represent a hooked boomerang because the 'hooked sticks' in Kakadu art 'are

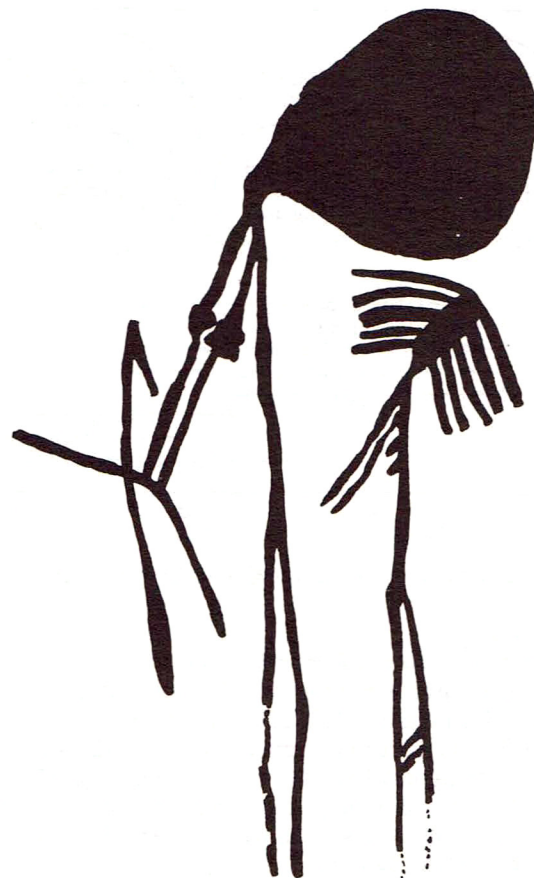


Figure 35. An example of a human figure with hooked stick and boomerang from the Kakadu region. The angle of the hook is typical of both Kakadu and Kimberley regions. Larger figure 46 cm, Koongarra Saddle.

consistently shown with a straight, narrow shaft and with their hook set at an acute angle to the shaft; hooked boomerangs have a curved 'shaft' and the hook is never set at less than about ninety degrees' (Lewis 1988: 19). In my own collection of artefacts I have a hooked boomerang made by Burrulang of the Mara tribe, Beswick area, south of Katherine (Northern Territory), in 1981. It is interesting that this does have quite a straight handle and the angle of the hook is sixty degrees (Fig. 36). These boomerangs are used in fighting and the hook is designed to catch a shield, spear or other protective device and swing around it to strike the enemy. Although the 'hooked stick' of the distant past appears to have been a different implement to the hooked boomerang of the present, this gives us some insight into one possible use that it may have had.

Of course any stick may be used simply to ward off spears thrown, and Warner, cited in Lewis (1988: 27), mentions this as being one use of the present-day spear-thrower. Another possible use of a 'hooked stick', not mentioned by Lewis, would be as a spear catcher, where the hook could certainly be put to use if one was catching an opponent's spear. There is no evidence in the art, however, to support this possibility.

From the evidence in the Kakadu art it is likely that the use of the 'hooked stick' may well have been as a multifunctional object which later evolved into the spear-thrower.

Whatever the 'hooked stick' was used for, it is important to note that in the depictions of the Kimberley, Katherine Gorge and Kakadu regions, the angle of the hook is acute, ranging from 25-35° in most cases (pers. observ.), and that

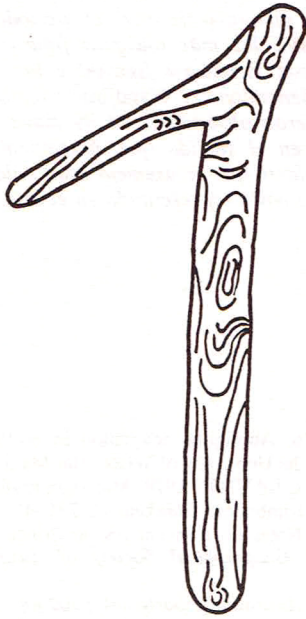


Figure 36. Hooked boomerang collected by the author in 1981 from the Beswick area, south of Katherine, Northern Territory, 64 cm long.

where a spear is associated it is almost always a single-pronged, multi-barbed spear. Lewis dates the Arnhem Land (Kakadu) 'hooked stick'/boomerang period' to between 6000 and 9000 years ago (Lewis 1988: 105). Chaloupka dates these paintings in Kakadu at older than 9000 years (Chaloupka 1984: 16).

Conclusion

From a preliminary study of Kimberley rock paintings it appears that the use of the 'hooked stick' only occurs in the one art period, and that at this time people also used single-pronged, multi-barbed spears and boomerangs. This is very similar to the content of Chaloupka's (1984) 'post-dynamic figures' and 'simple figures with boomerangs', and to Lewis's (1988) 'hooked stick'/boomerang period' in the Kakadu region. If the dates proposed by Chaloupka and Lewis for the Kakadu art are realistic, then it seems reasonable to tentatively date the Kimberley bichrome art to the first half of the Holocene or to the final Pleistocene. Crawford has implied that the modern pressure-flaked spear point of the Kimberley dates back up to 3000 years BP (Crawford 1977: 358). This spear head has so far not been seen in the bichrome art period which gives further evidence for the art's antiquity.

The drawings in this paper were made by projecting slides onto paper and drawing over the resulting image. In some cases details of the drawings were checked against field notes or close-up photographs of fine details of weathered sections.

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COMMENT

By DARRELL LEWIS

The *Wandjina* paintings of the Kimberley region are, of course, extremely well known. Not so the earlier paintings collectively referred to as Bradshaw art. In comparison with, say, Arnhem Land Mimi art, very little Bradshaw art has been published. With 33 new line drawings, Welch's paper is to be welcomed on that point alone and much credit should be his for carrying out fieldwork in a region noted for its remoteness and extremes of climate; comparatively few rock art researchers have ever made the effort. However, the text of Welch's paper has many minor problems and some major problems. Here I will concern myself with only several of what I consider the more important points.

Much of Welch's paper confirms, in effect, earlier work. For example, his various arguments for the existence of at least two periods of Bradshaw art parallel my own discussion of Arnhem Land art and Bradshaw art (Lewis 1988: 84-5, 93-5, 109). Similarly, his discussion as to the nature of the 'hooked stick' carried by some figures in his 'bichrome period' covers (part of) the same ground as my own discussion with respect to 'hooked sticks' depicted with certain Arnhem Land figures (*ibid.*: 15-29).

In my work on Arnhem Land rock art I described four art periods, each defined and named with respect to distinctive material culture items depicted in the art. On the basis of available published data I suggested that a similar sequence of material culture periods existed in Kimberley rock art and furthermore, that there were similar stylistic changes in each region. With respect to both Arnhem Land and Kimberley rock art, I argued that the appearance of a 'hooked stick' was accompanied by stylistic changes, including the appearance of figures with gaps in the red pigment where, presumably, one or more colours formerly existed. Welch's paper offers supporting evidence for my analyses of Kimberley art and therefore strengthens the hypothesis that Arnhem Land and the Kimberley were once part of a single culture area. His suggested nomenclature of a 'monochrome period' and a 'bichrome period' does not serve to clarify an understanding of this suggested Kimberley/Arnhem Land relationship. By his own admission Welch has some monochrome paintings contemporary with, and some possibly post-dating, 'bichromes', and some polychrome paintings contemporary with 'bichromes'. While it may be that these overlaps are insignificant in proportion to the number of figures involved it is clear that the unifying principle for Welch's periods is material culture - the boomerang in his earlier 'monochrome period' and the 'hooked stick' in his later 'bichrome period'. I ask: would it not be simpler and more useful in terms of north Australian rock art studies to use the terms boomerang period and 'hooked stick' period?

In spite of these shortcomings Welch's paper has added to our knowledge of the range of Kimberley Bradshaw art styles and marks another step towards establishing a detailed chronology of Kimberley rock art. I look forward to the results of such fieldwork Welch may carry out in the future.

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REPLY

By DAVID WELCH

In Lewis's analysis of Arnhem Land rock art (Lewis 1988) he has described four art periods: the 'boomerang', 'hooked stick', 'broad spear-thrower' and 'long spear-thrower' periods. In the rock art of the Kimberley that I have recorded (totalling 400 sites at the time of writing) there is a complexity of art styles and regional variations as complex as in Arnhem Land art. Like Lewis, I have looked for similarities that may link paintings over large areas through changes in time. The oldest human figures in the Kimberley are depicted without boomerangs or other implements (Figs 23, 26). They belong to the 'monochrome period', but would have to be excluded from a 'boomerang period' as hypothesised by Lewis. In the 'bichrome period', both hooked sticks and spears are striking in their appearance in the art. In the Arnhem Land art, the majority of 'hooked stick' figures are monochrome, but bichrome ones occur in two distinct locations, at the East Alligator River region and in the Djauan Valley off Katherine Gorge.

With regard to Lewis's third and fourth art periods, one finds spear-throwers very commonly depicted in Arnhem Land rock art, but they are extremely rare in the art of the Kimberley. Thus it can be seen that Lewis's Arnhem Land periods do not summarise the major features of Kimberley rock art.

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Résumé. Cet article s'appuie sur une étude de 217 sites d'art rupestre dans la région du Kimberley au nord de l'Australie Occidentale. Une période distinctive de production d'art, la 'période bichrome', est décrite; celle-ci est située entre la production des plus anciens 'Bradshaw motifs classiques' monochromes et celle des plus récentes 'peintures Wandjina' monochromes. Cent huit anthropomorphes bichromes ont été trouvés à 39 sites. Ils sont uniques car, tout seuls, ils sont associés avec la représentation d'un objet ressemblant un 'bâton recourbé'. Un objet similaire est dépeint dans l'art rupestre de la région du Kakadu.

Zusammenfassung. Dieser Artikel bezieht sich auf eine Untersuchung von 217 Felskunst-Fundstellen im Kimberley Distrikt im Norden von West Australien. Eine ausgeprägte Periode von Kunstproduktion, die 'bichrome Periode', wird vorgestellt. Sie fällt zeitlich zwischen die Herstellung der ältesten monochromen 'klassischen Bradshaw Figuren', und die der jüngeren polychromen Wandjina Malereien. Im Ganzen wurden 108 bichrome Anthropomorphem auf 39 Fundstellen beobachtet. Diese sind insofern typisch, als nur sie mit der Darstellung eines Artefaktes, das einem 'hakenförmigen Stock' ähnelt, verbunden sind. Ein vergleichbares Artefakt ist in der Felskunst des Kakadu Gebietes dargestellt.

Resumen. Este artículo está basado en una prospección de 217 sitios de arte rupestre en el distrito Kimberley del nor-oeste de Australia. Un período distintivo de arte, el 'período bicromo', es descrito. Se ubica entre las más antiguas figuras monocromas conocidas como 'classic Bradshaw figures' y las más recientes pinturas policromas denominadas Wandjina. Ciento ocho figuras humanas bicromas fueron observadas en 39 sitios. Estas figuras bicromas son únicas en el sentido que, únicamente ellas, están asociadas con un artefacto que se asemeja a un palo enganchado. Un artefacto similar se halla representado en el arte rupestre de la región Kakadú.

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